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Evaluation of the Oregon DMV Medically At-Risk Driver Program

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RESEARCH

**EVALUATION OF THE OREGON DMV
MEDICALLY AT-RISK DRIVER
PROGRAM**

Final Report

SPR 657



RESEARCH ODOT/OTREC

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Oregon Department of Transportation
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MEDICALLY AT-RISK DRIVER PROGRAM**

Final Report

SPR 657

by

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| 16. Abstract Oregon is one of six states with requirements for mandatory reporting of drivers with medical impairments. In 2003, the state's mandatory reporting program, administered by Oregon Driver Motor Vehicles (DMV) Services, was revised to cover an extensive range of cognitive and functional impairments. This report examines the safety risk of persons treated in Oregon's revised Medically At-Risk Driver program. The incidence of crashes and traffic offense convictions before and after license suspension is documented and compared to crash and conviction incidence of persons treated in the DMV's voluntary medical reporting program. Comparisons are also made to a representative sample of the state's driver population. Structured interviews of program stakeholders were also undertaken to identify issues related to the program's performance. The safety analysis and interview findings provided a basis for recommendations made in the report. | | | | | |
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EXECUTIVE SUMMARY

This report examines the Oregon Driver and Motor Vehicle (DMV) Services Medically At-Risk program. Oregon is one of six states with mandatory physician reporting requirements for drivers with specified medical conditions. Oregon's program, revised in 2003, covers a broader range of functional and cognitive conditions than the other states with mandatory reporting requirements.

Oregon Administrative Rule (OAR 735-074-0110) outlines that, as part of the Oregon Medically At-Risk program, primary care physicians and designated health care providers are required to report patients whose impairment becomes "severe and uncontrollable" (as defined by OAR 735-074-0080). This reporting includes mandatory referral (as mandated by administrative rule) and voluntary referral (which can be utilized by physicians who have patients that do not yet meet the mandatory reporting requirements and by family members and police based on a medical condition or observed driving behavior).

The analysis undertaken in this report consists of two parts: 1) assessment of drivers suspended under the Medically At-Risk program; and 2) stakeholder interviews. The first part assesses the safety risk of persons whose licenses were suspended following receipt of a physician referral. The incidence of crashes and convictions of these persons, before and after their suspensions, is compared to the incidence of crashes and convictions among the general driving population as well as to drivers suspended through DMV's voluntary medical reporting program. The second part of the analysis involves structured interviews of program stakeholders, including: program administration staff; members of the working group whose recommendations led to the 2001 revision of the Medically At-Risk program; primary care physicians; providers of driving assessment services; and other community contacts.

Findings of the safety risk analysis showed that persons involved in the mandatory referral side of the Medically At-Risk program are considerably older than the general population of drivers in Oregon, with a difference in median ages exceeding 30 years. They are also more than 10 years older than persons involved in the voluntary referral side of the Medically At-Risk program. Both within the Medically At-Risk program and general driving population, older drivers are also relatively more likely to reside in rural counties. Considering this, the incidence of mandatory referrals has been approximately balanced between urban and rural counties, suggesting that the implementation of the program among Oregon's primary care providers has been fairly uniform.

Second, the substantial age differences among the three groups under study likely translates into differences in safety risk exposure. Differences in risk exposure can be somewhat accounted for by comparing safety records across defined age cohorts. Taking this approach, we find that the safety record prior to suspension of persons in the mandatory side of the program is somewhat mixed. The general incidence of crashes for this group is about 40% of the incidence observed in the general driving population, while the relative incidence of total convictions (60%) and major convictions (200%) are progressively greater. Among drivers age 76 and older, who represent over 60% of persons suspended following receipt of mandatory referrals, the incidence

of crashes (70%) and total convictions (130%) relative to age cohort peers in the general driving population is somewhat greater.

In the 18 months following suspension, the relative incidence of crashes (90%) and total convictions (90%) within the mandatory reporting subject group increased, despite the fact that about 87% of the subjects remained suspended throughout the period. Among subjects age 76 and older, the relative incidence of crashes (130%) and total convictions (220%) also grew. By comparison, the safety risk of persons involved in the voluntary referral side of the program was found to be considerably greater than the risk associated with the mandatory referral side, both before and after suspension.

License suspension actions are made in the interest of maintaining public safety, and two basic issues underlie these actions. The first issue relates to the determination of the appropriate juncture at which a person's threat to public safety is considered great enough to warrant intervention. Suspensions occur at different junctures in programs dealing with various problem driver populations, such as young adults, substance abusers, and chronic offenders. For persons in the mandatory side of the Medically At-Risk program, the effective safety risk threshold for suspension is comparatively low. For example, in a study of the Oregon DMV's Driver Improvement Program (DIP), which temporarily suspends about 30,000 persons annually, Strathman et al. (2007) found the incidence of prior crashes and convictions of suspended drivers age 75 and over to be 3,100% and 12,400% of the corresponding incidences observed among similarly aged persons within the general driving population. License actions thus occur at a much higher threshold in the DIP than in the Medically At-Risk program.

While diagnosed medical conditions clearly impair the ability of persons suspended in the Medically At-Risk program to safely operate a vehicle, this group's modest relative incidence of crashes and convictions before and after suspension indicates that they have generally acted to reduce their exposure and limit their safety risk. Nevertheless, examination of their driving records shows that safety risk was clearly trending upward over the course of the approximate three-year study period. It should be noted that the license actions in the Medically At-Risk program are taken on the basis of driver medical information rather than driver safety information (as is the case in other problem driver programs). Although the literature does indicate a general correspondence between medical conditions and driver safety, the relationship is complicated by the mitigating effects of decisions and behavior. While there is no consensus regarding the threshold of acceptable safety risk, traffic safety researchers and those who study problem driver populations emphasize that the public is best served when intervention occurs at the earliest legally feasible opportunity (*Evans 2004; Masten and Peck 2004*).

It is generally known that license suspensions do not effectively prevent most persons from driving. Within mandatory reporting side of the Medically At-Risk program, persons who did not regain their driving privileges (87% of all subjects in the program) accounted for 54.5% of the crashes, 55.0% of the major convictions, and 62% of total convictions after suspension. While fairly substantial, these shares compare favorably with those of other programs dealing with problem drivers (e.g., *DeYoung and Gebers 2004*). In some cases (e.g., driving under the influence of intoxicants- DUII) the threat to public safety from driving during or after suspension warrants additional measures to deter drivers from returning to the roadways (e.g., impounding

vehicles or requiring installation of ignition interlock devices). However, the general incidence of crashes and convictions among these problem drivers is substantially greater than that exhibited by the medically impaired drivers examined in this report.

Among drivers suspended within the mandatory side of the Medically At-Risk program, the group that subsequently regained their driving privileges demonstrated the greatest incidence of crashes and convictions in both the pre and post-suspension periods, not surprising given their likely greater exposure. A question, however, is whether their post-suspension incidence of crashes, major convictions, and total convictions, which are 310%, 610%, and 250% of the respective incidences observed in the general driving population, reflect impairments or safety threats that could have been recognized during the license examination process. The licensing system currently in use in Oregon employs examination protocols that are uniformly administered to all applicants. In contrast, Wisconsin adapts its examination procedures to more directly assess the effect of given impairments on a person's ability to safely perform driving tasks. The advantage of this approach is that it makes the driving examination a more reliable assessment tool. The American Association of Motor Vehicle Administrators (AAMVA) endorses reliability as a highly desirable objective of the knowledge and skills testing process (1999). However, AAMVA also emphasizes the importance of fairness, an objective that is most readily achievable through uniform test design and administration.

Also related to the licensing process is the limited extent of compliance with mandatory reporting requirements. With only 10% of dementia cases having been reported, for example, California DMV has embarked on a pilot demonstration of a three-tier process, developed in partnership with National Highway Traffic Safety Administration (NHTSA), to identify and evaluate persons with impairments as part of the license renewal process. This effort is partly motivated by the limited level of reporting, but also by unexpected research findings. Persons reported to the California DMV typically represent the most severe cases of impairment. Researchers found, however, that the greatest safety risk was associated with persons with moderate impairments. They concluded that persons with severe impairments were more likely to adapt their travel behavior to mitigate safety risk, while those with moderate impairments were less inclined to change their behavior (*Hennessy and Janke 2005*). Thus, the safety risk of persons suspended through the DMV's mandatory reporting program was disproportionately less than their already small share of the affected population.

The three-tier process includes simple tests and observations by DMV field staff to assess gross cognitive and functional performance, a standard written examination, and a driving exam (if necessary) tailored to evaluate the effects of potential impairments on driving fitness. The pilot study of the three-tier process began in 2007 at six northern California field offices. The authorizing legislation calls for an evaluation report assessing safety impacts, license retention rates of the affected population, utilization of driving rehabilitation specialists, and the costs of administering driving fitness exams as well as drivers' willingness to pay for those costs. Eventual evaluation of California's experience with the three-tier pilot study should be of value to Oregon's DMV should it ever consider modifying its licensing process to address medical impairments.

One of the findings in this report is that the occurrence of a crash during the 18-month period prior to suspension is a significant predictor of the likelihood that a crash will occur after suspension. There are several possible ways this information could be employed. For example, crash history information could be used in evaluating a person's application for reinstating driving privileges. In addition, for persons whose driving privileges have been reinstated, subsequent crash occurrence could be treated as a signal that re-certification is needed and/or that the person should again be required to successfully complete DMV testing.

Information obtained from structured interviews of Medically At-Risk program stakeholders suggests that the effectiveness of the program would be improved by taking steps in the following areas.

Information and Outreach: Nearly all stakeholder groups suggested that more information and outreach activities are needed. Although information is currently being effectively disseminated through the DMV and Oregon Medical Association websites, familiarity with the mandatory reporting requirements is less than universal among primary care providers. Perceptions of under-reporting are also fairly widespread. Thus, additional efforts promoting the program should be considered.

Driving Assessment and Rehabilitation Services: These service providers play an important role in several respects. First, through referrals, they supply information to primary care providers in support of their assessment of cognitive and functional impairments. Second, they offer services that help persons with impairments (especially functional) safely maintain their mobility, or recover it following the loss of driving privileges through license suspension. Currently, the costs of these services are not covered by medical insurance or by Medicare, thereby limiting the potential contributions these specialists could make to improving safety and maintaining mobility. Most stakeholder groups viewed this limitation as a problem. Consideration should be given to supporting initiatives that would expand insurance coverage to include these services.

Integrating the Mandatory and Voluntary Reporting Databases: DMV staff recognized that over time there is a tendency for drivers to "migrate" from the voluntary to the mandatory program. Administration of both programs would be facilitated if the respective databases were merged. A program of ongoing training of DMV staff responsible for processing referrals or for using the data should be considered

1.0 INTRODUCTION

In June 2003, the Oregon Department of Transportation's (ODOT) Driver and Motor Vehicle Services (DMV) Division implemented a new mandatory medical reporting requirement following adoption of Oregon Revised Statute (ORS) 807.710, which requires Oregon physicians and primary care providers to report to DMV patients with certain severe and uncontrollable cognitive and functional impairments. Prior to this statutory change, DMV administered a mandatory reporting system based on the diagnosis of conditions or impairments that bring about momentary or prolonged lapses of consciousness or control.

The transition from the previous to the current medical reporting program included input from a variety of stakeholders over an approximate four-year time span. Beginning in 1999, the Oregon Legislature asked ODOT to study the effects of aging on driving ability following the passage of House Bill 2446. Under this legislation, an Older Driver Advisory Committee (ODAC) was organized to coordinate the study and to make recommendations to ODOT. The committee worked in consultation with medical and other experts to identify those cognitive and functional abilities needed for safe driving and to discuss how impairment of these abilities might be identified and reported (*ODOT 2000*).

ODAC received written and oral testimony from members of the public, stakeholders, and recognized experts on the issues; it studied the testimony and reviewed additional research compiled by DMV staff. Eight Town Hall meetings were hosted by DMV to explain the study to the public and to solicit public input. Based on these various sources of information, the committee prepared and submitted its report to ODOT.

The ODAC report concluded that the existing statute governing the treatment of medically at-risk drivers was too narrowly defined to address a variety of mental and physical conditions that can affect safe driving. It recommended a revision of the existing statute that would expand both the list of medical conditions reportable to the DMV and the list of health care providers required to report these conditions (*ODOT 2000*). Although ODAC began with a focus on older drivers, its report emphasized that the recommended changes in DMV's mandatory reporting program address drivers of all ages (*Snyder et al 2004*).

Following the OADC report, DMV proposed legislation that was enacted in the 2001 legislative session. The new legislation requires any physician or health care professional providing primary care services to a person 14 years of age or older, to report cognitive or functional impairments that adversely affect a person's ability to safely operate a motor vehicle. In the new legislation, *functional impairments* are defined to include conditions affecting peripheral sensation of extremities, and motor impairments affecting strength, flexibility, and motor planning and coordination. *Cognitive impairments* refer to the conditions affecting attention, judgment and problem solving, reaction time, planning and sequencing, impulsivity, visuospatial determination, memory, and loss of consciousness or control (OAR 735.074.0110).

In general, physicians and healthcare professionals who are a person's primary care provider are required to report under the program. In addition, physicians and healthcare professionals providing specialized or emergency health care services to persons who do not have a primary care provider must report under the program. The statute states that it is DMV's responsibility to review and determine from the report whether a person is able to safely operate a motor vehicle. If DMV staff is unable to make a determination from the report, the report is then forwarded to the DMV Medical Determination Officer for review.

DMV may suspend or cancel driving privileges or the right to apply for driving privileges if it determines that a person has a mental or physical condition or impairment that affects a person's ability to safely operate a motor vehicle, or a person's vision does not meet the vision standards by the law, which makes DMV believe a person may endanger people or property if not immediately suspended or cancelled (OAR 735.074.0180). A person whose driving privileges and right to apply for driving privileges are suspended because of a functional or cognitive impairment, may request to be tested by DMV to demonstrate that, notwithstanding the impairment, the person is qualified to safely operate a motor vehicle (OAR 735.074.0190). DMV may issue a restricted license to a person who passes the required tests when DMV determines a restriction on the license is necessary to insure the safe operation of a motor vehicle by the person (OAR 735.074.0210).

If a person passes tests and regains driving privileges, DMV requires that they submit updated medical information and reestablish eligibility for a driver license at a later date. This process is called recertification, and generally occurs within 6-12 months after a person regains driving privileges. Recertification can also be required any time DMV receives information indicating that a person may no longer be able to safely operate a motor vehicle. Medical information is submitted on a Medical Impairment Recertification form. DMV may suspend a person's driving privileges or require complete DMV testing based on the information contained in the recertification forms (OAR 735.074.0140).

The scope of Oregon's revised Medically At-Risk program has been characterized as "one of the most comprehensive in the nation" (*Stutts 2005*). However, there were concerns in its initial implementation. First, while the law provided immunity from civil liability for physicians and health care providers who report to DMV in "good faith," it did not provide protection for those providers who chose not to make a report, posing a liability risk related to negligent failure to report (*Snyder, et al 2004*). Second, given a host of medical uncertainties and inabilities to assess safety risk, some physicians argued that "physicians are not prepared to evaluate patient suitability to drive" (*Berger et al 2000*). Following a dialogue with the Oregon Medical Association, the statute was revised and physicians and health providers were granted full legal immunity from choosing to report or not. ORS 807.710 states:

If a designated primary physician or health care provider makes a report to the department in good faith, that person shall be immune from civil liability that might otherwise result from making the report. If a designated primary physician or health care provider does not make a report, that person shall be immune from civil liability that might otherwise result from not making a report.

From 2004 through 2007, DMV received an average of 1,650 mandatory referrals each year. During the same period, an average of about 800 suspension actions were taken annually, following receipt of mandatory referrals. About half (52%) of the mandatory referrals received during that period did not meet reporting requirements and were reviewed for action under the rules of the non-mandatory reporting program. An immediate suspension action was taken on 41% of the reports not accepted under the mandatory reporting program. The remaining reports resulted in such actions as requiring the driver to pass DMV tests or requesting additional information to support the mandatory referral. Documented suspension data are lacking for the period prior to 2003, although DMV staff believes that suspensions in the mandatory reporting program have declined from their pre-2003 levels, with the reduction being attributed to the present program's requirement that a reportable impairment be "severe and uncontrollable" and that the report be submitted by the primary care provider (PCP). Considering this new reporting requirement, as well as the redirection of mandatory referrals that did not meet all mandatory reporting requirements, DMV staff also believes that the number of suspension actions taken in the non-mandatory reporting program has increased from pre-2003 levels.

1.1 ORGANIZATION OF THE REPORT

This report addresses a variety of topics associated with the identification and treatment of drivers with medical impairments through the Oregon DMV's Medically At-Risk program. The research approach is multi-faceted, drawing on contributions from published research on the subject, documentation of practices employed in other states with similar medical impairment referral programs, statistical analysis of safety risks of persons suspended through Oregon DMV's Medically At-Risk program, and structured interviews of the Oregon program's stakeholders.

A review of literature is presented in Chapter 2. Included in the review is a summary of practices employed in selected states with mandatory medical reporting programs. Issues associated with effective design and administration of medical reporting programs are also discussed. The chapter also includes reported evidence of safety risks associated with medically impaired drivers.

Chapter 3 presents a statistical analysis of the incidence of crashes and traffic offense convictions of persons whose licenses were suspended through Oregon's Medically At-Risk program. Comparisons of the incidence of crashes and convictions are made among persons suspended in connection with mandatory and voluntary referrals, and a representative sample of Oregon's driving population. The statistical analysis also addresses factors associated with the successful recovery of driving privileges following suspension, as well as factors contributing to the likelihood of crash and conviction involvement following suspension.

Chapter 4 presents findings from structured interviews of selected stakeholders involved with the Medically At-Risk program. Included among the stakeholder groups are individuals who contributed to designing the program, DMV staff responsible for administering the program, primary health care professionals responsible for reporting medical impairments, DMV medical

consultants who review selected reports, driving assessment professionals who provide testing and rehabilitation services, and selected interest groups who directly represent the interests and needs of persons affected by the program.

Chapter 5 summarizes findings and presents conclusions drawn from the study.

Several appendices are attached which provide supplemental detailed information. These include:

- Appendix A: Structured Interview Protocols
- Appendix B: Characteristics of Subjects Transferred from the Mandatory to the Voluntary Program
- Appendix C: Statute Authorizing the Medically At-Risk Program (Ors 807.710)
- Appendix D: Oregon Administrative Rules for the Medically At-Risk Driver Program
- Appendix E: DMV Mandatory Impairment Referral Form

2.0 LITERATURE REVIEW

Starting in 1949, states have passed legislation to address the risk of driving with certain medical conditions (*Aschkenasy et al 2005*). Based on their communication with state DMVs between July 1999 and June 2000, Aschkenasy et al. (2005) divided states and the District of Columbia into three categories by their reporting system: mandatory; permissive (i.e., voluntary); and states with no statute related to reporting. They found that six states had mandatory reporting laws, 25 had permissive reporting laws, and 20 had no laws regarding physician reporting. The six states with mandatory reporting requirements included: Oregon, California, Delaware, Nevada, New Jersey, and Pennsylvania.

The breadth of conditions subject to mandatory reporting makes Oregon's mandatory program nationally unique. Only Montana's program approaches the breadth of Oregon's reportable conditions, however Montana is a voluntary-reporting state (*Snyder et al 2004*). California law requires physicians to report persons with dementia or conditions that produce lapses of consciousness (*Janke 1993*). Physicians in Nevada are required to report persons who are blind, night-blind, or whose vision is severely impaired (*Nevada Revised Statute 483.800, 1973*). In Delaware, only persons with central nervous system (CNS) diseases must be reported (*Aschkenasy et al 2005*).

2.1 LICENSE REGULATION

To qualify for a driver license, applicants must meet the criteria set forth by their state. For applicants with medical conditions, many states apply special licensing regulations in order to protect public safety. This section of the report focuses on license regulations for medically impaired drivers in the six states with mandatory reporting systems. Information on license regulations for the six states was recovered from their respective DMV web sites, as well as from the American Diabetes Association (ADA) web site.

Table 2.1 provides a summary of the license regulations for medically impaired drivers in the six mandatory reporting states. The medical conditions that must be reported vary somewhat among the six states, although most target conditions involving lapses of consciousness. Delaware follows the narrowest reporting definition, focusing on Central Nervous System diseases. The scope of the medical conditions covered in the other five states is greater, but the varying descriptions of those conditions make direct comparison difficult.

Table 2.1: License regulations in states with mandatory reporting

| Program Feature | Oregon | California | Delaware | Nevada | New Jersey | Pennsylvania |
|--|--|--|---|-------------------------|---|--|
| Medical conditions that must be reported | Severe functional or cognitive impairments that are not correctable or controllable | Alzheimer’s dementia or other disorders characterized by lapses of consciousness | Diseases of the central nervous system | Epilepsy | Recurrent seizure, recurrent periods of unconsciousness or impairment or loss of motor coordination | Lapses of consciousness or other mental or physical disabilities affecting the ability of a person to drive safely |
| Who is required to report? | Physicians & primary health care providers | Physicians & surgeons | Physicians | Physicians | Physicians | All physicians and other persons authorized to diagnose or treat disorders and disabilities |
| Immunity to physicians who report an unfit driver? | Yes | Yes | Yes | Yes | Yes | Yes |
| Are license applicants asked about their medical conditions? | Yes (First and renewal) | Yes, and in addition the applicant is required to complete a medical form if there has been a lapse of consciousness or control within the last 3 years (First or renewal) | Yes (First and renewal) | Yes (First and renewal) | Yes (First and renewal) | Yes, all first-time applicants must submit a medical evaluation, but are not asked at license renewal. |
| Is a medical advisory board (MAB) available? | Yes, when DMV staff is unable to make a determination, a Medical Determination Officer reviews | Yes, but only activated when needed for formal revision of medical evaluation guidelines | Yes, referred when cases cannot be resolved by DMV personnel (state’s independent Medical Advisory Board) | No | Yes, approximately 50% of cases are referred to MAB | Yes, but MAB is rarely engaged |

continued next page...

| Program Feature | Oregon | California | Delaware | Nevada | New Jersey | Pennsylvania |
|--|--|---|---|---|---|--|
| Who makes the final decision? | DMV | DMV | DMV | Licensing agency personnel | Motor Vehicle Commission | Licensing agency personnel |
| Possible treatments of medically impaired drivers | Suspension or cancellation of driving privileges or the right to apply for driving privileges | Deny, suspend or revoke the license application or the license | Suspension, revocation or voluntarily surrender | Cancellation of application, suspension or revocation | Cancellation of application, suspension or revocation | Recall or suspension of operating privilege if the driver does not comply with DOT's request for medical information |
| Can the decision be appealed by requesting a hearing? | Yes | Yes | Yes | Yes | Yes | Yes |
| Can a driving re-exam be requested to reinstate the license? | Yes, but DMV may deny the request if it has reason to believe a person is unable to safely operate a vehicle. In such cases a person must then obtain a Certificate of Eligibility and provide proof of successful completion of driver rehab and training courses | No | No | Yes | Yes | Yes |
| Is a probationary or restricted license available? | Yes | Yes, two types of probationary or restricted licenses are available | No | Yes | Yes | Yes |

Data sources: Oregon OAR 735-074, California Health and Safety Code # 12806c, "Driver Services, Medical Program" on the office web site of Delaware DMV, Nevada NRS 483-367, "Medical Review Process" on the office web site of New Jersey DMV", and Pennsylvania Vehicle Code chapter 15 # 1519. Please refer to the References Section for the web links.

Information from the American Diabetes Association's (ADA's) website indicates that among the six states with mandatory reporting systems, five ask license applicants (first time or renewal) about their medical conditions. Pennsylvania is distinct on two points: the first is that it requires applicants for a learner's permit to submit a medical evaluation form completed by a physician; the second is that such information is not required after the initial license application.

Drivers in the six states who answer "Yes" to medical questions in their license applications may be required to submit a medical evaluation form by their physicians (additional medical documents by physicians in Pennsylvania). An unfavorable physician evaluation or failure to provide a favorable physician's report may result in the suspension, cancellation, or denial of the application.

Besides mandatory reports from physicians, all six states accept reports from third parties such as family members, law enforcement, and hospitals. All six states also provide immunity to physicians who report an unfit driver.

Except for Nevada, the mandatory reporting states have medical advisory boards to be referred by licensing agencies for recommendations on medical issues, although their levels of involvement vary. In New Jersey, approximately 50% of cases are referred to the medical advisory board, while the medical advisory board in California is only engaged when needed for formal revision of medical evaluation guidelines. Generally, the licensing agency has sole responsibility for decisions regarding a person's driving qualifications and licensure, although staff usually follows recommendations made by physicians.

Typically, when the licensing agency has reason to believe that a person may be medically unsafe to drive, either because the individual has given positive answers to medical questions on the license application or because of a report from physician or other third parties, agency staff will determine whether the individual is required to have a medical evaluation. When an evaluation is required, an evaluation form, which must be completed by a physician, is sent to the individual, . The physician is given an opportunity to provide an opinion as to whether the individual should be allowed to drive, but is not required to do so. The final decision is made by licensing agency staff based on the evaluation form. When licensing agency staff is unable to make a determination, a case may be referred to a medical advisory board. Each state has defined specific standards to determine the treatment of medically impaired drivers, and decisions on treatments are made by applying the standards on a case-by-case basis.

Review of license regulations indicates that restriction, suspension, and revocation are the three common treatments of medically impaired drivers in the six states with mandatory reporting systems. In the six states, all drivers who have their license restricted, suspended, or revoked for medical reasons may appeal the decision by requesting a hearing or filing a petition in court. Drivers in Oregon, Nevada, New Jersey, and Pennsylvania can also request a re-examination to totally or partially reinstate their driving privileges. Each of these four states has established requirements that must be met before re-examination can occur. To be eligible for reinstatement of driving privileges, the applicants are usually required to submit a medical certification from a physician and pass knowledge and driving tests. Drivers with a reinstated license are also required to submit periodic certifications from a physician.

A restricted license may be issued to a person when the licensing agency determines that a restriction is necessary to insure the safe operation of a motor vehicle. Such restrictions may limit driving to daylight hours, driving only on certain routes, or driving only with certain vehicle equipment or adaptive devices. In Oregon, a person whose driving privileges are suspended for medical reasons may obtain a 60-day restricted license for the purpose of taking driving lessons if the DMV determines that, with driving lessons, the person may learn to safely operate a motor vehicle (ORS 735.074.0210). If a person's driving privileges are cancelled under the Medically At-Risk program, and the driver is denied further testing, the person may apply for a 60-day temporary permit for the express purpose of taking driving lessons if DMV determines that, with driving lessons, the person may learn to safely operate a motor vehicle (ORS 735.074.0212).

2.2 ISSUES RELATED TO MANDATORY REPORTING

2.2.1 Physician Reporting

More than half of the states have enacted legislation that places the physician in either an active or a permissive role as a state-designated mediator between the medically impaired driver and society (*Aschkenasy 2006*). For some time, the medical community has been divided in its position on mandatory reporting.

In 1992, the American Academy of Neurology (AAN) issued a consensus statement, along with the Epilepsy Foundation and the American Epilepsy Society, declaring that mandatory reporting by physicians is inappropriate in all cases involving epilepsy or similar conditions (*AAN 2006*). In September 2006, in an updated position statement, AAN (*2006*) again declared its opposition to mandatory reporting requirements. The Academy stated that making reporting a mandatory requirement can have a strongly negative impact upon the patient-physician relationship, and may ultimately provide no greater safety benefit to the public or the patient (*AAN 2006*).

The American Medical Association (AMA) issued a position statement on physician reporting in 1998, declaring that physicians have an ethical responsibility to report their patients' medical conditions in cases where the condition poses a safety threat and the patient is apparently disregarding the physician's advice not to drive (published *1999*). Similar to AAN, the AMA (*1999*) expressed concern over the potential for mandatory reporting requirements to compromise a patient's expectation of confidentiality and a doctor's sense of discretion. The AMA also noted that permissive reporting may leave physicians with less definitive procedural guidelines and a potentially greater risk of liability. On the question of whether mandatory or permissive reporting is preferred, the AMA deferred to state medical societies. In their statement, the AMA (*1999*) also recommended two important factors that should be considered: (1) the physician must be able to identify and document physical or mental impairments that clearly relate to the ability to drive; and (2) the driver must pose a clear risk to public safety.

In contrast with the ANA and AMA positions, the attitudes of surveyed physicians on mandatory reporting requirements are more positive. In 2000, Cable and his colleagues conducted a national survey on the attitudes of geriatricians regarding patients with dementia who were

potentially dangerous drivers. The survey found that more than 75% of geriatricians agreed that physicians should be legally required to report unsafe drivers (*Cable et al 2000*). Marshall and Gilbert (1999) fielded a similar survey in Saskatchewan, Canada on physicians' attitudes regarding assessment of medical fitness to drive. The results were generally consistent with Cable's, although 59.5% of surveyed physicians felt that the physician-patient relationship was negatively affected by reporting, and 64.1% agreed that physicians are the professionals most qualified to identify patients who are medically unfit to drive.

Surveys of physicians' attitudes about reporting also identified the positive effect of mandatory reporting requirements on both physicians' reporting and patients' compliance with law. A national survey by Jang et al (2007), on Canadian family physicians' attitudes about medical fitness to drive among older persons, found that physicians in provinces with mandatory reporting requirements reported a higher percentage of patients than physicians in provinces with discretionary reporting. A survey by Cable et al (2000) found that many more geriatricians in California (which has a mandatory reporting requirement) than geriatricians in other states know the steps to take to report patients. A survey by Salinsky & Sinnema (1992) found that 33% of patients would drive illegally under physician-reporting laws as opposed to 53% under patient-reporting systems.

2.2.2 Confidentiality

Confidentiality is a cornerstone of the patient-physician relationship (*AMA 1999*). While it is the DMV's responsibility to make the decision about a person's ability to safely operate a motor vehicle, reporting medical conditions to the DMV still carries the potential to affect the bond of trust between patients and health care providers, which might deter some patients from seeking care or sharing information. Jang's (2007) survey found that a majority of physicians felt that reporting patients to licensing authorities puts them in a conflict of interest position and has negative consequences for their relationship with patients and patients' families. A patient survey in Oregon, by Salinsky & Sinnema (1992), found that patients subject to mandatory reporting are more likely to conceal seizure information from physicians than in a self-reporting system (i.e., 16% vs. 4%). Alternatively, findings from a focus group of general practitioners, who primarily treat older patients, did not reveal concern about the effect of discussions addressing driving safety on the doctor-patient relationship (*D'Ambrosio et al. 2007*).

2.2.3 Legal Liability

Another issue related to confidentiality is the physician's legal liability for reporting or not reporting. According to a report by the National Transportation Safety Board (*NTSB 2004*), a majority of states have full legal immunity in place for physicians who observe all applicable laws in good faith. In states such as New York and Washington, however, physicians may be at risk of a lawsuit for reporting a patient with questionable driving abilities.

2.2.4 Lack of Standards for Risk Evaluation

The American Medical Association (*AMA 1999*) states that "the driver must pose a clear risk to public safety" to warrant reporting of a condition to a state licensing authority. Currently,

however, there is no “gold standard” for assessment of the safety risk posed by medically impaired drivers. Jang’s survey (2007) indicated that many Canadian physicians do not feel confident or qualified in assessing the driving fitness of their patients, and most surveyed physicians felt they would benefit from further education about driving assessment and from a screening instrument to identify high-risk drivers. Cable’s survey (2000) also found that more than 28% of geriatricians in the United States do not know how to report patients with dementia who are potentially dangerous drivers. These findings suggest the need to make physicians more aware of existing guidelines and the need to achieve greater standardization of the assessment of patients’ fitness to drive.

Physicians have expressed concern about the ability of the neuropsychological tests that they employ in a primary care setting to accurately predict a patient’s driving safety risk. Given the mobility consequences of a medical report to a DMV, physicians are especially concerned that affected patients truly represent a safety risk to themselves and others. As one physician stated in a focus group addressing this issue, “... if you’ve got more than 5% false positives (i.e., medical reports to DMV of patients who do not actually pose a driving safety risk) you are going to be in the range of test that’s not going to be of much practical value ...” (Bogner *et al.* 2004: 41).

The National Transportation Safety Board (NTSB 2004) suggests that medical impairments associated with driving can generally be classified as chronic or acute, and that this distinction has important implications for assessment. Because acute conditions are characterized by periods of impairment that are sporadic and often unpredictable, making fitness-to-drive decisions for persons with acute conditions must be based on clinical judgment of individual cases following a policy of acceptable risk for society. Conversely, chronic conditions characterized by impairments that are stable or that show fairly predictable functional declines allow fitness-to-drive decisions to be based on measurable performance rather than more subjective evaluations of risk.

The National Highway Traffic Safety Administration (NHTSA) recommends utilizing the services of a Driver Rehabilitation Specialist (DRS) to assist physicians in evaluating a patient’s performance in actual driving tasks (Wang *et al.* 2003). In Oregon, the Oregon Medical Association (OMA) has identified the Oregon Driver Education Center (ODEC) as a resource that physicians can utilize to assess driving ability and recommend adaptive equipment and/or modifications to driving habits. Generally, the Driver Rehabilitation Specialist (DRS) evaluation process begins with a clinical assessment of the driver (OMA 2004). If the clients who perform poorly on individual components of the clinical assessment continue to demonstrate safe driving ability, or the clients and family members want concrete evidence of unsafe driving, the DRS may recommend an on-road (functional) assessment (Wang *et al.* 2003). After the on-road assessment, the DRS will discuss the assessment results with the clients and family members, and recommendations, such as driving with restrictions or ceasing driving, can be made (Wang *et al.* 2003). Besides evaluating a client’s driving skills, a DRS can also provide rehabilitation, as needed, to enable the client to resume or continue driving safely (OMA 2004).

There is also a potential role for a DRS or occupational therapist (OT) in the licensing agency’s driving examination process. Baldock (2008) recommends a practice in which both a driving

examiner and an OT or DRS are present during the on-the-road test of medically impaired persons. This practice would allow the examiner to focus on a person's driving performance, while the OT or DRS would focus on evaluating cognitive and functional performance related to the person's medical condition. The combined assessment of the examiner and OT/DRS is likely to achieve a more reliable conclusion regarding safety risk, and would be particularly useful for situations in which adaptive devices or license restrictions would potentially mitigate condition-related safety risk.

2.2.5 Cost of Reporting

Generally, the cost of a reporting includes: the personal cost for any driver restrained from driving, the professional cost involving the physician and referred treatments, the social cost involving the role of physicians and the integrity of the physician-patient relationship, and the administrative cost for DMVs. The social cost of mandatory reporting has provided one of the strongest arguments against reporting (*Aschkenasy et al 2006*). Comparing the number of elderly drivers who died from crashes in 2005 (6,500) to the number of people who died from heart disease (about 633,000) and cancer (about 400,000) in the same year, Boustani (2007) suggests that limited resources, energy, and skills should be concentrated on combating heart disease, cancer and stroke among older adults rather than mandatory reporting to DMVs. This argument, however, fails to acknowledge the external social risk and costs that licensing authorities must consider in granting driving privileges.

The cost of driver assessment and rehabilitation ranges from \$200 to \$400 or more for a full assessment, and about \$100 per hour for rehabilitation. If adaptive equipment is required, additional funds need to be expended separately (*Wang et al. 2003*). In Oregon, in some cases, such cost can be covered by Worker's Compensation or Vocational Rehabilitation programs. However, many drivers do not qualify for those programs and insurance coverage is variable (*OMA 2004*).

2.3 AVAILABILITY OF RESTRICTED LICENSING

The ability to drive is of great importance to most people. When a physician deems a patient medically unfit to drive, it can undermine the person's sense of independence, contributing to depressive symptoms, social isolation, and a diminished quality of life (*Jang et al 2007*). Research shows that a majority of patients who lose their license subsequently have to rely on family and friends for transportation; there is no significant increase in the use of alternative transportation (*Brown 2004*). Also, Salinsky and Sinnema (1992) found that many persons would continue to drive illegally if their licenses were revoked (53% under a patient-reporting law and 33% under physician reporting system). Thus, the use of restricted licensing instead of license suspension or revocation has been argued to be a fairer way of dealing with people with medical impairments, and would also positively influence physicians' decision to report (*Marshall and Gilbert 1999*).

2.4 SAFETY RISK OF DRIVERS IN MANDATORY REPORTING PROGRAMS

2.4.1 Incidence of Medical Conditions

Among states with mandatory medical reporting requirements, California's at-risk driver program is the most similar to Oregon's. California Health and Safety Code, section 103900, requires physicians to report patients age 14 or older who are diagnosed as having Alzheimer's-related dementia or other disorders characterized by lapses of consciousness. Physicians report to a local health officer, who in turn transmits the report (Confidential Morbidity Reports, or CMRs) to the DMV (*Janke 2001*). Like Oregon, California law provides physicians immunity from civil or criminal liability in their reporting of medical conditions.

Drawing on CMRs, the California DMV conducted surveys in 1978, 1980, and 1991 (*Janke 2001*). In her report to the California legislature, Janke (*2001*) summarized the results of these three surveys (see Table 2.2). The survey results showed that from 1978 to 1991, both the number of reports and the number of medical conditions had increased dramatically. Among the medical conditions reported, seizure disorders accounted for more than half in 1978, 1980, and 1991, but their percentage decreased from 73% in 1978 to 52% in 1991. Of the reported seizure disorders, the majority were epileptic seizures. Based on public health statistics, it was estimated that the number of drivers with epileptic seizures reported to DMV accounted for only a little over 10% of all persons with this condition in the California population (*Janke 2001*).

Comparison among the survey results of 1978, 1980 and 1991 also showed that the percentage of Syncope (sudden loss of consciousness and postural tone which may recur) had increased from 6% in 1980 to 13% in 1991 (see Table 2.2), and this condition became the second most frequently reported in 1991. The percentages of Narcolepsy and Hemianopsia CMRs remained at a low level (1% or less) over time, while the incidence of reported Dementia increased from 1% in 1978 and 1980 to 6% in 1991. Janke (*2001*) noted that the increase in Dementia reports may have been due to a revision of California's mandatory reporting system in 1988.

Table 2.2: Confidential morbidity report survey results in California

| Condition | 1978 Survey | | 1980 Survey | | 1991 Survey | |
|-------------------------------|-------------|----|-------------|----|------------------|----------------|
| | (Total=333) | | (Total=557) | | (Total=1,849) | |
| | N | % | N | % | N ² | % ¹ |
| Seizure(s), seizure disorder | 242 | 73 | 388 | 70 | 187 ² | 52 |
| Loss/lapse of consciousness | 41 | 12 | 91 | 16 | 27 | 8 |
| Syncope | 27 | 8 | 35 | 6 | 48 | 13 |
| Alcohol intoxication/withdraw | 8 | 2 | 11 | 2 | 9 | 3 |
| Narcolepsy | 2 | 1 | 2 | <1 | 1 | <1 |
| Dementia | 2 | 1 | 3 | 1 | 21 | 6 |
| Hemianopsia | 2 | 1 | 1 | <1 | 1 | <1 |
| Trauma, concussion | | | 6 | 1 | 5 | 1 |
| Altered awareness | | | 5 | 1 | 4 | 1 |
| Possible seizure | | | | | 13 | 4 |
| Stroke, CVA | | | | | 11 | 3 |
| Psychosis | | | | | 8 | 2 |
| Hypoglycemia, diabetes | | | | | 5 | 1 |
| Dizziness, vertigo | | | | | 4 | 1 |
| Drug dependence/abuse | | | | | 3 | 1 |
| Miscellaneous | 9 | 3 | 15 | 3 | 10 | 3 |

Source: Janke (2001)

1. Based on 357 cases out of 1,849.
2. In two cases, seizure was noted as occurring while driving, and in one of these cases, a crash resulted.

Intuitively, older people are more likely to be affected by the medical conditions subject to reporting than younger people. Research by Williams et al (1992) confirmed this. They found that in California, although people aged 65 or older represented 12% of the driving population, they accounted for about 24% of the persons in the DMV medical at-risk program.

Different from California and Oregon, drivers in Utah enter the state's at-risk program by self-reporting their medical conditions. Vernon et al. (2002) reported on Utah licensed drivers with medical conditions from 1992 to 1996. During their study period, there was a total of 1,750,918 Utah licensed drivers, of which 68,770 (4%) were licensed in the medical conditions licensing program (Vernon et al. 2002). Among drivers with self-reported medical conditions, 80% reported one medical condition, while the remaining 20% reported two or more. Vernon et al. (2002) also found that drivers in the medical conditions program were older than the general population of drivers (age 55.8 vs. age 37.0). In terms of reported medical conditions, the three largest categories in Utah covered cardiovascular, diabetes, and visual acuity conditions. However, among drivers whose license status changed as a result of their reported medical conditions, the largest categories included "epilepsy and other episodic conditions" (27%), "alcohol and other drugs" (12%), and "neurological conditions" (12%) (Vernon et al 2002).

2.4.2 Relative Crash Risk

In the California DMV database, persons involved in the medical at-risk program are referred to as Physical & Mental (P&M) drivers, and are categorized into six groups: Alcoholism, Mental Condition, Physical Condition, Lapses of Consciousness, Drug Addiction, and Lack of Knowledge or Skill. While the first five groups are defined by Confidential Morbidity Reports, the final group, Lack of Knowledge or Skill, is distinct. This group includes persons reported by DMV field offices, law enforcement officials, and citizens, who are perceived as a safety risk or have demonstrated an inability to pass their license or driving exam (*Janke 2001*). *Janke (2001)* summarized the findings of her previous study of crash rates within each of the six groups during the period of time two years preceding the 1991 P&M designation, and a similar (unpublished) analysis for the two years prior to P&M designation in 2000.

In addition to their at-risk driver program, the California DMV administers the negligent operator treatment system (NOTS). California Vehicle Code (section 2810.5a) defines a prima facie negligent operator as any licensed driver whose driving record shows a violation point count (associated with at-fault crashes or traffic law convictions) of four or more points in 12 months, six or more points in 24 months, or eight or more points in 36 months. There are four treatment levels in the NOTS program. Among these four levels, NOTS level III treatment corresponds most closely to license suspension actions taken in the Oregon DMV's Driver Improvement Program (DIP). *Gebbers & Roberts (2004)* calculated two-year prior crash risk for drivers in NOTS level III and compared these risks to those of the general driving population as well as those of male drivers under age 25. Given the similarity of exposure periods and reference groups in the *Janke (2001)* and *Gebbers and Roberts (2004)* studies, it is possible to make a general comparison of the crash risks of medical at-risk drivers and negligent operators.

Combining the prior crash risk rates presented in the reports by *Janke (2001)* and *Gebbers and Roberts (2004)*, Figure 2.1 compares the crash risk of drivers in California's medical at-risk program (shown by group on the left side of the figure) to drivers in the NOTS level III program, male drivers under age 25, and drivers in the general population.

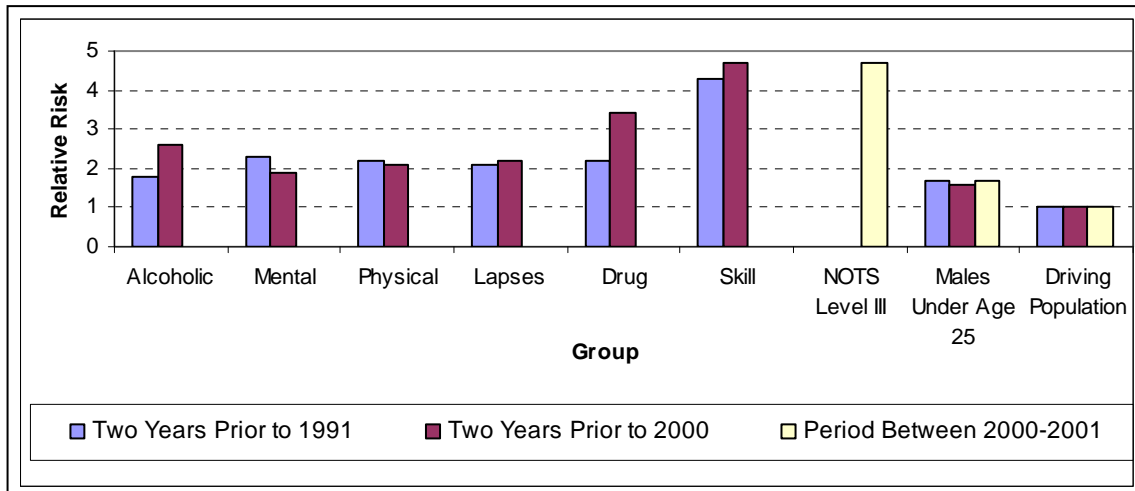


Figure 2.1: Crash risk rate of drivers in California’s medical at-risk program, organized by group (Janke 2001; Gebers and Roberts 2004)

Drivers in most of the Physical & Mental (P&M) groups exhibited approximately twice the crash risk of the driving population during the two-year period prior to 1991. A notable exception is the “Skill” group, whose crash risk was 4.3 times the driving population crash risk. P&M groups in the two-years prior to 2000, showed similar patterns except for the obvious increase in the relative crash risk of the Alcohol and Drug group.

The Mental group, which includes dementia and mental illness, showed about two times the relative crash risk of the driving population as a whole. As shown in Table 2.3 below, the share of the mental category of all California P&M contacts increased from 5.4% in 1991 to 11.0% in 2000. Janke (2001) noted that dementia probably accounts for the greater part of the category’s size since 1991.

Table 2.3: Drivers with a California DMV P&M contact during 1991 and 2000

| Group | | 1991 | 2000 |
|---------------------|---|---------|---------|
| Alcoholic | N | 4,077 | 1,127 |
| | % | 7.7% | 1.6% |
| Mental | N | 2,846 | 7,600 |
| | % | 5.4% | 11.0% |
| Physical | N | 14,020 | 19,303 |
| | % | 26.5% | 28.0% |
| Lapses | N | 24,290 | 25,462 |
| | % | 45.8% | 36.9% |
| Drug | N | 1,276 | 2,879 |
| | % | 2.4% | 4.2% |
| Skill | N | 6,477 | 12,581 |
| | % | 12.2% | 18.3% |
| All At-Risk Drivers | N | 52,986 | 68,952 |
| | % | 100% | 100% |
| Males under age 25 | N | 19,106 | 30,360 |
| Driving population | N | 192,630 | 210,892 |

Source: Janke (2001)

The Lapses group, also with about two times the relative crash risk of the driving population, is the largest P&M group in 1991 and 2000. However, its share of P&M contacts decreased from 45.8% in 1991 to 36.9% in 2000.

In the Physical group, the second largest of the P&M groups, both the relative crash risk (about two times) and the share of P&M contacts (26.5% in 1991 and 28.0% in 2000) remained fairly stable.

The Skill group consists primarily of older drivers without a previously known medical condition. Their repeated licensing test failures, however, presumably indicates the existence of an impairment. In both 1991 and 2000, this group showed a much higher relative crash risk (4.3 times in 1991 and 4.7 times in 2000) than the other P&M groups. The Skill group's share of P&M contacts also increased from 12.2% in 1991 to 18.3% in 2000.

Because treatments to the medical at-risk drivers are similar to NOTS level III treatments, the relative crash risk of at-risk drivers is compared to that of the drivers in NOTS level III. As shown in Figure 2.1, during the period between June 1, 2000 and December 31, 2001, NOTS level III drivers were 4.7 times more likely to be involved in a prior crash than persons in the general driving population. Among the six P&M categories, in both 1991 and 2000, only the Skill group exhibited a similar relative crash risk. Drivers in the other five P&M groups had a much smaller relative crash risk. Thus, while they are treated similarly, medical at-risk drivers are generally much less likely to be involved in a prior crash than the drivers in NOTS level III. This finding is not surprising, given that California drivers enter NOTS by accumulating points from at-fault crashes and traffic offense convictions.

Research on the medical self-reporting program in Utah, by Vernon et al (2002), also reported a modest relative crash risk rate in comparison to similar licensed drivers without medical conditions. The relative crash risks for self-reporting drivers with medical conditions were mostly in the 1.0-1.7 range. The relative crash rate in the largest medical category, "cardiovascular conditions," was not significantly different from the control group.

A study of elderly drivers in Ontario, Canada, by Zhang et al (1999), reported that the existence of adverse medical and physical conditions increased crash fatality likelihood by a factor of 5, for drivers 75-79 years of age, and by a factor of 3.5, for those 80 years and over. However, in the 65-74 age group, medical and physical conditions did not appear to be related to a relatively greater risk of fatality.

2.5 OTHER ISSUES RELATED TO MEDICAL AT-RISK DRIVER SAFETY

Although considerable knowledge has been gained on the subject of medical at-risk driver safety, there are still some issues that deserve attention. First, the medical conditions of persons reported to the DMV are likely to be more severe (Janke 2001), suggesting that the research based on such data overestimates the relative crash risk associated with these medical conditions in the general population. Janke (2001) also warns that in interpreting crash rates, it should be

kept in mind that some medically at-risk drivers are identified precisely because they were involved in a condition-related crash, which would also inflate the crash risk for their group.

Second, drivers typically act to reduce their risk exposure as a result of their medical conditions. Researchers commonly fail to consider self-regulation because data limitations make it very difficult to measure risk exposure. For example, in studying the 2001 National Household Travel Survey, Collier et al (2003) found that older adults in the U.S. tend to make fewer trips, travel shorter distances, and have shorter travel times. Considering the rough comparability between the older drivers and drivers with medical conditions, it is reasonable to expect that medical at-risk drivers will reduce their trip frequencies and distances, and attempt to avoid situations where their impairments make them more vulnerable. Such behavioral adaptations suggest caution should be used when drawing safety inferences from the growing number of studies examining the performance of medically impaired subjects using driving simulators. Drivers with dementia, even in its earliest stages, may represent an exception to self-regulation, given that they are generally unaware of the effects of this condition on their judgment.

Third, much of the previous research has not adequately addressed the contemporaneous relationships between medical conditions and safety-related events (Hu et al. 1998). That is, medical risk factors and crash data are not very precisely defined in time. Without panel data, researchers are forced to relate cross sectional “snap-shots” of drivers with medical conditions of unknown onset and severity, to several years of crash data, obscuring the true temporal linkage between medical conditions and crash incidence (Hu et al 1998).

2.6 SUMMARY

In summary, the literature indicates that about half the states directly address medical impairments in the licensing process through self-reporting, voluntary reporting, or mandatory reporting practices. Analysis of the safety risks associated with medically impaired drivers shows their incidence of crashes is generally higher than the crash incidence among the general driving population. Evidence from California indicates that the incidence of crashes among drivers in their voluntary reporting program is more than twice the incidence of crashes among drivers in their mandatory reporting program, and approximates the crash incidence of drivers in their Driver Improvement Program.

The medical community generally recognizes its responsibility to protect against threats to public safety that are associated with medically impaired drivers, although physicians have also expressed concern about their ability to identify the point where a medical condition begins to compromise a patient’s safety on the roadway. Physicians are also concerned about the effect of reporting on patients’ motivation to seek treatment and communicate their conditions, as well as their legal liability associated with reporting. Lastly, evidence indicates that as persons’ driving performance deteriorates, whether as a result of a medical impairment or as a consequence of ageing, they modify their behavior to reduce safety risk. An exception may be the case of cognitive impairments, where persons are sometimes unaware of the condition.

3.0 STATISTICAL ANALYSIS

This chapter presents an analysis of the characteristics of persons suspended through the Oregon DMV's Medically At-Risk program following review of a mandatory impairment referral. The analysis focuses on the incidence of crashes, convictions and major convictions (as defined in OAR 735-064-0220), both before and after suspension. The safety risk of these persons is compared to the risks associated with persons suspended through the voluntary medical reporting program, as well as to a sample of the state's driving public. Together, the sample of drivers suspended under the mandatory referral, the sample under the voluntary reporting referral, and the sample of Oregon drivers, comprise the three study groups. It should be noted that drivers in the voluntary reporting program are similar to the *Skill* group evaluated by Janke (2001) in her study of California's medical reporting program (discussed in Section 2.0).

Because persons suspended under the Oregon mandatory reporting program have the opportunity to appeal their suspension, aspects of the appeal process were examined. Some persons subsequently regain driving privileges following suspension through the mandatory reporting program. For the study, the extent to which personal characteristics and medical impairments affect the likelihood of attempts to regain driving privileges were analyzed, as well as their influence on eventual success in regaining driving privileges.

In addition, determinants of the likelihood of crash and conviction involvement following suspension were also analyzed for persons in the mandatory reporting program.

3.1 TIMEFRAME AND SAMPLES

Revisions were made to the Oregon Medically At-Risk program in 2003. To avoid potential effects related to this transition, all persons suspended in the mandatory and voluntary reporting programs between July 1, 2004 and December 31, 2005 were selected for analysis. A random sample of persons with active driving privileges on April 1, 2005 was also selected to represent the general population of drivers in Oregon. Data files were screened to delete records with missing values for county of residence, gender and age. Records were also deleted where miscoding of age was suspected (i.e., values less than 16 and greater than 105 years). The final tally of valid records for the three study groups were as follows: 1,556 (mandatory reporting program); 910 (voluntary reporting program); and 18,604 (Oregon drivers). The latter group represented about 0.7% of the population with active driving privileges at that time.

In addition to personal and residence information, the data record for each individual in the mandatory and voluntary reporting groups included counts of the number of crashes and convictions that occurred during the 18-month period prior to the suspension date, as well as during the 18-month period following the suspension date. For the sample of Oregon drivers, the conviction and crash counts were recorded for the 18-month periods before and after April 1,

2005. Crash and conviction counts for all subjects were defined by date of arrest (conviction) or date of event (crash).

3.2 DRIVER CHARACTERISTICS

Demographic and locational characteristics of the subjects in the three groups selected for analysis are reported in Table 3.1. The *Mandatory* column in the table refers to a sample of subjects suspended through the mandatory reporting program. The *Voluntary* column refers to a sample of subjects suspended through the voluntary reporting program, and the *OR Driver* column refers to a sample of subjects randomly selected from Oregon’s driving population.

Table 3.1: Characteristics of the *Mandatory*, *Voluntary*, and *OR Driver* samples

| Characteristic | | <i>Mandatory</i> | <i>Voluntary</i> | <i>OR Driver</i> |
|----------------|--------------------|------------------|------------------|------------------|
| Age Group | 35 & under | 4.3 % | 10.9 % | 33.4 % |
| | 36 - 55 | 11.6 % | 25.5 % | 36.6 % |
| | 56 - 75 | 23.9 % | 29.8 % | 21.4 % |
| | 76 & over | 60.2 % | 33.8 % | 8.6 % |
| | Mean Age (years) | 73.0 | 62.4 | 46.4 |
| | Median Age (years) | 78.9 | 66.0 | 45.1 |
| Gender | Male | 61.3 % | 60.1 % | 52.8 % |
| | Female | 38.7 % | 39.9 % | 47.2 % |
| Residence | Urban | 69.6 % | 69.6 % | 76.9 % |
| | Rural | 30.4 % | 30.4 % | 23.1 % |
| Sample Size | | 1,556 | 910 | 18,604 |

Overall, subjects in the *Mandatory* group are considerably older than those in both the *Voluntary* and *OR Driver* groups. More than 60% of the subjects in the *Mandatory* sample are over age 75, compared to about one-third and 8.6% of the subjects in the *Voluntary* and *OR Driver* samples, respectively. The corresponding mean ages for the three samples are 73.0, 62.4 and 46.4 years. Median ages noticeably exceed the mean values for the *Mandatory* and *Voluntary* samples, indicating that the respective distributions are also skewed toward the higher end of the age range. Over 60% of the subjects in the *Mandatory* and *Voluntary* samples are male, compared to about 53% in the *OR Driver* sample.

Nearly 70% of *Mandatory* and *Voluntary* subjects reside in Census-designated urban counties, compared to nearly 77% of the *OR Driver* sample. Thus the general incidence of suspensions through the mandatory and voluntary reporting programs has been relatively greater in rural Oregon. There are several possible reasons for this outcome. First, rural counties contain a relatively larger share of the state’s older residents. Second, there may also be a relatively greater tendency for primary health providers and other reporting sources in rural counties to refer drivers to the mandatory and voluntary reporting programs. To distinguish between the

two alternatives, the *Voluntary* sample was re-weighted to correspond to the age distribution of the *Mandatory* sample. It was found that 70.7% of the re-weighted *OR Driver* sample resided in urban counties, roughly comparable to the residence percentages for the *Mandatory* and *Voluntary* samples, indicating that the former interpretation mainly explains the geographic incidence of referrals.

A similar question can be raised about the higher percentage of males suspended in the mandatory and voluntary reporting programs relative to their representation in the state's driving population. Again, controlling for differences in age distribution through re-weighting, the share of males in the *OR Driver* sample falls to 47.3%. This indicates that the nominal odds of males being suspended in the mandatory reporting program are about 1.3 times greater than their age-controlled representation in the state's driving population. One possible interpretation of this finding is that males may be less likely to voluntarily cease driving following the onset of functional and cognitive impairments, thus providing a greater incentive for primary care providers to formally intervene through a medical referral.

Information on the reported impairments of *Mandatory* sample subjects is presented in Table 3.2. DMV staff process the medical referrals into five general categories reflecting the subjects' type(s) of impairment. Cognitive impairments are present in nearly 80% of the subjects, and in a fairly small subset of this group, the impairments are coupled with vision and functional impairments. Vision impairments are uniquely present in nearly 17% of the sample subjects.

The nature of reported impairments is predominantly classified as either chronic or progressive rather than acute or transient. Among functional impairments, vision, motor, planning and coordination, and strength-related conditions are most commonly present. Conditions most commonly associated with cognitive impairments include judgment and problem solving, delayed reaction times, memory losses, and diminished attention. Loss of consciousness or control, the sole impairment triggering license action in Oregon's previous mandatory at-risk program, is present in a relatively small share (11.8%) of the referrals of this study's *Mandatory* sample subjects.

Following receipt of the referral and the subsequent suspension action, 15% of the *Mandatory* sample subjects attempted to regain their driving privileges by taking DMV's vision, written, and driving exams. Among those who attempted to regain their driving privileges, nearly 90% were ultimately successful, with about one-in-four persons requiring multiple attempts. Subjects who successfully regained their driving privileges were considerably younger than those who tried and failed or did not attempt (60.7 vs. 74.9 years).

Table 3.2: Cognitive, functional, and other characteristics of the *Mandatory* sample

| Characteristic | Mean Value |
|---|-------------------|
| Suspension Category* | |
| Vision | 16.6% |
| Functional | 3.8 |
| Functional + Cognitive | 0.7 |
| Cognitive | 73.9 |
| Vision + Functional + Cognitive | 4.9 |
| Nature of Impairment | |
| Acute | 8.9 |
| Transient | 3.0 |
| Chronic | 47.7 |
| Progressive | 42.4 |
| Functional Impairments | |
| Visual Acuity and/or Field of Vision | 20.9 |
| Strength | 14.5 |
| Peripheral Sensation | 5.5 |
| Flexibility | 9.4 |
| Motor Planning & Coordination | 21.0 |
| Other Functional | 2.5 |
| Cognitive Impairments | |
| Attention | 42.2 |
| Judgment & Problem Solving | 57.3 |
| Reaction Time | 47.6 |
| Planning & Sequencing | 39.2 |
| Impulsivity | 17.9 |
| Visiospatial | 12.7 |
| Memory | 44.2 |
| Loss of Consciousness or Control | 11.8 |
| Other Cognitive | 3.0 |
| Post-Suspension Licensing Status | |
| Took Licensing Tests | 15.0% |
| Test Attempts per Person | 1.3 |
| Final Pass Rate | 89.3 |
| Sample Size | 1,556 |

* Mean values do not add to 100 due to rounding.

3.3 SAFETY RISK ANALYSIS

3.3.1 Safety Risk Prior to Suspension

Driver records for the subjects in the *Mandatory* and *Voluntary* samples were queried for entries on crashes and convictions that occurred during the 540-day period prior to suspension. For *OR Driver* sample subjects, queries covered the 540-day period prior to April 1, 2005. Information on the incidence of total convictions, major convictions, and crashes for the three groups is presented in Tables 3.3 through 3.5.

Table 3.3: Safety risk before suspension: total convictions

| Category | Absolute Risk* | | | Relative Risk | |
|---------------------------------|------------------|------------------|------------------|------------------|-----------------------------|
| | <i>Mandatory</i> | <i>Voluntary</i> | <i>OR Driver</i> | <i>Mandatory</i> | <i>Voluntary/ OR Driver</i> |
| Age Group | | | | | |
| 35 & Under | 64.2 | 84.8 | 28.9 | 2.2 | 2.9 |
| 36-55 | 38.1 | 52.2 | 16.0 | 2.4 | 3.3 |
| 56-75 | 5.4 | 31.4 | 7.5 | 0.7 | 4.2 |
| 76 & Over | 3.1 | 14.0 | 2.3 | 1.3 | 6.1 |
| All Ages | 10.3 | 36.6 | 17.3 | 0.6 | 2.1 |
| Impairment Category | | | | | |
| Vision | 4.6 | | | | |
| Functional | 5.1 | | | | |
| Functional + Cognitive | 18.2 | | | | |
| Cognitive | 12.3 | | | | |
| Vision + Functional + Cognitive | 3.9 | | | | |
| Gender | | | | | |
| Male | 10.4 | 38.0 | 22.1 | 0.5 | 1.7 |
| Female | 10.3 | 34.4 | 12.0 | 0.9 | 2.9 |
| Residence | | | | | |
| Urban | 10.1 | 36.0 | 18.4 | 0.5 | 2.0 |
| Rural | 11.0 | 37.9 | 14.1 | 0.8 | 2.7 |
| Post-Suspension Status | | | | | |
| Remained Suspended | 8.7 | | | | |
| Regained Driving Privileges | 21.1 | | | | |

* Events per 100 drivers.

A noteworthy pattern is evident in the conviction incidence rates across age cohorts among the three sample groups. In each group the incidence of total convictions declines sharply as age increases. For example, for the age 76 and over cohort in the *Mandatory* sample, the total

conviction rate is 3.1 per hundred drivers, which is about 95% below the conviction rate of 64.2 experienced by *Mandatory* drivers age 36 and under.

Traffic safety researchers attribute age-associated declines in nominal conviction and crash risk to trade-offs between physical performance and driving experience (*Evans 2004*). Younger drivers generally possess excellent performance capabilities (e.g. greater visual acuity and better reaction times), but their lack of driving experience contributes to decisions that are more likely to put them in harms way. In contrast, older drivers possess diminished physical capabilities, but tend to offset these limitations by drawing on their greater driving experience to make decisions that reduce their risk exposure. Thus, older persons tend to drive more defensively and avoid circumstances where their performance limitations place them at greater risk (e.g., at night or where traffic is congested). More generally, older drivers reduce their risk exposure by driving less. Drawing on data from the 1990 Nationwide Personal Transportation Survey (NPTS), Rosenbloom (*1995*) found that the average annual miles driven by persons age 70 and over was about 47% of the average driven by the general driving population in the US.

Generally, the incidence of total convictions within each age cohort of the *Mandatory* sample is greater than the incidence within the comparable age cohort of the *OR Driver* sample. For example, the 3.1 conviction rate among *Mandatory* drivers age 76 and over is 1.3 times greater than the 2.3 conviction rate among the peer cohort of the *OR Driver* sample. Alternatively, the conviction risk among all *Mandatory* sample drivers (10.3) is 40% lower than the conviction risk among all *OR Driver* sample subjects (17.3). The distinction between these two risk comparisons is attributable to underlying differences in the age composition of the *Mandatory* and *OR Driver* samples. The share of drivers in the age 76 and over cohort in the *Mandatory* sample (60.2%) – who experience about one-twentieth the conviction risk of the sample's youngest cohort -- is seven times larger than that cohort's share in the *OR Driver* sample (8.6%).

The conviction rate among drivers in the *Voluntary* sample is generally greater than the conviction rate among *Mandatory* sample drivers. In addition, the conviction rate of *Voluntary* sample drivers increases by age cohort relative to peers in the *OR Driver* sample. Thus, while the conviction rate of *Voluntary* drivers age 35 and under is nearly three times the rate of peers in the *OR Driver* sample, it grows to over six times the *OR Driver* sample risk at the higher end of the age distribution among drivers age 76 and over.

Turning to the categories of impairment, the incidence of prior convictions is greatest among *Mandatory* sample subjects who were classified as having both functional and cognitive impairments, followed by subjects with cognitive impairments only. Conviction rates fall off substantially among the other impairment categories. To the extent that *Mandatory* subjects' ages differ by category of impairment, the possibility of confounding which contributes to differences in conviction risk arises. In this case, average ages are fairly consistent across impairment categories, with the Functional + Cognitive category being somewhat greater (76.2 years) than the others. If age were the underlying contributor, conviction risk would thus be least for the Functional + Cognitive category rather than greatest, suggesting that it is the impairment that is contributing to risk.

The incidence of prior convictions among men and women is very similar in the *Mandatory* sample, while the incidence is about 10% greater among men in the *Voluntary* sample. In

contrast, within the *OR Driver* sample the incidence of convictions among men is about 1.8 times greater than it is among women. Taken together, this suggests that impairments have had a proportionately greater effect on conviction risk for women, as indicated by the relative risk values in Table 3.3.

Prior conviction rates are also fairly similar for urban and rural county residents within the *Mandatory* and *Voluntary* samples. Within the *OR Driver* sample, the conviction rate for urban residents is about 1.3 times greater than the rate for rural residents. Thus the relative conviction risk for rural residents in the *Mandatory* and *Voluntary* samples is somewhat higher than it is for urban residents. Reasons for this difference are unknown, but may be related to greater exposure for rural residents due to greater miles driven or lack of access to alternative means of mobility, as Rosenbloom (1995) has observed.

The final category addressed in Table 3.3 involves the incidence of prior convictions for *Mandatory* sample subjects who ultimately regain their driving privileges. In this instance, the prior conviction rate of subjects who regain driving privileges is about 2.4 times greater than subjects who remain suspended. This difference may be explained by several considerations. First, as previously noted, the subjects who regain their driving privileges are considerably younger than those who remain suspended and thus are members of a cohort that generally exhibits higher conviction risk. Second, it is likely that those who had maintained the greatest mobility prior to suspension would be most motivated to regain their driving privileges, suggesting that their higher incidence of prior convictions is exposure related. Overall, the incidence of prior convictions within this group is about 1.2 times greater than the incidence within the *OR Driver* sample.

Information on the incidence of major convictions within the *Mandatory*, *Voluntary*, and *OR Driver* samples is presented in Table 3.4.

Table 3.4: Safety risk before suspension: major convictions

| Category | Absolute Risk* | | | Relative Risk | |
|------------------------------------|----------------|-----------|-----------|-------------------------|-------------------------|
| | Mandatory | Voluntary | OR Driver | Mandatory/ OR Driver | Voluntary/ OR Driver |
| Age Group | | | | | |
| 35 & Under | 4.5 | 3.0 | 0.9 | 5.0 | 3.3 |
| 36-55 | 8.3 | 5.6 | 0.7 | 11.9 | 8.0 |
| 56-75 | 0.3 | 1.1 | 0.1 | 3.0 | 11.0 |
| 76 & Over | 0.0 | 0.3 | 0.0 | NA | NA |
| All Ages | 1.2 | 2.2 | 0.6 | 2.0 | 3.7 |
| Impairment Category | | | | | |
| Vision | 1.9 | | | | |
| Functional | 0.0 | | | | |
| Functional + Cognitive | 0.0 | | | | |
| Cognitive | 1.2 | | | | |
| Vision + Functional + Cognitive | 0.0 | | | | |
| Gender | | | | | |
| Male | 0.9 | 2.0 | 0.9 | 1.0 | 2.2 |
| Female | 1.7 | 2.5 | 0.2 | 8.5 | 12.5 |
| Residence | | | | | |
| Urban | 1.0 | 1.4 | 0.6 | 1.7 | 2.3 |
| Rural | 1.7 | 4.0 | 0.5 | 3.4 | 8.0 |
| Post-Suspension Status | | | | | |
| Remained Suspended | 1.0 | | | | |
| Regained Driving Privileges | 2.4 | | | | |

* Events per 100 drivers.

Major convictions represent a fairly small share of total convictions within the *Mandatory*, *Voluntary*, and *OR Driver* samples, accounting for 11.7%, 6.0%, and 3.5%, respectively. Within the *Mandatory* sample, only 19 major convictions occurred during the 540-day period prior to suspension. Given limited occurrences, caution should be exercised in interpreting the incidence of major convictions both within and across subgroups of the three samples.

One noteworthy difference in the incidence of major convictions is that *Mandatory* sample subjects now collectively represent a greater risk relative to *OR Driver* sample subjects. *Mandatory* subjects are now twice as likely to be convicted of a major traffic offense than *OR Driver* subjects (i.e., 1.2 vs. 0.6 convictions per hundred subjects). Closer examination of these convictions shows a relatively higher incidence of DUII and reckless driving or endangerment convictions among *Mandatory* sample subjects. Thus, one can posit that the *Mandatory* sample includes a relatively greater share of persons with chronic substance abuse problems that have

become manifested in or associated with cognitive or functional impairments. The relative rate of major convictions among *Voluntary* sample subjects is also greater than their corresponding rate for total convictions, suggesting that a similar interpretation may pertain to this group as well.

Among other categories in Table 3.4, the relative incidence of major convictions for both the *Mandatory* and *Voluntary* samples is also comparatively greater for women and for rural county residents. Within the *OR Driver* sample, the incidence of major convictions for these two categories is comparatively lower.

The incidence of prior crashes for the three sample groups is reported in Table 3.5.

Table 3.5: Safety risk before suspension: crashes

| Category | Absolute Risk* | | | Relative Risk | |
|---------------------------------|----------------|-----------|-----------|---------------------|---------------------|
| | Mandatory | Voluntary | OR Driver | Mandatory/OR Driver | Voluntary/OR Driver |
| Age Group | | | | | |
| 35 & Under | 0.0 | 65.7 | 4.8 | 0.0 | 13.7 |
| 36-55 | 5.0 | 48.3 | 3.4 | 1.5 | 14.2 |
| 56-75 | 0.5 | 34.7 | 2.4 | 0.2 | 14.5 |
| 76 & Over | 1.3 | 22.4 | 1.9 | 0.7 | 11.8 |
| All Ages | 1.5 | 37.4 | 3.6 | 0.4 | 10.4 |
| Impairment Category | | | | | |
| Vision | 1.9 | | | | |
| Functional | 0.0 | | | | |
| Functional + Cognitive | 0.0 | | | | |
| Cognitive | 1.4 | | | | |
| Vision + Functional + Cognitive | 2.6 | | | | |
| Gender | | | | | |
| Male | 1.7 | 37.1 | 3.6 | 0.5 | 10.3 |
| Female | 1.2 | 37.7 | 3.5 | 0.3 | 10.8 |
| Residence | | | | | |
| Urban | 0.9 | 38.4 | 3.8 | 0.2 | 10.1 |
| Rural | 2.7 | 35.0 | 2.7 | 1.0 | 13.0 |
| Post-Suspension Status | | | | | |
| Remained Suspended | 1.0 | | | | |
| Regained Driving Privileges | 4.3 | | | | |

* Events per 100 drivers.

As with major convictions, there is limited crash occurrence among the *Mandatory* sample subjects (with 24 total crashes), and thus the same cautions regarding interpretation apply. Overall, crash involvement among *Mandatory* sample subjects is 40% of the level of involvement among *OR Driver* sample subjects, likely reflecting actions taken by medically at-risk subjects to reduce their exposure. Rural *Mandatory* subjects approach the crash incidence

level of *OR Driver* sample subjects, suggesting that this group may be less able to reduce its risk exposure. The only subgroup within the *Mandatory* sample whose crash incidence exceeds the incidence within the *OR Driver* sample (in this instance, by about 20%) are the subjects who later regain driving privileges.

The most notable information in Table 3.5 concerns the crash incidence of *Voluntary* sample subjects, which, overall, is more than 10 times greater than the crash incidence of the *OR Driver* sample and 25 times greater than the crash incidence of the *Mandatory* sample. These high relative incidence values suggest that crashes likely represent singular events that trigger voluntary referrals of individuals to DMV from law enforcement entities, health care providers, and others. In this instance, *Voluntary* sample men and women are about as likely to be involved in a crash, and the relative crash incidence among rural residence is about 30% above the relative incidence among urban residents.

Information on the relative risk of pre-suspension crashes, total convictions and major convictions presented in Tables 3.3 through 3.5 is summarized in Figure 3.1. In each instance the rate shown in the figure represents the incidence of the identified group divided by the corresponding incidence in the *OR Driver* sample. As previously discussed, the figure highlights the following:

- the elevated incidence of major convictions of *Mandatory* sample subjects prior to suspension;
- the comparably greater pre-suspension safety risk of the subgroup of *Mandatory* sample subjects who recover their driving privileges after suspension; and
- the relatively high incidence of pre-suspension crashes among *Voluntary* sample subjects.

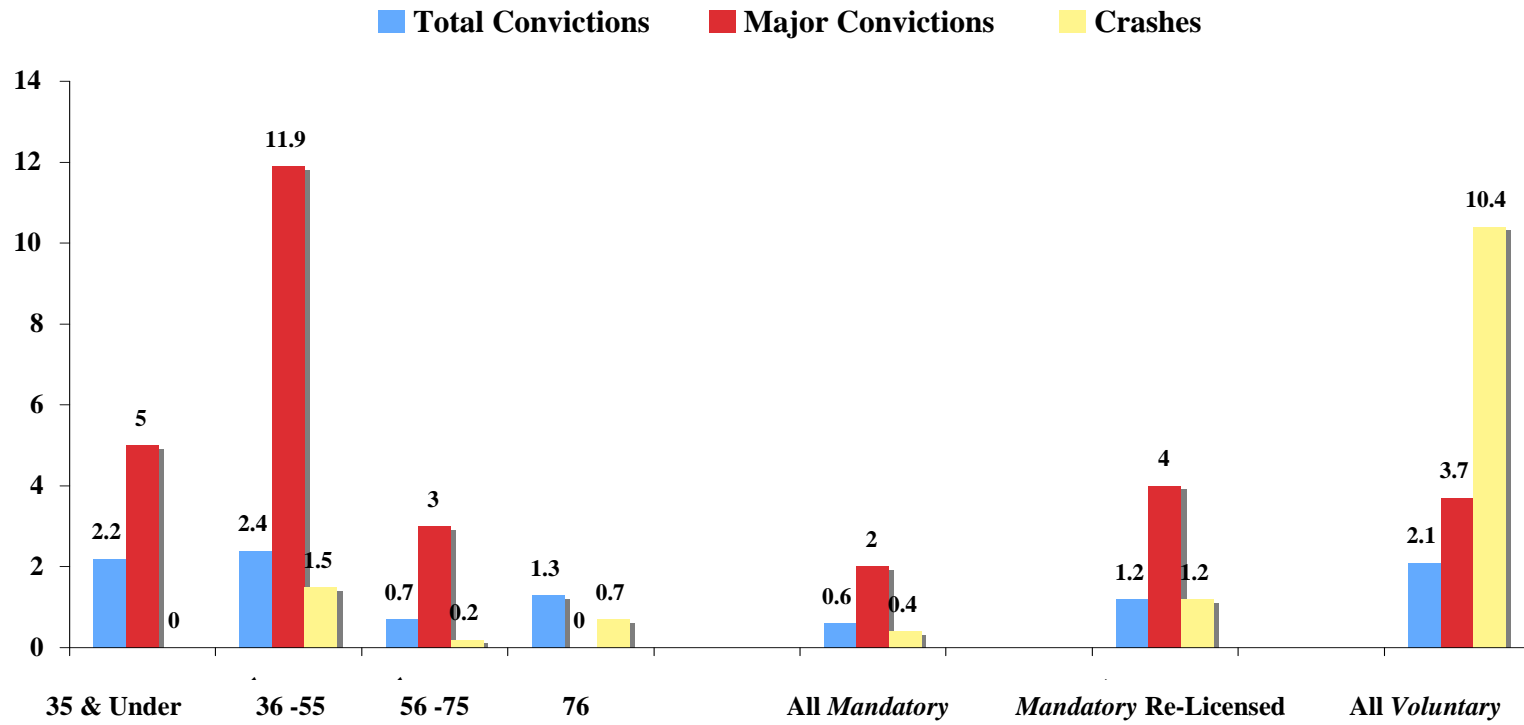
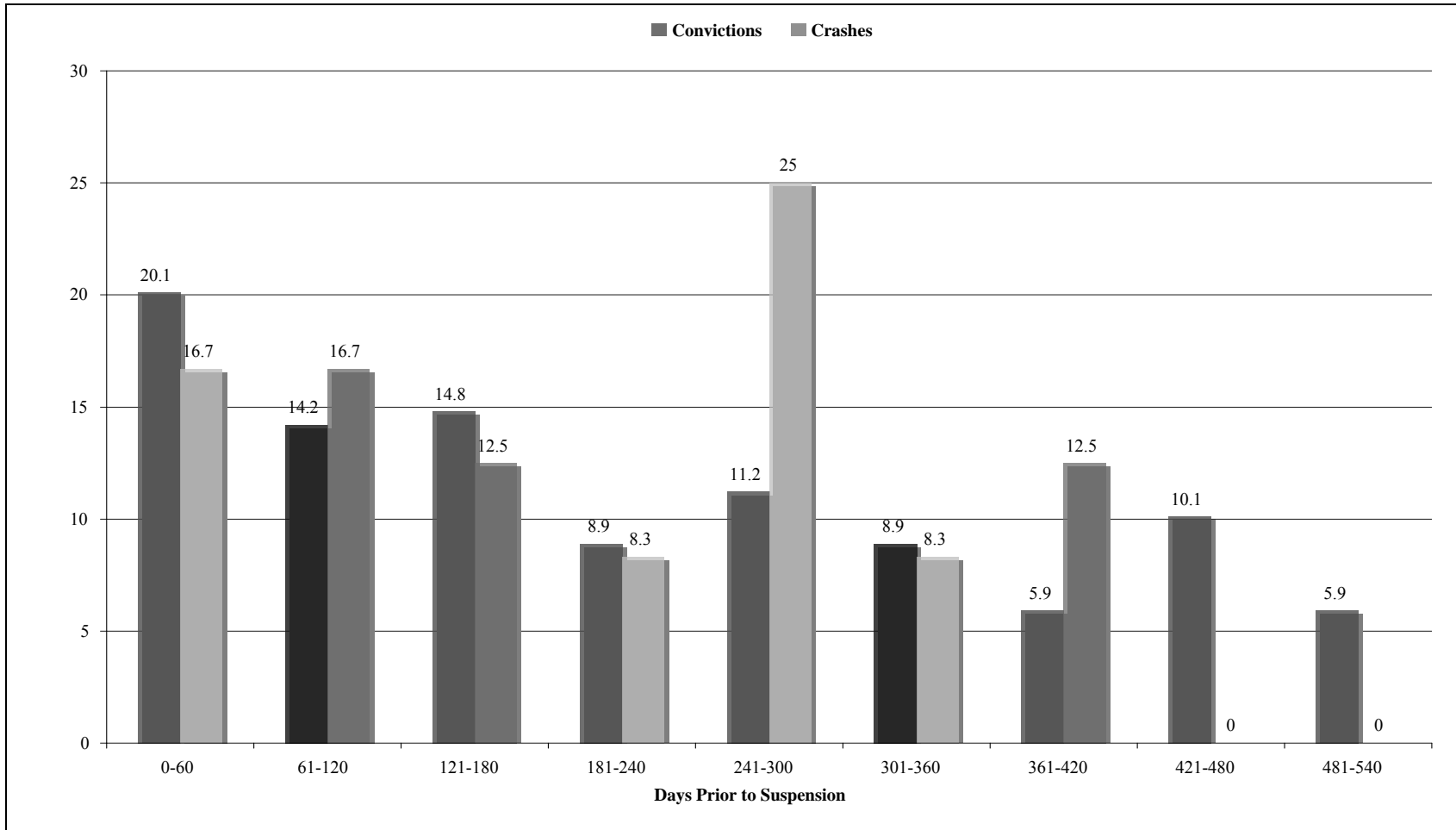


Figure 3.1: Relative safety risk of selected sample groups prior to suspension

As noted in Section 1.0, referrals are sometimes made under the mandatory reporting program that do not meet all of the necessary conditions for acceptance. When this occurs the referrals are transferred to the voluntary reporting program and reviewed for license action. Suspension actions through the voluntary reporting program have been taken for about half of such transferred referrals. Appendix B examines the demographic and safety risk characteristics of persons suspended through this process during the same time period as that employed for the analysis persons suspended through the mandatory reporting program.

To this point, the incidence of prior crashes and convictions among *Mandatory* sample subjects has been implicitly treated as being time-invariant over the 540-day period of study. Closer examination of crash and conviction patterns over the period may shed light on the relationship between safety risk and the mandatory referral process. For example, if crashes and convictions are heavily concentrated near the suspension date, this would indicate that referrals in the mandatory reporting program may be occurring in response to traffic incidents rather than persons' functional and cognitive health status.

To examine this question, the 540-day period prior to suspension was divided into nine 60-day segments and the percentage distribution of total convictions and crashes was plotted. The time distributions of convictions and crashes are shown in Figure 3.2. If and crashes were distributed equally, each 60-day segment would account for about 11% of the respective totals. The figure shows modest concentration of convictions and crashes over the three segments comprising the 180-day period just prior to suspension. More generally, there appears to be a rough gradual increase in the share of convictions and crashes over the nine time segments. This general pattern is suggestive of a gradual worsening of safety risk among the *Mandatory* sample subjects as time progresses toward the referral and suspension dates. If anything, this rough trend is more reflective of impairment-related declines in driving performance than incident-induced referrals by the subjects' primary care providers.



* Total convictions = 169; total crashes = 24

Figure 3.2: Distribution of Mandatory sample crashes and convictions before suspension*

3.3.2 Safety Risk after Suspension

Driver records were also queried for information on convictions and crashes that occurred during the 540-day period following suspension for the *Mandatory* and *Voluntary* sample subjects, and counts of these events were again compared to convictions and crashes that occurred among subjects in the *OR Driver* sample. Information on the incidence of total convictions, major convictions, and crashes is presented in Tables 3.6 through 3.8. The tables also report the percentage changes in these safety indicators between the pre-suspension and post-suspension periods.

Information on the incidence of total convictions for the three samples is presented in Table 3.6. The most noteworthy observation that can be made is that the incidence of convictions actually increased after suspension among subjects in both the *Mandatory* and *Voluntary* samples. Among *Mandatory* sample subjects, the rate of convictions was 14.8 per hundred persons, nearly 44% greater than the pre-suspension rate of 10.3. Among *Voluntary* sample subjects, the post-suspension conviction rate was 50.2, or about 37% higher than the pre-suspension rate.

With about 13% of the *Mandatory* sample subjects having regained their driving privileges, the information in Table 3.6 clearly indicates a tendency to continue driving following a license suspension action. This tendency has been observed in other contexts involving license suspension (e.g., *Malenfant et al. 2002*). According to DeYoung (1999), about 75% of Californians continue to drive following suspension. Persons under suspension, however, do act to reduce their exposure and their odds of detection (*Ross and Gonzales 1988*). Thus, while it is not surprising to discover that many *Mandatory* and *Voluntary* sample subjects are apparently continuing to drive after being suspended, it is surprising to observe that the incidence of total convictions increased after suspension.

With respect to age groups, the incidence of convictions in the *Mandatory* sample now consistently exceeds the incidence of age group counterparts within the *OR Driver* sample. Moreover, the incidence of convictions within the *OR Driver* sample has actually declined from prior levels, both for the sample overall and for three of the four age groups. Nevertheless, given that the age distribution of the *Mandatory* sample is skewed toward the upper end of the range, the sample's overall average conviction rate is 10% below the *OR Driver* sample's rate.

Table 3.6: Safety risk after suspension: total convictions

| Category | Absolute Risk* | | | | | | Relative Risk | | | |
|---------------------------------|----------------|--------|-----------|--------|-----------|--------|---------------------|--------|---------------------|--------|
| | Mandatory | Change | Voluntary | Change | OR Driver | Change | Mandatory/OR Driver | Change | Voluntary/OR Driver | Change |
| Age Group | | | | | | | | | | |
| 35 & Under | 104.5 | 62.8% | 139.4 | 64.4% | 27.9 | -3.5% | 3.7 | 68.2% | 5.0 | 72.4% |
| 36-55 | 47.5 | 24.7 | 79.7 | 52.7 | 14.8 | -7.5 | 3.2 | 33.3 | 5.4 | 63.6 |
| 56-75 | 10.2 | 88.9 | 35.8 | 14.0 | 7.5 | 0.0 | 1.4 | 100.0 | 4.8 | 14.3 |
| 76 & Over | 4.0 | 29.0 | 12.0 | -14.3 | 1.8 | -21.7 | 2.2 | 69.2 | 6.7 | 9.8 |
| All Ages | 14.8 | 43.7 | 50.2 | 37.1 | 16.5 | -4.6 | 0.9 | 50.0 | 3.0 | 42.9 |
| Impairment Category | | | | | | | | | | |
| Vision | 8.1 | 76.1 | | | | | | | | |
| Functional | 10.2 | 100.0 | | | | | | | | |
| Functional + Cognitive | 18.2 | 0.0 | | | | | | | | |
| Cognitive | 16.3 | 32.5 | | | | | | | | |
| Vision + Functional + Cognitive | 19.5 | 400.0 | | | | | | | | |
| Gender | | | | | | | | | | |
| Male | 14.7 | 41.3 | 57.4 | 51.1 | 21.2 | -4.1 | 0.7 | 40.0 | 2.7 | 58.8 |
| Female | 15.1 | 46.6 | 39.4 | 14.5 | 11.2 | -6.7 | 1.3 | 44.4 | 3.5 | 20.7 |
| Residence | | | | | | | | | | |
| Urban | 14.8 | 46.5 | 52.6 | 46.1 | 17.5 | -4.9 | 0.8 | 60.0 | 3.0 | 50.0 |
| Rural | 15.0 | 36.4 | 44.8 | 18.2 | 13.5 | -4.3 | 1.1 | 37.5 | 3.3 | 22.2 |
| Post-Suspension Status | | | | | | | | | | |
| Remained Suspended | 10.7 | 23.0 | | | | | 0.6 | | | |
| Regained Driving Privileges | 41.6 | 97.2 | | | | | 2.5 | | | |

* Events per 100 drivers.

Among impairment categories, the largest increase in the incidence of convictions occurred for subjects classified as exhibiting a combination of visual, functional, and cognitive impairments. This category, which accounted for the lowest rate of convictions during the period prior to suspension, now accounts for the highest rate of convictions. One also might expect that rural residents would be more dependent on maintaining their driving habits and thus account for a proportionately greater increase in convictions. However, the reverse turns out to be the case; the growth in convictions for urban residents within the *Mandatory* sample is about 1.3 times greater than the growth for rural residents.

Lastly, among those *Mandatory* sample subjects who regained their driving privileges, the increase in convictions was about 4.2 times greater than the increase experienced by subjects who remained suspended, suggesting that the suspension action had some deterrent effect on driving. The incidence of convictions among those who regained their driving privileges was about 2.5 times greater than the overall incidence within the *OR Driver* sample.

The incidence of major convictions among *Mandatory* sample subjects also increased during the period after suspension, as shown in Table 3.7. In this case, the overall increase of 8.3% was less than one-fifth the increase the rate of increase in total convictions (43.7%, as shown in Table 3.6). Moreover, the growth of major convictions among *Mandatory* sample subjects was about one-half the growth experienced by subjects in the *OR Driver* sample during the same time period. In contrast, the incidence of major convictions among *Voluntary* sample subject experienced more than a three-fold increase from the pre-suspension rate.

Overall, the incidence of major convictions among *Mandatory* sample subjects is about twice the incidence of subjects in the *OR Driver* sample, while the incidence among *Voluntary* sample subjects is about 10 times that of *OR Driver* sample subjects. There are three other instances where the relative incidence of major convictions among *Mandatory* sample subjects notably exceeds that of subjects in the Driving Population sample. The examples are as follows:

1. females, whose incidence is five times greater;
2. rural residents, whose incidence is three times greater; and
3. subjects who regained their driving privileges, whose incidence is more than six times greater.

The incidence of major convictions among *Mandatory* sample subjects who remained suspended actually declined 20% from the pre-suspension level, leaving this subgroup now at approximate parity with subjects in the *OR Driver* sample.

Table 3.7: Safety risk after suspension: major convictions

| Category | Absolute Risk* | | | | | | Relative Risk | | | |
|---------------------------------|----------------|--------|-----------|--------|-----------|--------|---------------------|--------|---------------------|--------|
| | Mandatory | Change | Voluntary | Change | OR Driver | Change | Mandatory/OR Driver | Change | Voluntary/OR Driver | Change |
| Age Group | | | | | | | | | | |
| 35 & Under | 9.0 | 100.0% | 11.1 | 270.0% | 1.4 | 55.6% | 6.4 | 28.0% | 7.9 | 139.4% |
| 36-55 | 6.6 | -20.5 | 17.7 | 216.1 | 0.5 | -28.6 | 13.2 | 10.9 | 1.3 | -83.8 |
| 56-75 | 0.5 | 66.7 | 4.8 | 336.4 | 0.2 | 100.0 | 2.5 | -16.7 | 1.9 | -82.7 |
| 76 & Over | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | NA | NA | NA |
| All Ages | 1.3 | 8.3 | 7.3 | 231.8 | 0.7 | 16.7 | 1.9 | -5.0 | 10.4 | 181.1 |
| Impairment Category | | | | | | | | | | |
| Vision | 1.5 | -21.1 | | | | | | | | |
| Functional | 0.0 | 0.0 | | | | | | | | |
| Functional + Cognitive | 0.0 | 0.0 | | | | | | | | |
| Cognitive | 1.4 | 16.7 | | | | | | | | |
| Vision + Functional + Cognitive | 0.0 | 0.0 | | | | | | | | |
| Gender | | | | | | | | | | |
| Male | 1.2 | 33.3 | 9.9 | 395.0 | 1.1 | 22.2 | 1.1 | 10.0 | 9.0 | 309.1 |
| Female | 1.5 | -11.8 | 3.3 | 32.0 | 0.3 | 50.0 | 5.0 | -41.2 | 11.0 | -12.0 |
| Residence | | | | | | | | | | |
| Urban | 0.9 | -10.0 | 6.8 | 385.7 | 0.7 | 16.7 | 1.3 | -23.5 | 9.7 | 321.7 |
| Rural | 2.1 | 23.5 | 8.3 | 107.5 | 0.7 | 40.0 | 3.0 | -11.8 | 11.9 | 48.8 |
| Post-Suspension Status | | | | | | | | | | |
| Remained Suspended | 0.8 | -20.0 | | | | | 1.1 | | | |
| Regained Driving Privileges | 4.3 | 79.2 | | | | | 6.1 | | | |

* Events per 100 drivers.

In terms of overall change, safety risk following suspension among *Mandatory* sample subjects worsened most in the incidence of crashes, which increased nearly 87% (see Table 3.8). Also, given the near 14% decline observed among *OR Driver* sample subjects, the incidence of crashes among *Mandatory* sample subjects relative to those in the *OR Driver* sample more than doubled (from 0.4 to 0.9). It should be noted that the decline in crash incidence observed for the *OR Driver* sample is likely related to an increase in the vehicle damage threshold for reportable crashes (from \$1,000 to \$1,500) that was implemented January 1, 2004.

One very notable change reported in Table 3.8 is the nearly 80% reduction in crash incidence among *Voluntary* sample subjects. This reduction likely reflects several phenomena. First, it suggests that crashes served as the principal triggering events motivating the submission of voluntary referrals of individuals to DMV. Second, the high incidence of pre-suspension crashes among *Voluntary* sample subjects places this group at the upper end of the crash frequency distribution of the groups under study. Tracking this group over a longer period of time would reveal that some of its members are truly hazardous to themselves and others, with consistently high levels of crash involvement. For other group members, however, initial high crash involvement is the consequence of random events that are not subsequently replicated. The resulting shifts between time periods from the extremes toward the center of a frequency distribution is known as regression-to-the-mean (*Campbell and Stanley 1963*), a phenomenon that is often encountered in traffic safety research (*Evans 2004*).

Lastly, the crash incidence among *Mandatory* sample subjects who regained their driving privileges is more than five times greater than for those who remain suspended. In addition, their crash incidence is more than three times greater than the incidence among *OR Driver* sample subjects.

Table 3.8: Safety risk after suspension: crashes

| Category | Absolute Risk* | | | | | | Relative Risk | | | |
|---------------------------------|----------------|--------|-----------|--------|-----------|--------|---------------------|--------|---------------------|--------|
| | Mandatory | Change | Voluntary | Change | OR Driver | Change | Mandatory/OR Driver | Change | Voluntary/OR Driver | Change |
| Age Group | | | | | | | | | | |
| 35 & Under | 10.4 | NA | 20.2 | -69.3% | 4.3 | -10.4% | 2.4 | NA | 4.7 | -65.7% |
| 36-55 | 6.1 | 22.0% | 11.6 | -76.0 | 2.9 | -14.7 | 2.1 | 40.0% | 4.0 | -71.8 |
| 56-75 | 2.7 | 440.0 | 5.2 | -85.0 | 2.2 | -8.3 | 1.2 | 500.0 | 2.4 | -83.4 |
| 76 & Over | 1.7 | 30.8 | 3.6 | -83.9 | 1.3 | -31.6 | 1.3 | 85.7 | 2.8 | -76.3 |
| All Ages | 2.8 | 86.7 | 7.9 | -78.9 | 3.1 | -13.9 | 0.9 | 125.0 | 2.5 | -76.0 |
| Impairment Category | | | | | | | | | | |
| Vision | 3.1 | 63.2 | | | | | | | | |
| Functional | 0.0 | NA | | | | | | | | |
| Functional + Cognitive | 0.0 | NA | | | | | | | | |
| Cognitive | 2.9 | 107.1 | | | | | | | | |
| Vision + Functional + Cognitive | 3.9 | 50.0 | | | | | | | | |
| Gender | | | | | | | | | | |
| Male | 2.8 | 64.7 | 8.6 | -76.8 | 3.4 | -5.5 | 0.8 | 60.0 | 2.5 | -75.7 |
| Female | 2.8 | 133.3 | 6.9 | -81.7 | 2.7 | -22.9 | 1.0 | 233.3 | 2.6 | -75.9 |
| Location | | | | | | | | | | |
| Urban | 2.1 | 133.3 | 8.8 | -77.1 | 3.3 | -13.2 | 0.6 | 200.0 | 2.7 | -73.3 |
| Rural | 2.1 | -22.2 | 5.8 | -83.4 | 2.4 | -11.1 | 0.9 | -10.0 | 2.4 | -81.5 |
| Post-Suspension Status | | | | | | | | | | |
| Remained Suspended | 1.8 | 80.0 | | | | | 0.6 | | | |
| Regained Driving Privileges | 9.6 | 123.2 | | | | | 3.1 | | | |

* Events per 100 drivers.

Apart from the incidence of convictions that *Mandatory* sample subjects received before and after suspension, the specific types of convictions were examined to assess whether their composition changed over time. Information on this question is presented in Table 3.9.

Table 3.9: Breakdown of *Mandatory* sample convictions before and after suspension

| Conviction Type | Before Suspension* | After Suspension** |
|--|--------------------|--------------------|
| Driving While Suspended - Violation | 31.5% | 32.5% |
| Speeding (all) | 13.7 | 15.6 |
| Driving Uninsured/Failure to Provide Proof | 8.9 | 9.1 |
| Failure to Obey a Traffic Control Device | 8.3 | 7.4 |
| DUII | 4.8 | 2.6 |
| Reckless Driving/Endangerment | 3.0 | 2.6 |
| Operating a Vehicle w/o Driving Privileges | 2.4 | 1.7 |
| Failure to Use Seat Belts | 1.2 | 5.2 |
| Other | 26.2 | 23.3 |
| Total | 100.0 | 100.0 |

* Total convictions = 168; total persons convicted = 87

** Total convictions = 231; total persons convicted = 102

Generally, the breakdown of convictions by type is very similar for the two time periods. The table shows, in decreasing order, the shares represented by the eight most common types of convictions received prior to suspension and their corresponding shares following suspension. One might posit that the share of *Driving While Suspended* or *Driving Uninsured* convictions would increase for a group that is now comprised of a very large share (about 87%) of persons without valid driving privileges, but the shares of these convictions remained virtually unchanged from their pre-suspension values. However, the combined shares of two types of major convictions – *DUII* and *Reckless Driving/Reckless Endangerment* – did decline by one-third following suspension.

Information on the relative risk of post-suspension crashes, total convictions and major convictions are presented in Tables 3.6 through 3.8 and are summarized in Figure 3.3. In each instance, the rate shown in the figure represents the incidence of the identified group divided by the corresponding incidence in the *OR Driver* sample. As previously discussed, the figure highlights the following:

- the general increase in relative safety risk among *Mandatory* sample cohorts;
- the growth in relative safety risk (especially crash risk) of the subgroup of *Mandatory* sample subjects who recover their driving privileges after suspension; and
- the decline in crash risk and increase in major conviction risk among *Voluntary* sample subjects.

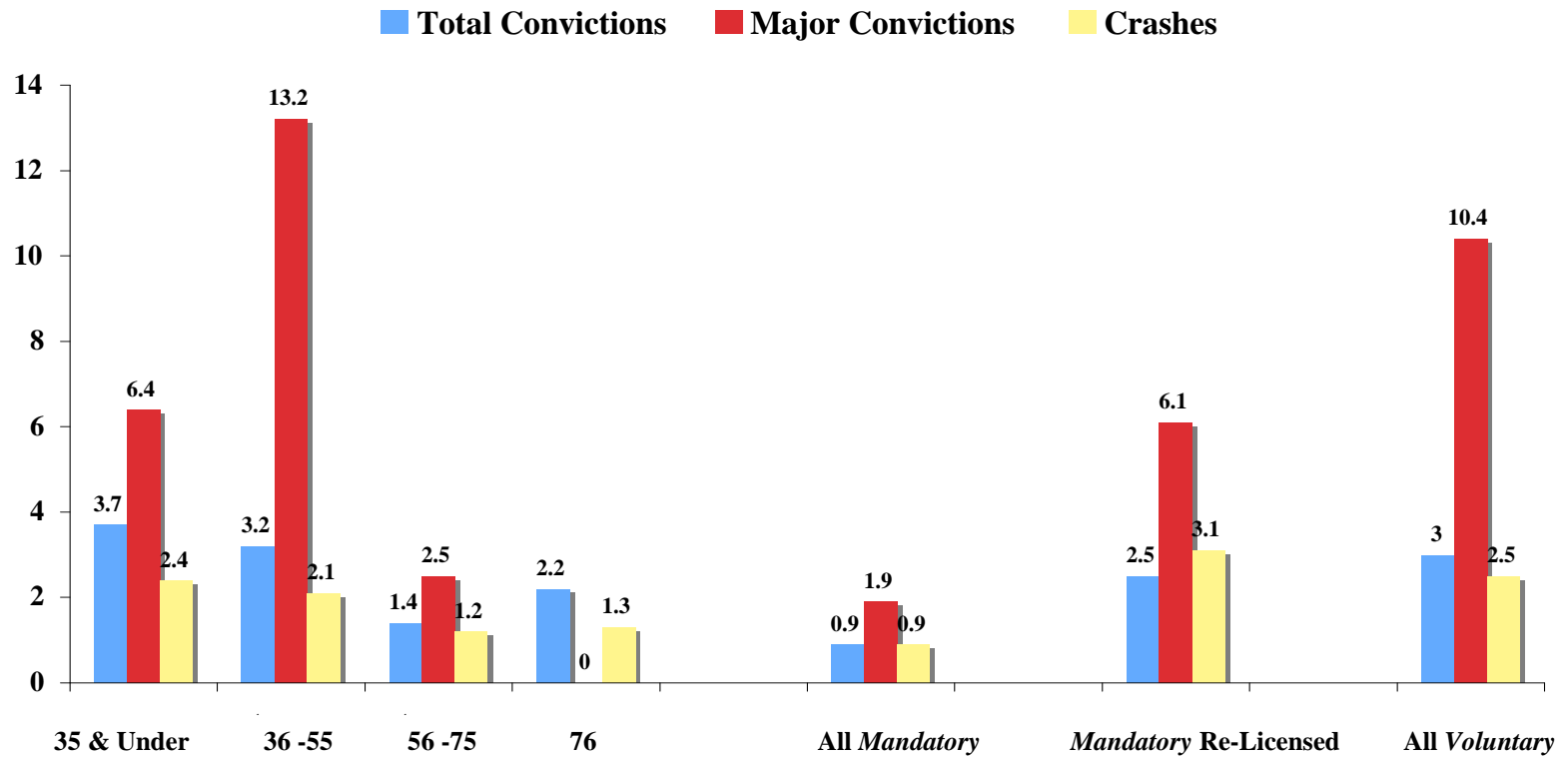


Figure 3.3: Relative safety risk of selected sample groups after suspension

3.3.3 Multivariate Analysis

To this point, we have examined demographic, geographic and health characteristics of persons suspended through the DMV's Medically At-Risk program. The incidence of their convictions and crashes before and after suspension have been compared to convictions and crashes experienced by a representative sample of Oregon's driving population, as well as to a group of persons suspended through voluntary medical referrals. The comparisons have revealed informative patterns regarding the absolute and relative safety risks of persons in the Medically At-Risk program.

There are several questions that follow from the comparative assessment provided in the previous section that require more rigorous statistical control to adequately address. The first question relates to efforts that persons in the Medically At-Risk program make to regain their driving privileges. Who is more likely to engage in this process? And, among those attempting to regain their driving privileges, who is more likely to succeed? The second question relates to safety risk after suspension actions are taken: who is more likely to experience a crash or conviction following suspension?

To address these questions, a set of linear probability models were developed and estimated, which drew on available information about the persons involved, their medical conditions, and their safety records. These models estimated the likelihood of discrete events (such as taking or passing the licensing exams) and the independent contributions that specific characteristics (such as age, gender, place of residence, safety history, or medical impairment) have on that likelihood. For application in the study, the linear probability model was selected over other discrete event estimators (such as logit or probit) for several reasons. First, its parameter estimates can be directly interpreted as marginal probabilities. Second, its parameters are estimated by exact rather than iterative methods, with comparable efficiency (*Heckman 1978*).

Linear probability model estimates of the likelihood of taking or passing the licensing exams are presented in Table 3.10. The set of observable factors that posited to influence the estimated likelihoods include: personal characteristics, prior safety risk, the nature of a person's medical impairment, and the types of functional and medical impairments that were present. It should be noted that a high level of correlation was observed among medical impairment variables. While the existence of such multicollinearity does not bias the parameter estimates, it does inflate their standard errors and diminishes the values of the test statistics used to determine statistical significance. One solution to this problem is to selectively remove variables that are highly correlated with others. For example, a high negative correlation was observed between *Progressive* and *Acute* characterizations of impairments, as well as between *Acute* and *Chronic* characterizations, while a high positive correlation was observed between *Chronic* and *Progressive* characterizations. To mitigate the multicollinearity among these variables, only the *Progressive* characterization was retained in the model, with the choice reflecting the relative prominence of this characterization among subjects and the expectation that persons with progressive impairments would be less likely to attempt or succeed in regaining their driving privileges.

It is useful to remember that the parameter estimates represent the change in the probability of an event, given a unit change in the variable associated with the parameter. Converting the probability range (zero to one) to a 100-basis point scale, a parameter estimate of .10 would thus represent a ten basis point increase in the probability of an event for each unit increase in the associated variable.

Table 3.10: Linear probability model estimates of the likelihoods of taking and passing the licensing exams

| Variable | (t-values are shown in parentheses) | |
|---------------------------------|-------------------------------------|-------------------|
| | Taking Exams | Passing Exams |
| Constant | .612 (13.19)* | 1.184 (13.84)* |
| <u>Personal Characteristics</u> | | |
| Age | -.005 (-9.40)* | -.005 (-4.13)* |
| Male | -.002 (-.11) | .129 (3.12)* |
| Urban Residence | -.032 (-1.68)** | -.048 (-1.18) |
| <u>Prior Safety Risk</u> | | |
| No. of Prior Crashes | .167 (2.55)* | .110 (1.16) |
| No. of Prior Convictions | -.010 (-.74) | -.019 (-.48) |
| <u>Nature of Impairment</u> | | |
| Progressive | -.057 (-3.00)* | -.029 (-.59) |
| <u>Functional Impairment</u> | | |
| Visual Acuity/Field of Vision | -.017 (-.67) | -.042 (-.82) |
| Motor Planning & Coordination | .013 (.57) | .042 (.85) |
| <u>Cognitive Impairment</u> | | |
| Attention | .015 (.65) | .034 (.62) |
| Judgment & Problem Solving | -.030 (-1.24) | -.035 (-.67) |
| Reaction Time | .035 (1.69)** | -.013 (-.26) |
| Planning & Sequencing | -.027 (-1.20) | -.012 (-.22) |
| Memory | -.027 (-1.31) | -.060 (-1.24) |
| R ² | .10 | .14 |
| Sample Size | 1,556 | 234 |

* Significant at $\alpha_{.05}$

** Significant at $\alpha_{.10}$

The results in Table 3.10 indicate that the probability of attempting or passing the licensing exams is negatively related to age. For example, in both instances, a 75-year old person's likelihood of attempting or passing the exams would be 10 basis points lower than a 55-year old person's (i.e., $-.005 * 20 * 100$). Men are no more likely to take the licensing exams, but they are estimated to have a 12.9 basis point advantage over women in passing the exams. McGuckin et al. (2007) contend that this advantage is attributable to the greater driving experience that present generation elderly men have gained over their driving careers, compared to the driving experience of elderly women.

Urban residents are estimated to have a 3.2 basis point lower probability of taking the licensing exams than rural residents. As discussed earlier, this difference may reflect the more limited travel options available to rural residents as well as their longer trip lengths. However, neither urban nor rural residents are estimated to have an advantage over the other in passing the exams.

Regarding prior safety risk, each crash that occurred during the 540-day period before suspension is estimated to increase the probability of taking the licensing exams by nearly 17 basis points. As was discussed earlier in the chapter, this apparently counterintuitive finding may reflect greater exposure rather than greater safety hazard. This interpretation is also reinforced by the finding here that prior crash incidence has no significant effect on the likelihood of passing the licensing exams. In addition, the likelihood of either taking or passing the exams is estimated to be unrelated to a person's record of prior convictions.

Turning to the effects of medical impairments, the existence of an impairment that is characterized as *Progressive* is estimated to reduce a person's probability of taking the licensing exams by 5.7 basis points. Among those who take the exams, however, the existence of a progressive impairment does not have a significant effect on a person's test outcome.

As shown in Table 3.10, none of the specified impairments is estimated to have a significant effect on the probability of taking or passing the licensing exams, with one exception. Persons with reaction time impairments are estimated to have a 3.5 basis point greater probability of taking the exams. Reaction time impairments are often present in persons with cognitive medical conditions, which are the most commonly reported. However, they can also be present with medical conditions involving strokes, alcoholism, seizure disorder, diabetes, and cardiac conditions. When associated with these latter medical conditions, the severity of reaction time impairments can potentially be reduced through rehabilitation or medication, which may explain the effect estimated by the linear probability model.

Turning to the question of post-suspension safety risk, we note that 6.6% of *Mandatory* sample subjects receive one or more convictions during the 540-day period following their suspension, and that 2.4% of the subjects are involved in one or more crashes. As with the linear probability model analyzing the licensing process, the effects of personal and geographic factors, pre-suspension safety risk, and selected medical impairments are explored relative to the probability of crash and conviction involvement following suspension. Information is also added on a person's license status to the list of determinants employed before, positing that this information serves as a proxy for exposure.

Model estimates of the marginal probabilities of the various determinants of post-suspension crash and conviction involvement are presented in Table 3.11. Persons with valid driving privileges are estimated to have a significantly greater probability of crash involvement (+4.0 basis points) and conviction involvement (+14.9 basis points) than persons who remained suspended during the study period. As in the licensing model, age is estimated to have a consistent negative effect, although the magnitude of the marginal probability in this case is much smaller (one-fifth the magnitude of the licensing model). Thus, for example, a 75-year old person's estimated probability of being involved in a crash or receiving at least one conviction is 2.0 basis points lower than a 55-year old person's estimated probability. With respect to other personal characteristics, the likelihood of crash or conviction involvement is estimated to be unrelated to either a person's gender or residence location.

A person's record of crashes and convictions prior to suspension is estimated to have a substantial effect on the probability of their crash and conviction involvement following suspension. A pre-suspension crash is estimated to increase a person's probability of being involved in a crash after suspension by 77.2 basis points. It is also estimated to increase their probability of receiving at least one conviction after suspension by 12.4 basis points. In turn, each pre-suspension conviction is estimated to increase a person's probability of receiving a post-suspension conviction by 17.9 basis points. However, the number of pre-suspension convictions are not found to influence the likelihood of post-suspension crash involvement.

There is a limited amount of evidence of a statistical connection between the various medical impairments and the likelihood of post-suspension crash and conviction involvement, and the evidence primarily relates to impairments involving cognition or memory loss (e.g., *Edwards et al. 2008; Lesikar et al. 2002*). In the present case, persons with memory loss impairments are estimated to be 1.7 and 2.6 basis point more likely to be involved in a crash or receive a conviction after suspension than persons with other types of impairments. Reaction time impairments are also estimated to reduce the probability of crash involvement by 1.4 basis points.

Table 3.11: Linear probability model estimates of the likelihood of crash and conviction involvement after suspension

| Variable | (t-values are shown in parentheses) | |
|---------------------------------|-------------------------------------|------------------------|
| | Crash Involvement | Conviction Involvement |
| Constant | .050 (3.14)* | .129 (4.42)* |
| <u>License Exams Outcome</u> | | |
| Pass | .040 (4.57)* | .149 (9.34)* |
| <u>Personal Characteristics</u> | | |
| Age | -.001 (-3.07)* | -.001 (-3.90)* |
| Male | .002 (.28) | .009 (.89) |
| Urban Residence | -.001 (-.09) | .006 (.54) |
| <u>Prior Safety Risk</u> | | |
| No. of Prior Crashes | .772 (36.37)* | .124 (3.20)* |
| No. of Prior Convictions | .001 (.23) | .179 (21.58)* |
| <u>Nature of Impairment</u> | | |
| Progressive | -.002 (-.31) | -.017 (-1.45) |
| <u>Functional Impairment</u> | | |
| Visual Acuity/Field of Vision | .003 (.34) | -.015 (-1.05) |
| Motor Planning & Coordination | .003 (.37) | -.003 (-.22) |
| <u>Cognitive Impairment</u> | | |
| Attention | -.001 (-.18) | -.007 (-.53) |
| Judgment & Problem Solving | .006 (.84) | -.014 (-.96) |
| Reaction Time | -.014 (-2.04)* | -.004 (-.34) |
| Planning & Sequencing | -.001 (-1.38) | -.001 (-.07) |
| Memory | .017 (2.50)* | .026 (2.06)* |
| R ² | .49 | .34 |
| Sample Size | 1,556 | 1,556 |

* Significant at $\alpha_{.05}$

3.4 SUMMARY

In summary, this section has examined characteristics of persons suspended through the Medically At-Risk program and compared their safety risk to other driver groups. Analysis of factors related to recovering driving privileges was undertaken, as well as analysis of factors contributing to post-suspension safety incidents. Drivers in the mandatory referral group were found to be considerably older than drivers in the voluntary referral group and the general population of drivers in Oregon. Impairments related to cognition accounted for about three-fourths of the mandatory referrals to the program. Controlling for age differences across the groups studied, the pre-suspension safety risk of persons in the mandatory referral program was found to be somewhat greater than the safety risk in the general driving population. Following suspension, the safety risk of persons in the mandatory referral program worsened somewhat, possibly reflecting continued deterioration of the subjects' medical impairments and evidence that license suspension did not effectively deter many from continuing to drive.

The pre-suspension relative safety risk of drivers in Oregon's mandatory referral program is lower than that of drivers in California's mandatory referral program. This may be a reflection of the differences in mandatory reporting criteria between the two states. In Oregon, the requirement that reportable impairments be "severe and uncontrollable" means that only the most seriously impaired drivers are treated in the program. Given both advanced age and serious medical condition, many of the persons treated in the program are effectively near the end of their driving careers, with very limited trip-making occurring.

Within the group of drivers in the mandatory referral program is a small subset of younger, disproportionately male drivers who successfully recover their driving privileges. Both before and after suspension, their safety risk is greater than that of others in the program. Their higher risk is likely the consequence of age-related differences in trip-making and that there is no suspension-related deterrent effect on their travel.

Lastly, analysis of factors contributing to safety risk after suspension finds age-related declines in crash and conviction likelihoods. Alternatively, the occurrence of a crash before suspension was estimated to have a significant effect on the likelihood of a crash occurring after suspension. Mandatory referrals often identified multiple impairments, complicating efforts to estimate impairment-specific effects on the likelihood of crashes or convictions. However, memory-related impairments were estimated to have a significant effect on the likelihood of a crash or conviction occurring after suspension.

4.0 STRUCTURED INTERVIEWS OF STAKEHOLDERS

As part of the evaluation of DMV's Medically At-Risk Driver program, qualitative information on the implementation of the program was gathered by interviewing key stakeholders. Though not statistically valid, the data are indicative of how the program is perceived and of how well it is operating at this time. Comments from those interviewed may also provide insight into how the program may be changed or improved. These qualitative data supplement the quantitative data provided in the rest of the report.

4.1 METHODOLOGY

The DMV identified six stakeholder groups from whom the agency was specifically interested in gathering information at this time. These groups included:

- Members of the At-Risk Driver Medical Work Group who helped design the program;
- Staff from the DMV Driver Safety Unit who are responsible for processing the Mandatory reporting forms and entering the data;
- DMV Medical Determination Officers, who review questionable reports from doctors and determine if retesting can be permitted;
- Driving assessment providers who may provide, for a fee, additional testing of the cognitive and functional abilities of drivers;
- A sample of primary care physicians from across the state who are mandated to report under the current law; and
- Interest groups who may have a specific concern with the content of the program or have responsibility for disseminating information to physicians and staff.

To gather information from these stakeholders, the consultants conducted structured in-person or phone interviews with the stakeholders over a four-month period from December 2007 until March 2008. Interviewees were told their identity would be kept confidential. Separate protocols for each of the stakeholder groups were developed and reviewed by the DMV. The rationale behind the structured open-ended interview protocols was to ask questions which would identify the different perspectives of the stakeholder groups with respect to their knowledge of the program, their responsibility, if any, in implementing the program, and to gather any feedback on how well the program is operating. For several groups all or most of the individuals identified within the group were interviewed. For the doctors and for community groups, the consultants selected a non-random sample of individuals to interview from the stakeholder group.

In preliminary discussions with DMV, the consultants were asked to interview approximately 20 people, of which 10 would be doctors. At the conclusion of the interviewing process the

consultants interviewed people representing all of the stakeholders identified by the DMV. All together the consultants interviewed 29 individuals or people representing organizations of which 11 were part of the doctor stakeholder group.

4.2 AT-RISK DRIVER MEDICAL WORK GROUP

DMV identified three individuals to contact as part of the At-Risk Driver Medical Work Group who helped design the 2003 legislation. One of these persons who was contacted had only vague recollections of specific discussions and preferred to be interviewed as a doctor working within the parameters of the existing program. A second person was retired and unavailable. One person agreed to an in-person interview. The following information is based on her perspective and opinions.

The interviewee was on the original Older Driver Advisory committee tasked with examining the issue of licensing older drivers and making recommendations to DMV. Noting that DMV held town hall meetings in which the issue of licensing of older drivers was “a touchy issue,” she stated that the committee “took the concerns of the public seriously and decided to look at the issues not as a function of age, but of disabilities.” In addition, she indicated that after several meetings, the Medical Work Group decided that they could not agree on giving all doctors the responsibility for reporting, and thus settled on the primary care physician as the mandatory reporter. The Group addressed the criteria to be used for suspension by listing competencies that they thought were related to driving and settling on criteria for reporting in which a condition related to competencies was “severe and intractable” and made driving hazardous. The interviewee identified the specific goals of the program as “protecting the public from unsafe drivers of any age” and trying to maintain the idea that “driving is not a right but a privilege.”

The interviewee expressed that the mandatory reporting program, as is currently operating, is good public policy and that “with limited resources the program is doing the best it can...and is getting better by putting in criteria that constitute impairment.” Having said this, she identified changes which she would like to see in the program. First she would like to see “more education.” She also wants the DMV to incorporate more of the recommendations made by the Older Driver Advisory committee into the existing program. Specifically she drew attention to the recommendations dealing with vision testing. She noted that “more frequent and better vision testing was needed.”¹ In addition to incorporating more of the recommendations of the original report, she felt that there should be reconsideration of the question of who should report so as to broaden the types of medical reporters. She also advocated independent driving assessments for patients perceived by doctors to be at-risk. These assessments she argued should be done by outside providers (i.e., not the DMV). She noted that in the Alzheimer clinic in which she currently works, patients are often referred to SW Washington Occupation Therapy for an assessment and that they go even though insurance does not pay.

¹ The interviewee provided a copy of the Executive Summary of the Report of the Older Driver Advisory Committee. This summary includes the recommendations of the ODAC in which there are three specific recommendations for vision testing.

4.3 DMV DRIVER SAFETY UNIT

The DMV identified three individuals within the Driver Safety Unit to interview: the DMV Driver Safety Unit supervisor and two medical determination clerks who assist in the assignment of reports for the mandatory reporting program. All three individuals were interviewed.

The Driver Safety Unit supervisor who was interviewed oversees both the mandatory and non-mandatory programs, reviews medical information that has been questioned by a medical determination clerk, and supervises staff. She worked on the development of the databases for the program and on the initial implementation procedures for the program. One of the medical determination clerk who was interviewed acts as the first point of contact within the unit for all reports and correspondence. She reviews these documents and determines what action to take next. She also helped in the development of the early procedures for implementing the mandatory program. The third person who was interviewed is a liaison between DMV and the Public Health officers (now DMV medical consultants) who, until recently, were housed in the Disability Assessment Service of the Department of Public Health. She sends selected cases to the Public Health officers for additional review. When forms are returned, she distributes them to clerks for processing. On occasion she may question the decision of the Public Health Officer and ask the Program Coordinator to review.

4.3.1 Perceptions of Program Operation

Comments from the three individuals indicate that within the Driver Safety Unit there is a well defined process for review and processing mandatory reports that is understood by staff. The underlying purpose of the program has been internalized, as reflected in the following comment: “[w]ith MRF’s (Mandatory Report Forms), time is of the essence, so we want to move fast ... we want to get them off the road.”

Two of the interviewees worked extensively in developing the initial procedures for processing MRFs and have worked closely with Medical Program coordinator to refine the process and to implement administrative guidelines. All three believe the process has become better with changes implemented by the Medical Program coordinator. These changes involved establishing specific criteria for the clerks to use to determine what to do with a report. These criteria reflect the information provided in the administrative rule, and take the form of “boxes that need to be checked if we [medical clerks] are to proceed.” One interviewee noted that at the beginning of the program the medical clerks would sometimes question the judgment of a doctor and would use their own criteria for classification of reports: “...Questioning the doctor was a problem for a while, but not now.... We have to understand our limitations.” All three interviewees indicated satisfaction with the current review system.

All of the interviewees indicated that they were comfortable fielding calls from the public and giving out information to those who call. They considered this task a part of the job and did not distinguish between the mandatory and non-mandatory program calls.

4.3.2 Training

The three interviewees indicated that they receive on-going training, although much of it is informal, and they observed that they “work[ed] closely with the Medical Program coordinator.” One interviewee advocated for additional training, stating “[we] need to have something given in a formal setting. Go to class and have a booklet. Not just me....but all of the medical clerks...they’re responsible...any of the medical clerks should be able to pick up a file and know how to enter.” One interviewee noted that while the medical clerks were all in the same classification, they did not all do the same job.

4.3.3 Data System Issues

There was general agreement among the interviewees in the Driver Safety Unit that the data system for the mandatory program is good and works well up to a point, but as one interviewee noted, “money ran out and the designers weren’t able to finish the system.” Positive comments were made regarding the system’s ability to document and “spit out” information (e.g., recertification letters), but that they would like to have the system finished so that the time frame for tracking a person is extended. While discussing the mandatory program, two of the interviewees expressed considerable frustration with the non-mandatory system. They advocated that the mandatory and non-mandatory databases be combined. As argued by one, “[I want] everything in one database. The non-mandatory database is not a process database. Everything needs to be in one program and automated. We do not get enough information out the non-mandatory system.” Another interviewee noted that at the present time the DMV is unable to communicate between systems in order to track people who may ultimately get reported in both systems. “We can’t get a complete picture...John Doe may have been in the non-mandatory program for many years.” The interviewee postulated that the ability to link programs would make for a better overall program. In addition to these data issues, it was noted that the existence of some files from 1979 still need to be filed.

4.3.4 Program Issues

Two of the interviewees had no issue with the intent of the program and felt it was “basically running well.” One interviewee felt, from the beginning, that it was unnecessary to separate persons at-risk because of a “severe and uncontrollable” conditions, from others who are reported in the non-mandatory program. She argued that this group is small and many more people are found in the non-mandatory program. She went on to say “no one wants to deal with these others [who are] equally if not more dangerous...From a policy perspective it would be helpful to track all together...” She went on to advocate that the medical clerks should be allowed to become reporters, because there are times when she thinks that “some from the non-mandatory program should be referred for a medical exam. We should be able to flag them.”

4.4 DMV MEDICAL CONSULTANTS

DMV identified five people to interview as part of the medical consultant group: four medical doctors (one who used to review referrals and three who currently function as DMV Medical

Determination Officers), and one supervisor from the Department of Public Health. All five were interviewed. At the time of the interviews, the DMV medical consultants were employed by the Department Health Services, Disabilities Assessment Service. Subsequent to the interviews, three of the consultants were moved from Public Health to DMV.

4.4.1 Movement of Medical Consultants from Public Health to DMV

A number of explanations were provided as to why the medical consultants were being moved to the DMV. First, there was a general concern expressed by the Public Health supervisor, who felt that, from the beginning, the review process for the program was not a public health function, as “the task was more clinically oriented.” In addition, he noted that the program had been changing overtime and that there was an interest on the part of the DMV to make it more rigorous: “[They] wanted to build a team and that made a whole lot of sense...for a medical reviewer it made sense.....All of the policy and program development has been done at DMV level and it really is where the reviews should be done.” Another interviewee noted that there was a desire on the part of DMV to minimize legal liability by keeping the records on site. None of the interviewees expressed any concern with the move to DMV. One noted that DMV tried to recruit a person to work full time at the DMV Safety Unit, but that no person could be found and thus the DMV continued to use consultants.

4.4.2 Activities of Medical Consultants

The four medical consultants who were interviewed are medical doctors with at least 10 years experience as either specialists or family practitioners. None of the consultants work full time in private practice. Their work for DMV is part time and supplements other activities.

The job of the medical consultants is to act as medical reviewers of the reports for the mandatory and non-mandatory programs: they evaluate the medical conditions that persons have and determine if it is safe for them to drive. As one interviewee described his job, “we are the end-of-the-line review. [We] review evidence supplied by a doctor and we can trump the reporting doctor’s decision.” The process is described as sometimes involving discussion and negotiation with doctors: “Many times [we] call the physician and hash the problem out or get further information.” In addition, one interviewee noted that there was leeway within the mandatory program in that “we don’t always have to make a decision...we can decide that [the individual] take a test and determine after the test if the person is okay to drive.” It was also observed that the job has evolved: “... [W]e used to review a lot more. More drivers came under scrutiny. DMV employees (i.e., medical clerks) sometimes thought drivers were a risk, sent [a report] to us and we asked a lot of leading questions, pertinent questions. Now the forms are pretty well designed and we usually feel we are getting enough information.” The interviewees said they receive little feed back on their decisions, although sometimes the DMV staff will send a report back for reconsideration.

All of the interviewees perceive that the major goal of the program is public safety and most agree that the At-Risk Driver Mandatory Report program is good public policy, given monetary constraints. To quote one interviewee, “yeah, the program is very successful and has positive impact on the roads. The mandatory law has made it ‘much easier’ to interpret when someone is

at risk.” On the other hand, concern was expressed over the continued safety problems created by individuals in the non-mandatory program. As one interviewee observed, to achieve the goal of safety on the road the “State has a responsibility to protect people on the road from drivers who may be dangerous...and these are not always people with medical issues...there are other issues and sometimes these issues overlap.” Specific issues mentioned were alcohol and drugs.

Finally one of the interviewees indicated that she refused to continue reviewing cases under the conditions created in the 2003 legislation. She gave two reasons. First, she did not agree with the no-fault provision of the new legislation and felt that it “took the teeth out of” the law. Second, she did not like that the new law restricted access to information on a driver to only one source: the referral of the primary care provider. She stated that in the old days, “[we] used to have access to reports from police, ear doctors...used to have access to DMV records...we had ability to ask doctors. I feel the road is considerably less safe [now].”

4.4.3 Suggestions for Changing the Program

Three of the five interviewees mentioned the need for more outreach to medical groups and called for in-hospital teaching about the program and how to use the forms. Another medical consultant requested that reporting doctors provide a more specific statement as to why he/she believes the person is not capable of driving: “I want a little subjective opinion from the treating physician.” This interviewee also would like to receive more information on the person’s driving record. One interviewee discussed the importance of weighing costs with benefits: “How much should the state invest in a program like this? I’m not sure...” Finally, the interviewees noted that the program was currently going through a change with the movement of the medical consultants to the jurisdiction of the DMV and in proximity to the Safety Unit Supervisory staff. What that change will mean is unclear at this time.

4.5 DRIVING ASSESSMENT PROVIDERS

Another stakeholder group identified by the DMV was driving assessment providers who, for a fee, provide additional testing of the cognitive and functional abilities related to driving. The DMV identified four assessment providers in Eugene, Bend, and Portland and the research team identified a fifth in the State of Washington (to which doctors at the Alzheimer’s Disease Center at Oregon Health Sciences University (OHSU) sometimes refer their patients).² All five were contacted and all but one was interviewed. These providers include: Alpine Rehab in Portland, Oregon; Southwest Washington Medical in Vancouver, Washington; St. Charles Medical Center in Bend, Oregon; and Providence Medical Center in Portland, Oregon.

All of those interviewed indicated that they began providing assessment services in or just before 2003 (when the Oregon law was passed), and do so because of “demand” and to “provide a community service.” They also indicated that since that time there has been a steady stream of requests for driving assessment services. This demand persists despite the fact that, in Oregon,

² This information was based on information provided in an interview with a doctor in the Alzheimer’s Disease Center at OHSU.

neither the insurance companies nor Medicare pay for driving assessments.³ The facilities do approximately 2-3 assessments a week. One facility tracked assessments for two years and reported 112 assessments for 2006 and 80 for 2007. The assessment cost is between \$250 and \$375. The lower figure does not represent the full cost and is considered a “loss leader” for the hospital that reported this fee. The tests take two to three hours to administer. All of the interviewees were thoroughly familiar with the law and the administrative rules guiding the program.

4.5.1 Source of Assessment Requests

Most of the clients who are assessed are referred by doctors or family members. One therapist estimated that approximately 60% of her clients came from doctor referrals and 40% from family. The interviews suggest that some doctors within communities are more likely to establish a relationship with assessment services than others. For example, the Southwest Washington facility routinely receives patient referrals from the OHSU Alzheimer’s Disease Center for assessments (approximately half live in Oregon) and from another doctor at Good Samaritan Hospital. The therapists all discussed how they worked closely with doctors to educate them about the law. They discussed their extensive efforts to educate physicians by providing in-service trainings, posting the law, and advertising their services within the hospital setting. One interviewee indicated that he is proactive with doctors when he identifies someone in his program who is “at-risk” for driving and will contact the doctor to write a prescription for an assessment.

Most of interviewees were not certain what proportion of clients they tested had been identified as “at-risk” by DMV, but one suggested that 99% of her clients at least meet the criteria. The interviewees suggest that if insurance or Medicare paid for assessments, the number of assessments provided would increase.

4.5.2 Assessment Tests

All of the assessment facilities represented in the interviews have established protocols for testing cognitive and functional skills to assess the driving ability of an individual. Two of the facilities also test actual driving skills behind the wheel, and one uses a driving simulator. The battery of tests given during the driving assessments is more extensive than that given in a doctor’s office and is based on tests developed by occupational therapists to assess driving abilities. Two of the interviewees connected the specific testing they provided with the tests recommended by the Association for Driver Rehabilitation Specialists and readily recounted the history of the development and promulgation of driving assessments in occupational therapy.

4.5.3 Value of Testing Results

Interviewees believe that there is value in having a driving assessment. As one noted, “I think the doctors know, but I provide them with the data.” Two others felt that the doctors don’t have enough information about how a person responds when actually driving. They argued for testing

³ The interviewee at Southwest Washington indicated that Medicare in Washington did pay for the assessments.

with vehicles, and said that “[t]here is no substitute for behind the wheel evaluation.” (This perspective in the occupational therapy field is controversial, and there was disagreement among the interviewees for this study about the importance of “behind the wheel” testing). One interviewee suggested that the vision test they administered was “clearly different” from the vision tests done by DMV, and in his opinion it is better. A final reason that interviewees gave for the value of testing was the possibility of providing some form of mitigating action to the client that would allow the person to continue to drive. The assessors come from a background in which their work is focused on allowing people to continue to function in the community. While acknowledging that cognitive issues are different, they suggest that an assessment allows the therapist to determine if there is any help that can be given which would allow a person to continue driving and not have his/her license suspended.

4.5.4 Use of Results

When a client is referred by a doctor the results are sent to the doctor. If the client or his/her family brings him/her in for an assessment, the results of the tests when positive are given to the referring person and discussed with the family; when negative, they are also given to the person’s doctor. One interviewee noted that “doctors do not like to be told to write a report. Doctor’s don’t want to be the bad guy. Often we fill out and send to the physician to sign.” Finally, one interviewee observed that the assessment allowed her to show families other things to do for their loved ones: “I think almost everyone is surprised at what I can do, pleased at what I give them that they can do...I tell them I can give them something to help...except driving.”

4.5.5 Perception of the Value of the Mandatory Reporting Law

All of the interviewees believed that the law represents good public policy. As one interviewee explained, “it is a terrific program, it is a model [for other states] to follow.” At the same time, they did indicate that there are some aspects of the program which need to be addressed. The interviewees called for more education and out-reach to primary care physicians because “they don’t know they are responsible for implementing the law.” One interviewee suggested that education should extend beyond primary care providers to the general population so that they “can begin to think about what they will do when they can’t drive.” All of the interviewees would like to see driving assessments paid for by insurance because “it will make it easier for doc[tor]s to speak with patients” and it gives the doctors “additional insight.” Finally, two of the interviewees noted that assessments provide an opportunity to determine if any mitigating action can be taken which will allow a person to continue driving.

4.6 PRIMARY CARE PROVIDERS

Primary care providers have the responsibility under the law for reporting if a patient is at-risk for driving. To assist in identifying persons to interview, the DMV provided a list of 15 doctors who were randomly selected from the list of those who have filed mandatory reports with DMV. The interviewer used this list to generate most of the contacts, but supplemented it with names of doctors from the Yellow Pages and the Providence Health Plans list of participating providers. By the end of the interviewing process, eight primary care physicians were interviewed; one

Alzheimer's specialist from OHSU, one ophthalmologist and one social worker who worked in a Primary Care Clinic for Kaiser Permanente. The interviewees were located throughout Oregon, including Portland (4), Eugene (1), Salem (1), Medford (1), The Dalles (1), Baker City (1), Bend (1), and the Grand Ronde Reservation (1).

4.6.1 Source of Information on the Law

While four of the interviewees indicated that they were unaware of how they learned of the law ("Don't know...this is a big office with four providers...probably from one of them"), the others clearly indicated or suspected that the information came from the DMV sometime in the immediate period after 2003. One other interviewee indicated he also received information from Portland Adventist Medical Center and another from the American Geriatric Society. All of the interviewees indicated that they had not received any recent information unless they went to the DMV website to get details on the law or called the DMV office for clarification. DMV's website was praised by one of the interviewees as a good source of information on the law.

4.6.2 Knowledge of the Program

Knowledge of the mandatory reporting program was variable. Responses from the interviewees indicate that knowledge of the specifics of the law is uneven. Primary care providers who work mainly with elderly patients gave responses that suggest that they are quite aware of the specifics of the legislation and their responsibility under the law: "under the Mandatory program as a physician I have an obligation to make sure the at-risk drivers or unsafe drivers are off of the road. I get a form and check the criteria. Forms state what the regulations are. I have the form in every exam room." However, two physicians who work with more diverse populations and the specialist in the Alzheimer's unit indicated a general awareness of the law but were not able to discuss specific details of the program and were not sure of their specific responsibilities under the law. To quote one interviewee, "[I] don't know the law. I think I am a mandatory reporter...or at least I still consider myself one." Finally, another physician who had recently come to Oregon had no knowledge of the program.

4.6.3 Problems with Criteria for Reporting

Most of the physicians interviewed did not have problems with the criteria for determining who is at-risk and feel confident and qualified to assess the safety risk posed by the patient. One doctor said that while he had been trained by DMV on the guidelines he "still over-reports and make[s] DMV make the decision." While most physicians interviewed feel confident to report, several indicated they either found the process difficult or felt the need to give additional tests to assess their patients. Another physician routinely sends patients for formal driving assessments, a service that one physician noted is not available to all doctors. None of these additional tests are paid for by insurance or Medicare. One interviewee suggested that the criteria need to be rewritten by "someone in medical language."

4.6.4 Reporting

All but two of the physicians interviewed said that they had sent a mandatory report to DMV. Three of the interviewees said that they report between one and two cases a month. Others reported between one and 20 times since the law was passed. The two who did not send in reports indicated that they still address the driving risk problem with their patients when they perceive there is a problem. They went on to observe that they felt that there is a lot of under-reporting. As one interviewee observed, "If I was reporting every incident there would be a lot more. Often I talk with the patient and relatives and they get the patient to stop driving."

None of the interviewees indicated a problem with the report forms. Several noted that their office staff fills out the forms and then the doctor signs. The social worker from Kaiser Permanente indicated that she takes an active role in drawing the attention of doctors within her clinic to patients who may be identified by the family as persons who are at-risk to drive. "I'll talk to the doctor and give forms....if [the] doctor doesn't have a clue I'll have the family fill out their forms."

4.6.5 Interaction with Patients

Doctors usually discuss with their patients if they are going to report. Attitudes towards discussing reporting with patients vary. Several saw it as part of their job and that "it is not fair not to tell." They observed that patients sometimes leave their practice but believe that despite this risk they are taking the right action: "I don't care if I lose them; I know I'm doing the right thing." Another observed that it is "part of my job to be the bad guy." Another went further to say that the law makes it easier to discuss the issue of driving in that the decision is ultimately out of his hands: "Once a month I have someone who is legally blind....having the law in place gives one a tool to work with. I can say to the patient by law I need to send a report to your PCP." Despite these comments, some primary care providers suggest that there is under-reporting. Under-reporting seems to be offset somewhat by the attitude expressed by several physicians that they don't want to be responsible for allowing someone to drive and then having that person kill someone.

4.6.6 Concerns about Liability

Many of the physician responses indicated that concerns about liability have little to do with the law and much to do with the sense of their responsibility to help keep the roads safe. One stated "I am concerned if I don't report. I actually had a case where a man came to me who was driving the wrong direction on I-5. [It] didn't take much to convince me that I need to report." Another physician responded, "I don't care. ...I know I'm not liable, but even if I were...I have grandkids on the sidewalk." Two doctors were unaware that the law eliminated their liability, while one suggested that the eliminating liability gave doctors fewer concerns.

4.6.7 Interaction with DMV

Nearly half of the interviewees had some interaction with DMV. They reported very favorable interactions. Several reported having received training on the new law, which they found helpful. Two indicated that they go to the DMV website for information.

4.6.8 Assessment of the Utility of the Program

With one exception, the interviewees thought that the mandatory reporting program is good public policy. As one noted, “[t]here is an increased risk if some people continue to drive” and, from another, “I hope that it makes the streets safer. I live in the same area where my patients live.” Having given an initial positive response to the program as public policy, most physicians also identified specific aspects of the program about which they had concerns or that they would like to see changed. Several indicated concerns about the physicians making the assessment in the confines of the examining room. As stated by one doctor who deals with older patients almost exclusively, “[in] the examination room one can’t get a meaningful assessment of a person’s ability to really drive...what we need to do is functional assessments not medical assessments.” This perspective was reiterated even more strongly by another doctor who stated, “I think the legislature has made this a medical issue. The legislature doesn’t have the backbone to do what it needs to do...it doesn’t take a physician to make an assessment. One doesn’t see a doctor to get a driver license. This is a social issue not a medical issue.” The same physician noted that the program shifts the financial liability onto the physician: “I’m the deep pockets...we don’t get paid much and there are a lot of unfunded mandates out there.” For another physician the financial burden was not an issue: “this program is not a problem...we have a lot of things we are responsible for...I’m not concerned that insurance doesn’t pay for assessments. That kind of thing happens all of the time.” Other concerns included the lack of follow up with respect to what happens with the patient, the need for further education and outreach on the program, and ensuring anonymity for doctors who report.

4.7 COMMUNITY CONTACTS

Community agencies were contacted to determine what they know about the mandatory reporting program and what kinds of activities they may engage in that are related to the program. The following groups were contacted: two senior citizen centers; AARP Oregon; the Oregon Epilepsy Association; Adventist Hospital Medical Education Program; and Providence Medical Education Program. In addition, the Kaiser Permanente Physician site was accessed with the assistance of a Kaiser doctor to determine if there was any information readily available on the program.

The senior center interviewees (one from Astoria and the other from Portland) knew of the program vaguely and did not know if any of the people who frequented their centers had been affected by the program. They knew of no specific demands for assistance. However, one center was going to have a presentation by the AARP on issues affecting older drivers in the next month.

AARP Oregon provides educational outreach services for the elderly on the general issue of driving. The association is supportive of the legislation, but focuses on how to make older drivers safer by improving their driver skills. To this end they offer classes for people over age 50 that are designed to improve driving skills. In addition, the Director of Community Engagement indicated that they are working in a number of areas to engage people and allow people to maintain mobility. One of their new programs is called *We Need to Talk*. This program is training volunteers to go out into the community and have “conversations” with the elderly about finding alternatives, the laws, etc. The Oregon Epilepsy Association had little to say about the mandatory reporting program other than that the interviewee believed that shortening the time frame in which a person could be tested after having a seizure was a positive change on the part of DMV.

In contacts with the Oregon Medical Association (OMA), no one was available who could or was willing to discuss the legislation specifically. The OMA however has extensive information about the program on its website and created a web page for the Medically At-Risk program which provides information on the mandatory reporting rules, links to the Association of Driver Rehabilitation Specialists and to the American Medical Association Guidelines for assessing and counseling older drivers. A discussion with Adventist Hospital Medical Education Department indicated that little had been done in terms of education since 2004, when there was an in-service training. The interviewee indicated, however, the OMA recently made a request for the hospital’s educational file describing what it had done to educate physicians about at-risk drivers. This request was part of the OMA accreditation review.

The Medical Education Department was not contacted at Kaiser Permanente; however, an attempt was made to discover information about the program through the regular physician Kaiser Network. After nearly 20 minutes of searching there was only one link found discussing at-risk drivers, and the information provided related to a California law. Two of the doctors interviewed indicated that their best source of information was the DMV website. An interview was conducted with a social worker from a Kaiser Permanente clinic who had received training from DMV on the program and who currently consults families and doctors about the law and its requirements.

5.0 CONCLUSIONS

This report has examined the Oregon DMV's Medically At-Risk program. Oregon is one of six states with mandatory physician reporting requirements for drivers with specified medical conditions. Oregon's program, revised in 2003, covers a broader range of functional and cognitive conditions than the other states with mandatory reporting requirements. The analysis undertaken in this report consisted of two parts. The first part assessed the safety risk of persons whose licenses were suspended following receipt of a physician referral. The incidence of crashes and convictions of these persons, before and after their suspension, was compared to the incidence of crashes and convictions among the general driving population, as well as to drivers suspended through DMV's voluntary medical reporting program. The second part of the analysis involved structured interviews of program stakeholders, including program administration staff, members of the working group whose recommendations led to the 2001 revision of the program, primary care physicians, providers of driving assessment services, and other community contacts.

Findings of the safety risk analysis can be summarized as follows. First, persons involved in the mandatory referral side of the Medically At-Risk program are considerably older than the general population of drivers in Oregon, with a difference in median ages exceeding 30 years. They are also more than 10 years older than persons involved in the voluntary referral side of the Medically At-Risk program. Both within the Medically At-Risk program and within the general driving population, older drivers are relatively more likely to reside in rural counties. Considering this, the incidence of mandatory referrals has been approximately balanced between urban and rural counties, suggesting that the implementation of the program among Oregon's primary care providers has been fairly uniform.

Second, the substantial age differences between the three groups under study likely translates into differences in safety risk exposure. Differences in risk exposure can be somewhat accounted for by comparing safety records across defined age cohorts. Taking this approach, we find that the safety record prior to suspension of persons in the mandatory side of the program is somewhat mixed. The general incidence of crashes for this group is about 40% of the incidence observed in the general driving population, while the relative incidence of total convictions (60%) and major convictions (200%) are progressively greater. Among drivers age 76 and older, who represent over 60% of persons suspended following receipt of mandatory referrals, the incidence of crashes and total convictions relative to age cohort peers in the general driving population is somewhat greater (70% and 130%, respectively).

In the 18 months following suspension, the relative incidence of crashes (90%) and total convictions (90%) within the mandatory reporting subject group increased, despite the fact that about 87% of the subjects remained suspended throughout the period. Among subjects age 76 and older, the relative incidence of crashes (130%) and total convictions (220%) also grew. By comparison, the safety risk of persons involved in the voluntary referral side of the program was

found to be considerably greater than the risk associated with the mandatory referral side, both before and after suspension.

License suspension actions are made in the interest of maintaining public safety, and two basic issues underlie these actions. The first issue relates to the determination of the appropriate juncture at which a person's threat to public safety is considered great enough to warrant intervention. Suspensions occur at different junctures in programs dealing with various problem driver populations, such as young adults, substance abusers, and chronic offenders. For persons in the mandatory side of the Medically At-Risk program, the effective safety risk threshold for suspension is comparatively low. For example, in a study of the Oregon DMV's Driver Improvement Program (DIP), which temporarily suspends about 30,000 persons annually, Strathman et al. (2007) found the incidence of prior crashes and convictions of suspended drivers age 75 and over to be 3,100% and 12,400% of the corresponding incidences observed among similarly aged persons within the general driving population. License actions thus occur at a much higher threshold in the DIP than in the Medically At-Risk program.

While diagnosed medical conditions clearly impair the ability of persons suspended in the Medically At-Risk program to safely operate a vehicle, this groups' modest relative incidence of crashes and convictions before and after suspension indicates that they have generally acted to reduce their exposure and limit their safety risk. Nevertheless, examination of their driving records shows that safety risk was clearly trending upward over the course of the approximate three-year study period. It should be noted that the license actions in the Medically At-Risk program are taken on the basis of driver medical information rather than driver safety information (as is the case in other problem driver programs). Although the literature does indicate a general correspondence between medical conditions and driver safety, the relationship is complicated by the mitigating effects of decisions and behavior. While there is no consensus regarding the threshold of acceptable safety risk, traffic safety researchers and those who study problem driver populations emphasize that the public is best served when intervention occurs at the earliest legally feasible opportunity (*Evans 2004; Masten and Peck 2004*).

It is generally known that license suspensions do not effectively prevent most persons from driving. Within the mandatory reporting side of the Medically At-Risk program, persons who did not regain their driving privileges (87% of all subjects in the program) accounted for 54.5% of the crashes, 55.0% of the major convictions, and 62.3% of total convictions after suspension. While fairly substantial, these shares compare favorably with those of other programs dealing with problem drivers (e.g., *DeYoung and Gebers 2004*). In some cases (e.g., DUI) the threat to public safety from driving during or after suspension warrants additional measures to deter drivers from returning to the roadways (e.g., impounding vehicles or requiring installation of ignition interlock devices). However, the general incidence of crashes and convictions among these problem drivers is substantially greater than that exhibited by the medically impaired drivers examined in this report.

Among drivers suspended within the mandatory side of the Medically At-Risk program, the group that subsequently regained their driving privileges demonstrated the greatest incidence of crashes and convictions in both the pre- and post-suspension periods, not surprising given their likely greater exposure. A question, however, is whether their post-suspension incidence of

crashes, major convictions, and total convictions, which are 310%, 610%, and 250% of the respective incidences observed in the general driving population, reflect impairments or safety threats that ought to have been better recognized during the license examination process. The licensing system currently in use in Oregon employs examination protocols that are uniformly administered to all applicants. In contrast, Wisconsin adapts its examination procedures to more directly assess the effect of given impairments on a person's ability to safely perform driving tasks. The advantage of this approach is that it makes the driving examination a more reliable assessment tool. The American Association of Motor Vehicle Administrators (AAMVA) endorses reliability as a highly desirable objective of the knowledge and skills testing process (AAMVA 1999). However, AAMVA also emphasizes the importance of fairness, an objective that is most readily achievable through uniform test design and administration.

Also related to the licensing process is the limited extent of compliance with mandatory reporting requirements, with only 10% of dementia cases having been reported. For example, California DMV is embarking on a pilot demonstration of a three-tier process, developed in partnership with NHTSA, to identify and evaluate persons with impairments in the license renewal process. This effort is partly motivated by the limited level of reporting, but also by unexpected research findings. Persons reported to the California DMV typically represent the most severe cases of impairment. Researchers found, however, that the greatest safety risk was associated with persons with moderate impairments. They concluded that persons with severe impairments were more likely to adapt their travel behavior to mitigate safety risk, while those with moderate impairments were less inclined to change their behavior (Hennessy and Janke 2005). Thus, the safety risk of persons suspended through the DMV's mandatory reporting program was disproportionately less than their already small share of the affected population.

The three-tier process includes simple tests and observations by DMV field staff to assess gross cognitive and functional performance, a standard written examination, and a driving exam (if necessary) tailored to evaluate the effects of potential impairments on driving fitness. The pilot of the three-tier process began in 2007 at six northern California field offices. The authorizing legislation calls for an evaluation report assessing safety impacts, license retention rates of the affected population, utilization of driving rehabilitation specialists, and the costs of administering driving fitness exams and drivers' willingness to pay for those costs. Eventual evaluation of California's experience with the three-tier pilot should be of value to Oregon's DMV should it ever consider modifying its licensing process to address medical impairments.

One of the findings in this report is that the occurrence of a crash during the 18-month period prior to suspension is a significant predictor of the likelihood that a crash will occur after suspension. There are several possible ways this information could be employed. For example, crash history information could be used in evaluating a person's application for reinstating driving privileges. In addition, for persons whose driving privileges have been reinstated, subsequent crash occurrence could be treated as a signal that re-certification is needed and/or that the person should again be required to successfully complete DMV testing.

Information obtained from structured interviews of Medically At-Risk program stakeholders suggests that the effectiveness of the program would be improved by taking steps in the following areas:

Information and Outreach: Nearly all stakeholder groups suggested that more information and outreach activities are needed. Although information is currently being effectively disseminated through the DMV and Oregon Medical Association websites, familiarity with the mandatory reporting requirements is less than universal among primary care providers. Perceptions of under-reporting are also fairly widespread. Thus, additional efforts promoting the program should be considered.

Driving Assessment and Rehabilitation Services: These service providers play an important role in several respects. First, through referrals, they supply information to primary care providers in support of their assessment of cognitive and functional impairments. Second, they offer services to help persons with impairments (especially functional) safely maintain their mobility, or recover it following the loss of driving privileges through license suspension. Currently, the costs of these services are not covered by medical insurance or by Medicare, thereby limiting the potential contributions these specialists could make to improving safety and maintaining mobility. Most stakeholder groups viewed this limitation as a problem. Consideration should be given to supporting initiatives that would expand insurance coverage to include these services.

Integrating the Mandatory and Voluntary Reporting Databases: DMV staff recognized that over time there is a tendency for drivers to “migrate” from the voluntary to the mandatory program. Administration of both programs would be facilitated if the respective databases were merged. A program of ongoing training of DMV staff responsible for processing referrals or for using the data should be considered.

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**APPENDIX A:
STRUCTURED INTERVIEW PROTOCOLS**

PROTOCOL: COMMUNITY CONTACTS/SUPPORT

Name _____
Phone and Association _____
Date _____

Thank you for speaking with me.

1. First, explain to me your job.
2. How much contact do you have with people who what been identified as at risk drivers or could be identified as being at risk?

Not much _____ Quite a Bit _____ A lot _____

Now I'd like to discuss with you the Oregon DMV Medically At-Risk driver program.

3. How familiar are you with the program?

Don't know it ___ Know a little bit ___ Know quite a lot ___ Very knowledgeable ___

Probe: Explain what you do know.

4. Where did you get your information about the program?
5. Do you provide any information or training to people you service with respect to this program? If yes, explain what is done.
6. Do you provide any specific services to individuals who have been identified as at-risk drivers by the program?

Probe: What are the specific services?

7. Given your perspective in the community, are there any issues with respect to the Medically At-Risk driver program that you think the DMV ought to consider?
Yes ___ No ___ If yes, what are they?

PROTOCOL: AT-RISK DRIVER MEDICAL WORK GROUP MEMBERS

Name _____
Phone and association _____
Association/address _____
Date of Interview _____

Thank you for taking the time to meet/speak with me. Let's begin by discussing your association with the DMV Medically At-Risk driver program.

1. It is my understanding that you helped design the current Medically At-Risk driver program. Is this correct?
 - a. If yes, probe about specific involvement in the design.
2. Are you currently involved with the program? If yes, how?
3. Are you fairly familiar with the operation of the program at this time?

Probe: How do you get information on program's operation?

Understanding of Program Development

4. What factors led to the development of OR 807.710?
5. Specifically, what led to a change in the criteria used to identify an at-risk driver?
6. What is your understanding of the goals of the program?
7. Given your understanding of the program, how should it work?
8. Given your knowledge of the current operation of the program, is it operating as it should? If no, what are the issues?

Public Policy Issues

9. Do you think OR 807.710 is good public policy? Yes ___ No ___ Explain your answer.

What if anything would you change in the program?

PROTOCOL: DMV MEDICAL CONSULTANTS

Name _____

Phone and association _____

Date _____

Thank you for speaking with me. Let's begin by discussing a little about your background.

1. How much medical training have you had? _____
2. How many years have you been working in the medical field?
3. How long have you been a Public Health Officer?
4. As a State public health officer what are your responsibilities in the implementation of the DMV Medically At-Risk driver program?
5. ORS 807.710 requires mandatory reporting of certain persons to the DMV. What is your understanding of the goals of the program?
6. Given your understanding of the program requirements, what constitutes a person who should be reported under the Medically At-Risk driver program?
7. What kinds of issues do you deal with in respect to the program? Please be specific and provide as much detail as possible.

Probe: Are there any parts that are particularly troublesome?

8. Do you get any feedback on your recommendations?

Probe: Do you know of any decisions which have been overturned? If yes, is this information helpful to you in making other recommendations?

9. Given your knowledge of the current administration of the program is it operating as it should? Yes ___ No ___ If no, what are the issues?

10. Do you think the DMV Medically At-Risk driver program is good public policy?

Y ___ N ___ Explain your answer.

11. If there were one thing you could change about the program what would it be?

PROTOCOL: DMV DRIVER SAFETY UNIT STAFF

Name _____
Telephone _____
Date _____

Thanks for taking the time to speak with me. Let's begin by discussing your involvement with DMV's Medically At-Risk driver program.

1. Briefly describe your job.
2. As Supervisor what are your specific responsibilities with respect to the mandatory reporting program?
3. Where do you (or your staff) fit in the process receiving and reviewing a mandatory report of an At-Risk driver?
4. Were you specifically trained to process the Medically At-Risk driver mandatory reports?
Yes___ No___

Probe: If yes, Describe the training?

Was the training adequate? Yes_____No_____

Do you need further training? Yes_____No_____

5. Are there any issues with the data tracking system with respect to this program that you would like to discuss? Yes_____ No_____

Probe: If yes, what are they?

6. Are there any other issues with the Medically At-Risk driver program that you would like to discuss? Yes_____No_____ If yes, what are they?
7. Do you ever receive requests for information from people who have received letters suspending their licenses under the Medically At-Risk program? Yes___No___

Probe: If yes, what kinds of questions are asked? How do you answer these questions?

8. Do you have any suggestions for improvement of the At-Risk Driver mandatory reporting program?

PROTOCOL: PRIMARY CARE PROVIDERS

Name of interviewee: _____
Telephone number and association: _____
Date of Interview: _____

Thank you so much for taking the time to speak with me. Let's begin with your knowledge of the DMV Medically At-Risk driver program as it has operated since 2003.

Knowledge of the Program

1. When did you first learn about this program?
2. From where did you get information about the program?
3. Have you ever had any education or training on the requirements of the program?

Yes ___ No ___

Probe: If yes, who provided the training? _____

Probe: Would you like some training or additional information?
Yes _ No _

4. What do you understand to be your responsibility within the program?
5. Are you aware that in 2003 the criteria for mandatory reporting changed? Yes ___ No ___

Probe: If yes, ask what were the changes?

Interpretations of Reporting Criteria and Issues Related to Criteria

6. Under the current program two criteria can be used by a physician as a basis for reporting: functional impairment and cognitive impairment.
 - 6a. What is your understanding of a "functional impairment" that requires reporting a patient to the DMV?
 - 6b. What are "cognitive impairments" that require reporting a patient to the DMV?
7. Do you have any problems with these criteria as guides for you to make a decision to report?
8. Do you feel confident or qualified to assess the safety risk posed by medically impaired drivers? Yes ___ No ___ Explain your answer

Reporting Process

9. Have you ever reported a patient? Yes ___ No ___

If yes,

- a. How many patients have you reported?
- b. Was the procedure for reporting to the DMV clear? Yes__ No__
If no, what was not clear?
- c. Was your report returned for additional information? Y __N __
If yes, Probe: What was the reason it was returned?

Did you tell the patient about the report?

Yes ___ No ___

Probe: what was the patient's response?

Probe: why did you not tell the patient?

10. Do you have any concerns about liability

Interaction with DMV

11. Have you had any direct contact with the DMV about this program?

Yes ___ No ___

Probe: If yes, what was the nature of this contact? _____

Was your interaction with the DMV satisfactory? _____

Assessment of the Utility of the Program

12. Do you think that the DMV Medically At-Risk driver program is good public policy?

Yes ___ No ___ Explain your answer; e.g., what is working or what is not working?

Thank you for your attention.

PROTOCOL: DRIVING ASSESSMENT PROVIDERS

Name: _____

Phone and association: _____

Date: _____

Thank you for speaking with me. I'd like to ask to you about your job as a driving assessment provider.

1. What exactly do you do?
2. Who comes to you for an assessment?
3. Are some people referred to you? Y_____ N_____ If yes, by whom?
4. When a referral is made do you submit a report back to the referral agency/doctor?
Y__N__
5. When you are doing an assessment what specific deficiencies are you looking for with respect to driving?
6. Do you have established tests or protocols for measuring these deficiencies? If yes can you briefly explain them to me?
7. How familiar are you with DMV's Medically At-Risk driver program, which began in 2003 and requires medical providers to report to at-risk drivers to the DMV.
Not very familiar _____ familiar _____ Very familiar _____
If familiar, where did you get your information on the program?
8. Given your knowledge of the program, what constitutes an at-risk driver?
9. Approximately what proportion of the people that you assess has been determined by DMV to be an at-risk driver?
10. How important do you think a driving assessment is for identifying at-risk drivers?
Not important _____ important _____ Very important _____
11. Do you think a professional driving assessment is better than a doctor's judgment in identifying an at-risk driver?
12. What barriers or issues are there to performing driving assessments for those who are identified as at-risk drivers?
13. Do you have any other comments you would like to make about the DMV Medically At-Risk driver program?

**APPENDIX B:
CHARACTERISTICS OF SUBJECTS TRANSFERRED FROM THE
MANDATORY TO THE VOLUNTARY PROGRAM**

In selected instances, a referral is made to the mandatory reporting program that does not meet all of the necessary conditions for acceptance. When this occurs, the referral is transferred to the voluntary reporting program, where it is reviewed for license action under that program's rules. There is an interest in assessing the characteristics of this group in relation to the characteristics of subjects within the mandatory and voluntary reporting programs.

Demographic and safety risk comparisons between the three groups are made below. As with the *Mandatory* and *Voluntary* samples studied in this report, the records of 314 persons initially referred to the mandatory program and subsequently suspended in the Voluntary program between July 1, 2004 and December 31, 2005 were selected. Counts of total convictions, major convictions and crashes occurring during the 18-month period before suspension were recovered from driver records.

Demographic and locational characteristics of the three samples are compared in Table B-1. The average age of subjects transferred to the Voluntary program is 61.3, nearly 12 years younger than the average age of *Mandatory* sample subjects and about a year younger than their Voluntary program peers. The breakdown by gender is quite similar across the three samples. The most notable distinction is with respect to location of residence: over 81% of the transfer sample resided in an urban county, substantially higher than the shares of the other samples. This may reflect the urban concentration of medical specialists and emergency medical facilities (treating persons with crash-related injuries who, in turn, are judged to be medically impaired).

The incidence of prior convictions and crashes for the three samples is presented in Table B-2. Sample-level averages are reported, given the relatively small size of the transfer sample. The incidences of total convictions, major convictions and crashes among transfer sample subjects are progressively lower (-12.0%, -27.3% and -45.5%, respectively) than the corresponding incidences among their 018 program peers. Nevertheless, it is apparent that the safety risks of transfer sample subjects is more similar to the safety risks of the *Voluntary* sample than the *Mandatory* sample.

Table B-1: Characteristics of the *Mandatory*, *Voluntary*, and *Voluntary* transfer samples

| Characteristic | <i>Mandatory</i> | <i>Voluntary</i> | <i>Voluntary</i> Transfer |
|-----------------------|-------------------------|-------------------------|----------------------------------|
| Age Group | | | |
| 35 & under | 4.3% | 10.9% | 13.1% |
| 36 - 55 | 11.6 | 25.5 | 22.9 |
| 56 - 75 | 23.9 | 29.8 | 33.1 |
| 76 & over | 60.2 | 33.8 | 30.9 |
| Mean Age (years) | 73.0 | 62.4 | 61.3 |
| Median Age (years) | 78.9 | 66.0 | 63.8 |
| Gender | | | |
| Male | 61.3% | 60.1% | 60.5% |
| Female | 38.7 | 39.9 | 39.5 |
| Residence | | | |
| Urban | 69.6 | 69.6 | 81.2 |
| Rural | 30.4 | 30.4 | 18.8 |
| Sample Size | 1,556 | 910 | 314 |

Table B-2: Safety events prior to suspension*

| Safety Indicator | <i>Mandatory</i> | <i>Voluntary</i> | <i>Voluntary</i> Transfer |
|-------------------------|-------------------------|-------------------------|----------------------------------|
| Total Convictions | 10.3 | 36.6 | 32.2 |
| Major Convictions | 1.2 | 2.2 | 1.6 |
| Crashes | 1.5 | 37.4 | 20.4 |

* Events per 100 drivers.

**APPENDIX C:
STATUTE AUTHORIZING THE MEDICALLY AT-RISK PROGRAM
(ORS 807.710)**

807.710 Reports of persons with cognitive or functional impairment; rules; forms.

- (1) For the purposes of this section:
 - (a) “Physician” means a person who holds a degree of Doctor of Medicine or Doctor of Osteopathy and is licensed under ORS chapter 677 and a person who holds a degree of Doctor of Naturopathic Medicine and is licensed under ORS chapter 685.
 - (b) “Health care provider” means a person licensed, certified or otherwise authorized or permitted by the laws of this state to administer health care.
- (2) In consultation with medical experts and experts on cognitive or functional impairments, the Department of Transportation shall adopt rules requiring reporting and:
 - (a) Designating physicians and health care providers required to report to the department a person whose cognitive or functional impairment affects that person’s ability to safely operate a motor vehicle. If a designated physician or health care provider makes a report to the department in good faith, that person shall be immune from civil liability that might otherwise result from making the report. If a designated physician or health care provider does not make a report, that person shall be immune from civil liability that might otherwise result from not making the report.
 - (b) Designating the cognitive or functional impairments that are likely to affect a person’s ability to safely operate a motor vehicle.
- (3) Determinations regarding a person’s ability to safely operate a motor vehicle may not be based solely on the diagnosis of a medical condition or cognitive or functional impairment, but must be based on the actual effect of that condition or impairment on the person’s ability to safely operate a motor vehicle.
- (4) Reports required by the department under this section shall be upon forms prescribed or provided by the department. Each report shall include the person’s name, address, date of birth, sex and a description of how the person’s current medical status affects the person’s ability to safely operate a motor vehicle. The department shall consider this information in determining the person’s eligibility for a driver license or driver permit.
- (5) Except as provided in ORS 802.240, the reports required by the department under this section are confidential and shall be used by the department only to determine the qualifications of persons to operate motor vehicles upon the highways. [1983 c.338 §872; 1999 c.770 §2; 2001 c.736 §1; 2003 c.462 §1; 2007 c.195 §2; 2007 c.434 §3]

Note: Section 3, chapter 462, Oregon Laws 2003, provides:

Sec. 3. The amendments to ORS 807.710 and 802.240 by sections 1 and 2 of this 2003 Act apply only to causes of action that accrue on or after the effective date of this 2003 Act [June 24, 2003]. [2003 c.462 §3]

**APPENDIX D:
OREGON ADMINISTRATIVE RULES FOR THE MEDICALLY AT-RISK
DRIVER PROGRAM**

OAR 735-074 Mandatory Reporting

735-074-0050

Policy and Objective

- (1) It is the policy of DMV to promote safety for all persons who travel or otherwise use the public highways of this state.
- (2) The underlying policy of the Department's rules on medically at-risk drivers is to preserve the independence, dignity, and self-esteem that result from providing one's own mobility, so long as it is possible to do so without risk to oneself or to others.
- (3) It is therefore an objective of these rules to establish a program for the mandatory reporting to DMV of those drivers who have functional and cognitive impairments that may affect the person's driving ability.

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0060

Purpose

- (1) DMV recognizes that some persons have, or may develop, cognitive or functional impairments that affect driving ability. DMV acknowledges that the purpose of division 74 rules is to prevent injury or death by establishing requirements for the mandatory reporting by physicians and health care providers of those persons with severe and uncontrollable cognitive or functional impairments affecting a person's ability to safely operate a motor vehicle.
- (2) Division 74 rules designate:
 - (a) Those physicians and health care providers required to report and the cognitive or functional impairments that must be reported to DMV under ORS 807.710;
 - (b) The procedures for making a mandatory report to DMV; and
 - (c) The procedures followed by DMV when it receives a report.

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0070

Authority to Obtain Medical Information and DMV Use of Medical Information

- (1) DMV is authorized by law, ORS 807.710, to receive protected health information from covered health entities for the purpose of preventing injury which may be caused by drivers who are unable to safely operate a motor vehicle because of severe and uncontrollable cognitive or functional impairments. DMV is the state agency responsible for public health matters relating to the monitoring of drivers who may be ineligible for driving privileges because of a mental or physical disease or disability resulting in a cognitive or functional impairment that affects the driver's ability to safely operate a motor vehicle.
- (2) DMV will use the medical information provided by physicians and health care providers only to determine whether or not a person can safely operate a motor vehicle and is qualified for driving privileges, and for taking any action deemed necessary by DMV. The protected health information required to be reported by these rules is the minimum necessary to accomplish the purposes of ORS 807.060, 807.090, 807.350, 807.710 and 809.419.

Stat. Auth.: ORS 184.616, 184.619 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-074-0080

Definitions

- (1) "DMV" means the Driver and Motor Vehicle Services Division of the Oregon Department of Transportation.
- (2) A "health care provider" is a person licensed, certified or otherwise authorized or permitted by law to administer health care in the State of Oregon. For purposes of these rules, the term health care provider is limited to: a chiropractic physician, nurse practitioner, occupational therapist, physical therapist, optometrist, physician assistant and podiatric physician or surgeon.
- (3) "Immediate suspension or cancellation" means the suspension or cancellation of driving privileges or the right to apply for driving privileges before the person is given an opportunity for a hearing to contest the suspension or cancellation.
- (4) "Mandatory reporting or a mandatory report" is a report of severe and uncontrollable cognitive or functional impairments, submitted by a physician or designated health care provider as mandated under ORS 807.710 and these rules. DMV also has a non-mandatory reporting program that can be used by anyone, including physicians and health care providers, that reports medical issues or driving behaviors that may affect the person's ability to safely operate a motor vehicle. The non-mandatory reporting program is outlined in OAR chapter 735, division 76.
- (5) "Medical Determination Officer" is a physician, nurse practitioner or physician assistant, licensed to provide health care services by the State of Oregon, and employed or designated by DMV to make medical determinations of a driver's medical eligibility for driving privileges.

- (6) A "medical report form" is the form provided to a person or designated by DMV to be used to obtain medical information for determining if the person is eligible or qualified for driving privileges.
- (7) A "physician" is a medical doctor or doctor of osteopathic medicine licensed to practice medicine in the State of Oregon by the Board of Medical Examiners or a doctor of naturopathic medicine licensed to practice naturopathic medicine in the State of Oregon by the Board of Naturopathic Examiners.
- (8) A "primary care provider" is a physician or health care provider who is responsible for supervising, coordinating and providing a person's initial and ongoing health care. A primary care provider initiates referrals for health care outside of his or her scope of practice, consultations and specialist care to assure continuity of a person's medically appropriate health care.
- (9) "Primary and secondary driving controls" mean the steering wheel, gas pedal, brake, clutch (if applicable), turn signal controls, headlight controls, windshield wiper controls, defrost control and horn of a motor vehicle.
- (10) "Recertification" or "recertify" is the process for requiring the person to reestablish eligibility at periodic intervals by submitting updated medical or vision information and possibly proving that the mental or physical condition or impairment does not affect their ability to safely operate a motor vehicle by passing DMV tests, receiving a determination of eligibility from the Medical Determination Officer, or both.
- (11) "Severe" means that the impairment substantially limits a person's ability to perform activities of daily living, including driving, because it is not controlled or compensated for by medication, therapy, surgery or adaptive devices. Severe does not include a temporary impairment for which the person is being treated by a physician or health care provider and which is not expected to last more than six months.
- (12) "Uncontrollable" means the impairment cannot be controlled or compensated for by medication, therapy, surgery, or adaptive devices.

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.710 □ Stat. Implemented: ORS 807.710
□ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 14-2005, f. & cert. ef. 5-19-05; DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-074-0090

Physicians and Health Care Providers Required to Report to DMV

- (1) If providing health care services to a person meeting the criteria set forth in OAR 735-074-0100 or 735-074-0110, the following physicians and health care providers must submit a report to DMV as described in OAR 735-074-0120:
 - (a) The person's primary care provider.
 - (b) A physician or health care provider providing specialized or emergency health care services to a person who does not have a primary care provider.
- (2) If a physician or health care provider is providing health care services based on a referral from the person's primary care provider, and the health care services relate to a cognitive or functional impairment meeting the criteria set forth in OAR 735-074-0110, the physician or health care provider does not need to submit a report to DMV if a finding, test results and/or treatment report is sent to the person's primary care provider. Upon receipt of findings, test results and/or a treatment report, the primary care provider must submit a report to DMV if the cognitive or functional impairment meets the criteria set forth in OAR 735-074-0110.
- (3) An ophthalmologist or optometrist providing health care services to a person who does not meet the DMV vision standards set forth in OAR 735-062-0050 with corrective lenses or devices must:
 - (a) Submit a report to DMV; or
 - (b) Provide the findings or test results to the person's primary care provider. Upon receipt of findings from the ophthalmologist or optometrist, the primary care provider must submit a report to DMV.

Stat. Auth.: ORS 184.616, 184.619 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-074-0100

Report of Visual Acuity or Field of Vision not Meeting DMV Standards

- (1) A physician or health care provider must submit a report to DMV if providing health care services to a person whose vision does not meet the standards established in OAR 735-062-0050(2).
- (2) Notwithstanding section (1) of this rule, a report is not required if by use of corrective lenses the person's vision meets DMV vision standards under OAR 735-062-0050 and a use of corrective lenses restriction is on the person's driver license. For purposes of this rule, corrective lenses do not include bioptic or telescopic lenses.

Stat. Auth.: ORS 184.616, 184.619 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-074-0110

Severe and Uncontrollable Impairments that must be Reported to DMV

As required by OAR 735-074-0090, a physician or health care provider must submit a report, as described in OAR 735-074-0120, to DMV when providing health care services to a person, 14 years of age or older, and who has one or more of the following cognitive or functional impairments which is severe and uncontrollable:

- (1) Functional impairments include **sensory impairments** affecting peripheral sensation of extremities, including but not limited to: tingling and numbness and loss of position sense in extremities affecting the ability to feel, grasp, manipulate or release objects or use foot controls effectively.
- (2) Functional impairments include **motor impairments** affecting the following areas:
 - (a) **Strength**, including but not limited to:
 - (A) The inability to consistently maintain a firm grip on objects;
 - (B) The inability to apply consistent pressure to objects with legs and feet;
 - (C) Weakness or paralysis of muscles affecting the ability to maintain sitting balance; or
 - (D) Weakness or paralysis in extremities affecting the ability to feel, grasp, manipulate or release objects or use foot controls effectively.
 - (b) **Flexibility**, including but not limited to: rigidity or limited range of mobility in neck, torso, arms, legs or joints.
 - (c) **Motor planning and coordination**, including but not limited to:
 - (A) Difficulty and slowness in initiating movement;
 - (B) Vertigo, dizziness, loss of balance or other motor planning conditions;
 - (C) Involuntary muscle movements; or
 - (D) Loss of muscle control.
- (3) **Cognitive impairments** affecting the following areas:
 - (a) **Attention**, including but not limited to:
 - (A) Decreased awareness;
 - (B) Reduction in the ability to efficiently switch attention between multiple objects; or
 - (C) Reduced processing speed.
 - (b) **Judgment and problem solving**, including but not limited to:
 - (A) Reduced processing speed;
 - (B) An inability to understand a cause and effect relationship; or
 - (C) A deficit in decision making ability.
 - (c) **Reaction time**, including but not limited to a delayed reaction time.

- (d) **Planning and sequencing**, including but not limited to:
 - (A) A deficit in the ability to anticipate or react to changes in the environment; or
 - (B) Problems with sequencing activities.
- (e) **Impulsivity**, including but not limited to:
 - (A) Lack of emotional control; or
 - (B) Lack of decision making skills.
- (f) **Visuospatial**, including but not limited to problems determining spatial relationships.
- (g) **Memory**, including but not limited to:
 - (A) Problems with confusion or memory loss; or
 - (B) A decreased working memory capacity.
- (h) **Loss of consciousness or control**.

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.710 □ Stat. Implemented: ORS 807.710
 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0120

The Mandatory Report to DMV

- (1) To report a functional or cognitive impairment as required by OAR 735-074-0110, the reporting physician or health care provider must complete and submit to DMV, a Mandatory Impairment Referral, DMV Form 7230.
- (2) To report visual acuity or field of vision not meeting DMV standards as required by OAR 735-074-0100, the reporting physician or health care provider must complete and submit to DMV, a Mandatory Impairment Referral, DMV Form 7230.
- (3) The form must contain the following information:
 - (a) The name, address, date of birth, sex, and Oregon driver license or identification card number (if known) of the person being reported;
 - (b) The functional or cognitive impairment(s) being reported, as described in OAR 735-074-0100 or 735-074-0110;
 - (c) A description of how the person reported is affected by the impairment;
 - (d) Any underlying medical diagnosis or condition that may be applicable;
 - (e) If applicable, the date of the person's last episode of loss of consciousness or control, date of cerebrovascular accident (CVA), cardiac event or alcohol/drug/inhalant use or relapse;
 - (f) If applicable, medication prescribed that may interfere with safe driving behaviors or medication prescribed to treat the impairment(s) reported; and
 - (g) The name, address, phone number, license or certification number and signature of the

reporting physician or health care provider.

[ED. NOTE: Forms referenced are available from the agency.]

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.710 □ Stat. Implemented: ORS 807.710

□ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0130

Standards for Identifying How Impairments Affect Driving

DMV determines that severe functional or cognitive impairments that are not correctable or controllable by medication, therapy, surgery or adaptive devices adversely affect a person's ability to safely operate a motor vehicle in the following manner:

- (1) **Sensory impairments:** Peripheral sensation of extremities causing tingling or numbness in extremities results in:
 - (a) The inability to firmly grasp, manipulate, operate and release primary and secondary driving controls resulting in momentary loss of control of the vehicle, in improper or delayed signal to other drivers that the vehicle is turning, changing lanes or stopping, or difficulty stopping the vehicle;
 - (b) Difficulty gripping the steering wheel resulting in loss of ability to control the vehicle's lane position and turning motion;
 - (c) Difficulty using foot controls effectively resulting in improper or delayed signal to other drivers that the vehicle is slowing or stopping, or difficulty stopping the vehicle.
- (2) **Motor impairments:**
 - (a) **Strength:**
 - (A) The inability to consistently maintain a firm grip on objects results in:
 - (i) Difficulty firmly gripping and turning a steering wheel resulting in loss of ability to safely control the vehicle's lane position and turning motion; and
 - (ii) A diminished capacity to operate primary and secondary driving controls resulting in reduced control over the vehicle and in improper or delayed signal to other drivers that the vehicle is turning, changing lanes or stopping, or inability to adjust highbeam headlights when necessary.
 - (B) The inability to apply consistent pressure to objects with legs or feet results in the inability to apply consistent pressure to the brake and gas pedals, resulting in difficulty or inability to maintain consistent speed or stop the vehicle.
 - (C) Weakness or paralysis of muscles affecting the ability to maintain sitting balance results in the danger of falling to one side during turns or other sudden motions resulting in the loss of vehicular control.
 - (D) Weakness or paralysis in extremities affecting the ability to feel, reach, grasp, manipulate or release objects or use foot controls effectively results in the inability to

- reach, grasp and operate primary and secondary driving controls resulting in difficulty controlling, turning or stopping a vehicle; failure to, or delay in, use of appropriate signals for turning, changing lanes or stopping; or difficulty maintaining lane position, turning and a consistent speed.
- (b) **Flexibility:** Rigidity and/or limited range of mobility in neck, torso, arms, legs or joints results in:
- (A) The inability to reach, grasp and operate primary and secondary driving controls resulting in difficulty controlling, turning or stopping a vehicle; failure to, or delay in, use of appropriate signals for turning, changing lanes or stopping; or difficulty maintaining lane position, turning and a consistent speed; and
 - (B) Difficulty turning the head to check the blind spot prior to a lane change, and to observe vehicles or pedestrians entering the roadway or when merging with traffic.
- (c) **Motor planning and coordination:**
- (A) Difficulty and slowness in initiating movement results in:
 - (i) The inability to simultaneously operate primary and secondary controls resulting in difficulty controlling, turning or stopping a vehicle; failure to, or delay in, use of appropriate signals for turning, changing lanes or stopping; or difficulty maintaining lane position or consistent speed, and difficulty performing turning maneuvers;
 - (ii) Delay in responding to the position of other vehicles that are changing lanes, are in the oncoming lane of traffic or are entering the roadway; and
 - (iii) Delay in responding to changing traffic control devices or changing traffic conditions.
 - (B) Vertigo, dizziness, loss of balance or other motor planning conditions results in:
 - (i) Difficulty maintaining lane position and control of the vehicle; and
 - (ii) Improper braking and/or accelerating behavior in response to changing traffic conditions.
 - (C) Involuntary muscle movements results in:
 - (i) The inability to coordinate the fine motor movements needed to operate primary and secondary driving controls resulting in difficulty controlling, turning or stopping a vehicle; failure to, or delay in, use of appropriate signals for turning, changing lanes or stopping; or difficulty maintaining lane position or consistent speed, and difficulty performing turning maneuvers; and
 - (ii) The inadvertent activation of the brake or gas pedal resulting in inconsistent speed or improper braking of the vehicle.
 - (D) Loss of muscle control results in:
 - (i) Loss of ability to use arms and/or legs in operating primary and secondary driving controls resulting in difficulty controlling, turning or stopping a vehicle; delayed use or failure to use appropriate signals for turning, changing lanes or stopping; or

difficulty maintaining lane position or consistent speed, and difficulty performing turning maneuvers; and

(ii) The inability to maintain safe control of a vehicle for prolonged distances.

(3) Cognitive impairments:

(a) Attention:

(A) Decreased awareness results in:

(i) Distraction or disorientation while driving;

(ii) Difficulty maintaining control of a vehicle for prolonged distances;

(iii) Delay in timely response to traffic control devices or directives;

(iv) Delay in timely response to changes in traffic conditions, traffic hazards and emergencies; and

(v) Delay in observing and responding to the position of other vehicles that are changing lanes, are in the oncoming lane of traffic or entering the roadway.

(B) A reduction in the ability to efficiently switch attention between multiple objects results in:

(i) Delay in observing and reacting to road hazards, vehicles changing lanes or vehicles entering the roadway; and

(ii) The inability to simultaneously manipulate vehicle controls and watch the roadway.

(C) Reduced processing speed results in:

(i) Delay in timely response to changes in traffic conditions, and traffic hazards and emergencies;

(ii) Delay in observing and reacting to road hazards, vehicles changing lanes or vehicles entering the roadway; and

(iii) Delay in timely response to traffic control devices or directives.

(b) Judgment and problem solving:

(A) Reduced processing speed results in:

(i) Delay in timely response to changes in traffic conditions, and traffic hazards and emergencies;

(ii) Delay in observing and reacting to road hazards, vehicles changing lanes or vehicles entering the roadway; and

(iii) Delay in timely response to traffic control devices or directives.

(B) An inability to understand the cause and effect relationship results in:

(i) The inability to anticipate the probable outcome in various driving situations resulting in delayed or no response to changes in traffic conditions, traffic hazard and emergencies, vehicles changing lanes, or vehicles, pedestrians or bicycles

enter the roadway; and

- (ii) Improper or delayed signal to other drivers that the vehicle is turning, changing lanes or stopping.

(C) A deficit in decision-making ability results in:

- (i) Delay in timely response to traffic control devices or directives; and
- (ii) Delay in timely response to changes in traffic conditions, and traffic hazards and emergencies.

(c) **Delayed reaction time results in:**

- (A) Delay in observing and reacting to road hazard, vehicles changing lanes or vehicles, pedestrians or bicycles entering the roadway; and
- (B) Delay in timely response to changes in traffic conditions, and traffic hazards and emergencies.

(d) **Planning and sequencing:**

- (A) A deficit in the ability to anticipate and/or react to changes in the environment results in:
 - (i) Delay in observing and reacting to road hazard, vehicles changing lanes or vehicles, pedestrians or bicycles entering the roadway; and
 - (ii) Delay in timely response to changes in traffic conditions, and traffic hazards and emergencies.
- (B) Problems with sequencing activities results in:
 - (i) Difficulty planning and safely maneuvering a driving route;
 - (ii) Frequently becoming lost, confused and unable to find the way from one location to another while driving resulting in panic and sudden, irrational changes in direction or loss of control of the vehicle.

(e) **Impulsivity:**

- (A) Lack of emotional control results in inappropriate emotional outbursts that can cause road rage and results in aggressive driving behaviors such as speeding, following too closely, not checking the intersection before entering when a light changes to green and cutting in and out of traffic.
- (B) Lack of decision making skills results in:
 - (i) Delay in timely response to traffic control devices or directives;
 - (ii) Difficulty planning driving routes resulting in rapid lane changes, or unsignaled or dangerous turns; and
 - (iii) Delay in observing and reacting to road hazard, vehicles changing lanes or vehicles, pedestrians or bicycles entering the roadway.

(f) **Visuospatial:** Problems determining spatial relationships result in:

- (A) Difficulty maintaining lane position, merging with traffic or changing lanes;
- (B) Difficulty observing and delay in responding to the position of other vehicles driving on the roadway, the position of roadway curbs, and the position of parked vehicles alongside the roadway; and
- (C) Difficulty positioning a vehicle while turning, maneuvering curves or parking.

(g) Memory:

- (A) Problems with confusion and/or memory loss result in:
 - (i) Frequently becoming lost, confused and unable to find the way from one location to another while driving resulting in panic and sudden, irrational changes in direction or loss of control of the vehicle;
 - (ii) Failure or delay in observing and responding to traffic control devices and directives;
 - (iii) The inability to consistently perform safe driving techniques;
 - (iv) A lack of attention to other traffic;
 - (v) Abrupt lane changes without looking for other traffic;
 - (vi) Turning in front of an oncoming vehicle; and
 - (vii) Drifting in and out of traffic lane.
- (B) A decreased working memory capacity results in:
 - (i) Frustration and confusion causing abrupt, unplanned or unsignaled turning, lane changes or stopping;
 - (ii) The necessity for instruction from a passenger on proper driving techniques; and
 - (iii) Lack of attention to other traffic.

(h) Loss of consciousness or control while driving results in loss of vehicle control.

Stat. Auth.: ORS 184.616, 184.619 & 807.710 □ Stat. Implemented: ORS 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-074-0140

DMV Response to Mandatory Report -- Suspension, Opportunity to Re-Test, Reinstatement

- (1) DMV will review a report received under OAR 735-074-0120 to determine if sufficient information has been provided. If the report does not contain the information required by OAR 735-074-0120 it may be returned to the reporting physician or health care provider for completion. If the report does not meet the requirements of a mandatory report, but if the report is of a possible mental or physical condition or impairment that indicates the person is no longer qualified to hold a driver license, driver permit or endorsement or may no longer

be able to drive safely, DMV will review the report under the non-mandatory program described in OAR chapter 735, division 76 to determine what action, if any, is appropriate.

- (2) Using the standards set forth in OAR 735-074-0130, or when otherwise recommended by the Medical Determination Officer, DMV will suspend driving privileges or the right to apply for driving privileges under ORS 809.419(3), if it is determined from the report submitted under OAR 735-074-0120 that the person has a mental or physical condition or impairment that affects the person's ability to safely operate a motor vehicle upon the highways. Driving privileges or the right to apply for driving privileges will be immediately suspended if DMV has reason to believe the person may endanger people or property if not immediately suspended.
- (3) If DMV receives a report that indicates that a person's vision does not meet the vision standards set forth in OAR 735-062-0050, DMV will immediately suspend the person's driving privileges or right to apply for driving privileges under ORS 809.419(3). To be eligible for reinstatement of driving privileges the person must: submit proof from a licensed optometrist or physician who specializes in the diagnosis and treatment of eye diseases that the person's vision, with or without corrective lenses, meets the vision standards set forth in OAR 735-062-0050, and pass a knowledge and drive test. Proof that vision meets DMV standards is only valid for six months from the date DMV receives the Certificate of Vision form and the person must pass the knowledge and drive test within this time period for reinstatement of driving privileges.
- (4) A person whose driving privileges and right to apply for driving privileges are suspended because of a functional impairment may request to be tested by DMV to demonstrate that notwithstanding the impairment, the person is qualified to safely operate a motor vehicle. If the request is granted, DMV will administer a vision screening under OAR 735-062-0050, a knowledge test under 735-062-0040 and a DMV drive test under 735-062-0070. DMV will deny the request if it has reason to believe the person is unable to safely operate a motor vehicle during a drive test. If the request is denied, DMV may give the person tests if the person:
 - (a) Receives a determination of eligibility from the Medical Determination Officer;
 - (b) Submits proof of successful completion of a driver rehabilitation program conducted by a rehabilitation specialist;
 - (c) Submits proof of successful completion of a driver training course conducted by an ODOT certified commercial driver training school; or
 - (d) Submits proof that the person's motor vehicle is equipped with an appropriate adaptive device(s), such as hand controls, and provides documentation that the person knows how to use and has practiced with the adaptive devices(s).
- (5) A person whose driving privileges and right to apply for driving privileges are suspended because of a cognitive impairment or a cognitive impairment in conjunction with a functional impairment reported under OAR 735-074-0110 may request to be tested by DMV to demonstrate that notwithstanding the disorder or the impairment, the person is qualified to safely operate a motor vehicle. Before DMV will grant the request to be tested, the Medical Determination Officer must determine that the person is medically eligible to take tests. If

eligible for testing, the person must pass a vision screening under OAR 735-062-0050, a knowledge test under 735-062-0040 and a DMV drive test under 735-062-0070.

- (6) The following apply to a request for testing under sections (4) and (5) of this rule:
 - (a) The request must be made by contacting DMV headquarters; and
 - (b) For a cognitive impairment or a cognitive impairment in conjunction with a functional impairment, testing must be completed within six months from the date the Medical Determination Officer determines the person is medically eligible to take tests.
- (7) DMV may issue a no-fee identification card if a person whose driving privileges are suspended pursuant to this rule, voluntarily surrenders his or her valid driver license or driver permit.
- (8) DMV will notify the reporting physician or health care provider if the person's driving privileges are reinstated.
- (9) If the person reinstates his or her driving privileges, DMV may require the person to provide periodic medical information based on the recommendation of the Medical Determination Officer or obtain periodic vision exams based on the recommendation of the person's vision specialist. The Medical Determination Officer may review those with functional impairments who are reinstated for determination of whether the person should be medically recertified at a later date. The Medical Determination Officer will include a determination if medical re-certification is needed on cognitive impairments at the time a determination on testing is made. If periodic medical information is required, DMV will send the person a Medical Impairment Recertification form and require the person to obtain information from his or her physician, nurse practitioner or physician assistant and return that to DMV within 30 days of the date on the requirement letter. If a periodic vision exam must be obtained, DMV will send the person a Certificate of Vision form which must be completed by the person's vision specialist and returned to DMV within 30 days of the date on the requirement letter.
- (10) A person may be required to successfully complete DMV testing or may have driving privileges suspended based on information contained in the Medical Impairment Recertification form or periodic vision information report submitted under section (9) of this rule.

[ED. NOTE: Forms referenced are available from the agency.]

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340, 807.710 & 809.419 □ Stat. Implemented: ORS 807.340 & 807.710 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 1-2005, f. & cert. ef. 1-20-05; DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-074-0160 [Renumbered to **735-076-0007**]

735-074-0170 [Renumbered to **735-076-0018**]

735-074-0180

When a Suspension or Cancellation of Driving Privilege Occurs

(1) DMV may issue an immediate suspension of driving privileges in the following situations:

- (a) As set forth in OAR 735-074-0140, if DMV has reason to believe from the information provided in a mandatory report submitted under 735-074-0120 that the person may endanger people or property if not immediately suspended;
- (b) The Medical Determination Officer, upon review of medical information on a driver, recommends an immediate suspension;
- (c) Information contained in a required Medical Impairment Recertification form submitted as required under OAR 735-074-0140 indicates that the person has a mental or physical condition that makes it unsafe for the person to operate a motor vehicle and DMV has reason to believe the person may endanger people or property if not immediately suspended; or
- (d) Information contained in a required Certificate of Vision form submitted as required under OAR 735-074-0140 indicates the person's vision does not meet minimum vision standards under OAR 735-062-0050 and DMV has reason to believe the person may endanger people or property if not immediately suspended.

(2) DMV will immediately cancel a person's driving privileges if DMV has reason to believe that the person may endanger people or property if not immediately canceled. If DMV has reason to believe a person is unable to safely operate a motor vehicle and may endanger people or property, DMV may immediately cancel driving privileges pursuant to ORS 807.350 and OAR 735-070-0010, 735-070-0020 and 735-074-0220.

(3) DMV may cancel driving privileges pursuant to ORS 807.350 and OAR 735-070-0010, 735-070-0020 and 735-074-0220 if:

- (a) The person's vision does not meet the minimum vision standards set forth in OAR 735-062-0050;
- (b) DMV determines the person no longer meets the qualifications for a driver license, driver permit or endorsement because of a physical or mental condition or impairment that affects the person's ability to safely operate a motor vehicle upon the highway or a problem condition involving alcohol, inhalants or controlled substances; or
- (c) The person is denied a drive test by DMV or the Medical Determination Officer because of a physical or mental condition or impairment that affects the person's ability to safely operate a motor vehicle upon the highway.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340, 807.350 & 809.419 □ Stat. Implemented: ORS 807.350 & 809.410 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0410; MV 14-1993, f. 10-22-93, cert. ef. 11-4-93; DMV 14-2002, f. 8-14-02 cert. ef. 9-1-02; DMV 24-2002, f. 12-13-02 cert. ef. 1-1-03; DMV

8-2003, f. 5-14-03, cert. ef. 6-1-03; Renumbered from 735-074-0020; DMV 1-2005, f. & cert. ef. 1-20-05; DMV 14-2005, f. & cert. ef. 5-19-05; DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-074-0190

Tests Required

Tests required under these rules may include one or more of the following:

- (1) A knowledge test for the class of license and endorsement(s) held;
- (2) A vision screening;
- (3) A drive test for the class of license held including any endorsement(s); or
- (4) Any other examination or test that DMV determines may be necessary in establishing eligibility or fitness to operate a motor vehicle (e.g., special drive test for basic needs license).

Stat. Auth.: ORS 184.616, ORS 184.619, ORS 807.340, □ Stat. Implemented: ORS 807.070 & ORS 807.340 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-074-0200

Testing Process

- (1) The driver must test in the driver's current license class, unless the driver voluntarily chooses to test for a lower class of license.
- (2) Before DMV may conduct a drive test, the person must successfully complete all other required tests.
- (3) The waiting periods between knowledge or drive tests are listed in OAR 735-062-0040 and 735-062-0070, respectively.
- (4) As set forth in OAR 735-062-0073, DMV may refuse to conduct or continue a drive test if a DMV employee reasonably believes that the person is likely to endanger persons or property while being tested. Further testing may be denied and driving privileges cancelled if DMV determines the person is likely to endanger persons or property during subsequent testing.

Stat. Auth.: ORS 184.616, 184.619, 802.010 & 807.340 □ Stat. Implemented: ORS 807.070 & 807.340 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0210

Restricted Licenses

- (1) DMV may issue a restricted license to a person who passes the required tests when DMV determines a restriction on the license is necessary to insure the safe operation of a motor vehicle by the person. These restrictions may include but are not limited to the following:
 - (a) Daylight driving only;
 - (b) Driving only on a certain, restricted route;
 - (c) Driving only during certain hours of the day; or
 - (d) Driving only with certain vehicle equipment or adaptive devices.
- (2) A person whose driving privileges or right to apply for driving privileges are suspended under division 74 rules, who is otherwise eligible for driving privileges, may obtain a 60-day restricted license for the express purpose of taking driving lessons, if DMV determines that with driving lessons the person may learn to safely operate a motor vehicle. The person must provide sufficient information to show that there is a reasonable likelihood that driving lessons will improve the person's ability to safely operate a motor vehicle. Such information may include, but is not limited to, medical information, information from a rehabilitation specialist that the person may benefit from lessons to learn to use an adaptive device or technique or an affidavit from a person with information showing that with driving lessons the applicant is likely to learn to safely operate a motor vehicle. The suspension will be rescinded for the 60-day period the restricted license is valid. Driving lessons must be provided by a commercial driving instructor, a rehabilitation specialist or other licensed driver approved by DMV as an instructor. The restricted license will only allow the person to drive with an instructor during instruction. No other driving, under any circumstances, will be allowed by the restricted license. The person must pass a DMV vision screening or submit a Certificate of Vision showing that the person's vision does meet DMV standards and pass a DMV knowledge test before DMV will issue a restricted license to take lessons. To be eligible for a DMV drive test, the person must provide a report from the driving instructor that the person has demonstrated the physical, mental and social driving skills necessary to safely operate a motor vehicle. A restricted license issued under this section shall include a notification that at the end of the 60-day period the suspension will be reinstated without further notice if the person has not successfully passed a driving test given by a DMV employee.
- (3) If, at the end of the 60-day restricted license period under section (2) of this rule, the person has not successfully completed a driving test given by a DMV employee, DMV will reinstate the suspension of the person's driving privileges and right to apply for driving privileges. When a suspension is reinstated under this section, DMV is not required to provide the person with further notice or an opportunity for a contested case hearing.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.120 □ Stat. Implemented: ORS 807.120

□ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0212

Restricted Applicant Temporary Permit

- (1) If a person's driving privileges are cancelled under the At-Risk Program, and the driver is denied further testing under OAR 735-062-0073, the person may apply for a 60-day restricted applicant temporary permit for the express purpose of taking driving lessons if DMV determines that with driving lessons the person may learn to safely operate a motor vehicle.
- (2) The applicant for a permit must provide sufficient information to show that there is a reasonable likelihood that driving lessons will improve the person's ability to safely operate a motor vehicle. Such information may include, but is not limited to:
 - (a) Medical information;
 - (b) Information from a rehabilitation specialist that the person may benefit from lessons to learn to use an adaptive device or technique; or
 - (c) An affidavit from a person(s) with information to show that with driving lessons the applicant is likely to learn to safely operate a motor vehicle.
- (3) Driving lessons must be provided by a certified commercial driving instructor, rehabilitation specialist or other licensed driver approved by DMV as an instructor.
- (4) The permit restriction only allows the person to drive with an instructor during driving lessons and at no other time.
- (5) To be eligible for a restricted permit the person must:
 - (a) Apply for driving privileges;
 - (b) Pass a DMV vision screening or submit a Certificate of Vision showing that the person's vision meets DMV standards; and
 - (c) Pass a DMV knowledge test.
- (6) To be eligible for a DMV drive test, the person must provide a report from the driving instructor that the person has demonstrated the physical, mental and social driving skills necessary to safely operate a motor vehicle.
- (7) A restricted permit issued under this rule will include a notification that at the end of the 60-day period the permit expires and the person no longer has driving privileges until he or she has successfully passed a DMV driving test and is eligible for driving privileges.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.120, 807.310, 807.340 □ Stats. Implemented:
ORS 807.120, 807.310, 807.340 □ Hist.: DMV 6-2006, f. & cert. ef. 5-25-06

735-074-0220

Hearing Request for Suspension or Cancellation of Driving Privileges Under Division 74 and Division 76 Rules

A person issued a notice of suspension or cancellation under these rules has the right to request a contested case hearing. The following apply to a hearing request:

- (1) Except as provided in section (2) of this rule, a person issued a notice of suspension or cancellation under these rules must request a hearing within 20 days from the date on the notice. Except as provided in section (2) of this rule, the suspension or cancellation will not go into effect pending the outcome of the hearing.
- (2) A person issued a notice of an immediate suspension or an immediate cancellation must request a hearing within 90 days from the date on the notice. The suspension or cancellation will remain in effect and will not be rescinded or stayed by DMV pending the outcome of the hearing.
- (3) A hearing request must be in writing and must include:
 - (a) The person's full name;
 - (b) The person's complete mailing address;
 - (c) The person's Oregon driver license number; and
 - (d) A brief statement of the issues the person proposes to raise at the hearing.
- (4) A hearing request should also include:
 - (a) The person's date of birth;
 - (b) The telephone number where the person can be reached between 8 a.m. and 5 p.m.; and
 - (c) The dates and times the person or the person's attorney cannot appear at a hearing.
- (5) The administrative law judge must give DMV sufficient opportunity to obtain and present in the contested case hearing any testimony or documents deemed necessary by the agency to respond to evidence offered by the person on any factual or legal defense.
- (6) In order for a request for hearing to be timely, the request must be postmarked or received by DMV within the time periods established in sections (1) and (2) of this rule. If the request for hearing is not timely received, the person waives his or her right to a hearing, except as provided in OAR 137-003-0528. The time periods will be computed as set forth in OAR 137-003-0520(8).
- (7) To be received by DMV, the hearing request must be:
 - (a) Personally delivered to DMV Headquarters, 1905 Lana Avenue NE, Salem, OR;
 - (b) Delivered by mail to DMV Headquarters, 1905 Lana Avenue NE, Salem OR 97314; or
 - (c) Received by facsimile machine at FAX number (503) 945-5521.

Stat. Auth.: ORS 184.616, 184.619, 809.440 □ Stat. Implemented: ORS 809.440 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 23-2004, f. & cert. ef. 11-17-04

OAR 735-076 Non-Mandatory Reporting

735-076-0000

Policy, Objective and Purpose of the At-Risk Program -- Non-Mandatory Reporting

- (1) It is the policy of DMV to promote safety for all persons who travel or otherwise use the public highways of this state.
- (2) The underlying policy of the Department's rules on at-risk drivers is to preserve the independence, dignity, and self-esteem that result from providing one's own mobility, so long as it is possible to do so without risk to oneself or to others.
- (3) It is therefore an objective of these rules to establish a program for the non-mandatory reporting to DMV of those drivers who have a mental or physical condition or impairment that may affect driving ability, or drivers who have demonstrated unsafe or dangerous driving behaviors.
- (4) DMV may receive information that indicates a person may no longer be qualified to hold a driver license, driver permit or endorsement or may no longer be able to drive safely. This information may come from many sources, including a physician or health care provider, a family member, friend or neighbor, a report from a police officer or a court, a DMV representative or a self-report on a driver license issuance, renewal or replacement application. Some of these reports may describe a possible mental or physical condition or impairment, a vision problem, or a possible problem condition involving alcohol, inhalants or controlled substances that indicates the person is no longer qualified to hold a driver license, driver permit or endorsement. Other reports may only describe unsafe or dangerous driving behavior that indicates the person is not able to drive safely. These rules provide procedures for the review of non-mandatory reports, the obtaining of required information necessary to determine if a driver remains qualified for driving privileges and the taking of necessary action when a determination is made that the driver is no longer qualified for driving privileges.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stats. Implemented: ORS 807.340 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0440; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-076-0002

Definitions

- (1) "DMV" means the Driver and Motor Vehicle Services Division of the Oregon Department of Transportation.
- (2) "Health care provider" is a person licensed, certified or otherwise authorized or permitted by law to administer health care in the State of Oregon. For purposes of these rules, the term health care provider is limited to: a chiropractic physician, nurse practitioner, occupational therapist, physical therapist, optometrist, physician assistant and podiatric physician or surgeon.
- (3) "Immediate suspension" means the suspension of driving privileges or the right to apply for driving privileges before the person is given an opportunity for a hearing to contest the suspension.
- (4) "Medical Determination Officer" is a physician, nurse practitioner or physician assistant, licensed to provide health care services by the State of Oregon, and employed or designated by DMV to make medical determinations of a driver's medical eligibility for driving privileges.
- (5) A "medical report form" is the form provided to a person or designated by DMV to be used to obtain medical information for determining if the person is eligible or qualified for driving privileges.
- (6) "Non-mandatory reporting or a non-mandatory report" is a voluntary report to DMV of either a medical condition or impairment that may affect a driver's ability to safely operate a motor vehicle, or a report of actual driving behavior that may indicate the person is no longer able to safely operate a motor vehicle. A non-mandatory report does not include a report that must be filed by a physician or health care provider as required under OAR chapter 735, division 74 of a severe and uncontrollable impairment that affects a person's ability to safely operate a motor vehicle.
- (7) A "physician" is a medical doctor or doctor of osteopathic medicine licensed to practice medicine in the State of Oregon by the Board of Medical Examiners, or a doctor of naturopathic medicine licensed to practice naturopathic medicine in the State of Oregon by the Board of Naturopathic Examiners.
- (8) "Problem condition involving alcohol, inhalants or controlled substances" has the meaning set forth in ORS 813.040.
- (9) "Recertification" or "recertify" is the process for requiring the person to reestablish eligibility for driving privileges at periodic intervals by submitting a medical report form, or by submitting a Certificate of Vision form (DMV form 24) or passing a DMV vision screening. The process may also include DMV tests, receiving a determination of eligibility from the Medical Determination Officer, or both, if determined necessary by DMV.
- (10) "Tests" are examinations under ORS 807.070 that establish a person's eligibility for driving privileges. Tests include a DMV vision screening, a knowledge test and a drive test.
- (11) "Unsafe or dangerous driving behavior" means a driver is unable to perform basic driving

tasks in a safe and competent manner. Examples include, but are not limited to, the following:

- (a) The driver is prevented from causing an accident by an evasive maneuver by another driver(s);
- (b) The driver impedes traffic or fails to yield the right of way, such as: driving too slowly; driving in more than one lane of traffic; turning from the wrong lane; or turning into the wrong lane; and
- (c) Failure to obey or difficulty obeying a traffic control device, such as: running a red light or stop sign; stopping beyond the designated stop line at a traffic light or stop sign; failing to stop for a pedestrian in a marked crosswalk; or driving the wrong way on a one-way street.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stats. Implemented: ORS 807.340 □ Hist.: DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-076-0005

Reporting Requirements

- (1) In order for DMV to process a non-mandatory report that indicates a person may no longer be qualified for driving privileges or may no longer be able to safely operate a motor vehicle, it must be in writing and contain:
 - (a) The name of the person making the report, including a signature;
 - (b) The name and date of birth of the person being reported or a description of the person sufficient for DMV to identify the reported person from its records; and
 - (c) Sufficient information to give DMV reason to believe the person may no longer be qualified to hold a driver license, driver permit, or endorsement or may no longer be able to drive safely. For purposes of this rule, sufficient information includes but is not limited to:
 - (A) A physician or health care provider report of a physical or mental condition or impairment that is not reportable as required under OAR chapter 735 division 74 and includes a description of how the person's ability to drive safely may be affected;
 - (B) A report of a physical or mental condition or impairment, and a description of how the person's ability to safely operate a motor vehicle is affected; or a description of unsafe or dangerous driving behavior;
 - (C) A report by a police officer, physician or health care provider where a physical or mental condition or impairment is stated as a cause or possible cause of a crash or unsafe or dangerous driving behavior;
 - (D) A self-report on a driver's license/permit issuance, renewal or replacement application of a vision problem affecting driving and failure to pass a DMV administered vision screening;

- (E) A self-report on a driver's license/permit issuance, renewal or replacement application of a mental or physical condition or impairment affecting the person's ability to drive safely;
 - (F) A self-report on a driver's license/permit issuance, renewal or replacement application of a problem condition involving alcohol, inhalants or controlled substances affecting the person's ability to drive safely; or
 - (G) A report of unsafe or dangerous driving behavior and DMV has reason to believe the driving behavior is likely to recur or similar driving behavior has previously been reported to DMV.
- (2) All written documentation voluntarily submitted under this rule, including the name of the person submitting the documentation, will be kept confidential and not released to any person unless:
- (a) The report was submitted by a police officer or judge acting within the scope of his or her official duties;
 - (b) DMV determines the documentation, or any portion thereof, must be released pursuant to the Public Records Law, ORS 192.410 to 192.505, or the Attorney General or a court orders disclosure in accordance with the Public Records Law; or
 - (c) The documentation is determined by DMV to be necessary evidence in an administrative proceeding involving the suspension or cancellation of the person's driving privileges or right to apply for driving privileges.
- (3) Before taking action, DMV may request more information from the person making the report if DMV has reason to believe the information provided is inaccurate or inadequate.

Stat. Auth: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □Stat. Implemented: ORS 807.340 □Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06; DMV 6-2008(Temp), f. & cert. ef. 2-22-08 thru 8-19-08; DMV 11-2008, f. & cert. ef. 5-19-08

735-076-0007

DMV Response to Non-Mandatory Report

DMV will review a non-mandatory report meeting the requirements under OAR 735-076-0005 to determine the appropriate action to take, which may include any or all of the following:

- (1) No action if the report does not give DMV reason to believe the person being reported is no longer qualified to hold a driver license, driver permit, or endorsement or is no longer able to drive safely. This includes a report from a physician or health care provider indicating the condition or impairment is not likely to recur or does not affect the person's ability to drive safely, or a report of driving behavior that reports a single incident with no indication of a mental or physical condition or impairment affecting the person's ability to safely drive.
- (2) The person may be required to reestablish eligibility by taking a test under ORS 807.070 when the report is one or more of the following:

- (a) A report of a mental or physical condition or impairment that may affect the person's ability to safely operate a motor vehicle, not including a loss of consciousness or control or a problem condition involving alcohol, inhalants or controlled substances.
 - (b) A report of unsafe or dangerous driving behavior only.
- (3) The person will be required to provide a medical report form or Certificate of Vision form when the report is of the following:
- (a) The person's vision may not meet the vision standards set forth in OAR 735-060-0050;
 - (b) A self-report on a license/permit issuance, renewal or replacement application of a mental or physical condition or impairment that affects the person's ability to drive safely; and the condition or impairment is one that causes the loss of consciousness or control;
 - (c) A self-report on a license/permit issuance, renewal or replacement application of a problem condition involving alcohol, inhalants or controlled substances that affects the person's ability to drive safely; or
 - (d) A report of a condition or impairment that involves the loss of consciousness or control, or a possible problem condition involving alcohol, inhalants or controlled substances, and DMV has reason to believe from the report that the person may no longer be qualified for driving privileges or may no longer be able to safely operate a motor vehicle.
- (4) The person may be required to receive a determination of eligibility from the Medical Determination Officer under ORS 807.090 when the report indicates one or more of the following:
- (a) A loss of consciousness or control is a cause or possible cause of a crash or of unsafe or dangerous driving behavior.
 - (b) Evidence of continued episodes of loss of consciousness or control despite current treatment.
 - (c) Evidence of a problem condition involving alcohol, inhalants or controlled substances.
- (5) An immediate suspension of the person's driving privileges under ORS 809.419(3)(c), when the report provides DMV reason to believe that the person may endanger people or property if not immediately suspended. To regain driving privileges the person will be required to reestablish eligibility for driving privileges which may include taking tests under ORS 807.070, submitting a medical report form or Certificate of Vision, or receiving a determination of eligibility from the Medical Determination Officer under ORS 807.090.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stat. Implemented: ORS 807.340 □ Hist.: DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 14-2005, f. & cert. ef. 5-19-05; Renumbered from 735-074-0160, DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-076-0010

The Testing Process

- (1) If DMV determines a person must reestablish eligibility by taking tests as described in OAR 735-076-0007(2), DMV will send a requirement letter to the driver requiring the driver to reestablish the person's eligibility by successfully completing tests.
- (2) The driver must successfully complete the tests within 60 days of the date of the requirement letter. DMV may grant an extension, not to exceed 120 additional days, if:
 - (a) The person is seriously ill or injured and a physician requests an extension in writing; or
 - (b) The person is temporarily out of state and a written request is received from the person.
- (3) The driver must test in the driver's current license class, unless the driver voluntarily chooses to test for a lower class of license.
- (4) Before DMV will conduct a drive test, the person must successfully complete all other required tests.
- (5) If the person is unable to pass the DMV vision screening, DMV will require the person to have a vision specialist complete a Certificate of Vision form. DMV will only provide a knowledge or drive test if the completed Certificate of Vision form indicates that the person's vision meets DMV's standards as set forth in OAR 735-062-0050.
- (6) The waiting periods between knowledge or drive tests are listed in OAR 735-062-0040 and 735-062-0070, respectively.
- (7) As set forth in OAR 735-062-0073, DMV may refuse to continue a drive test if a DMV employee reasonably believes that the person is likely to endanger persons or property while being tested, and further testing may be denied and driving privileges cancelled if DMV determines the person is likely to endanger persons or property during subsequent testing.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340, 809.419 □ Stats. Implemented: ORS 807.070, 807.340 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0450; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-076-0015

The Process When a Medical Report Form or Certificate of Vision is Required

- (1) When DMV determines medical information or a Certificate of Vision form is necessary to determine the person's continuing eligibility for driving privilege, as described in OAR 735-076-0007(3), DMV will send a letter to the driver requiring the driver to submit the completed medical report form or Certificate of Vision form provided by DMV. The medical report form must be completed by the driver and by the driver's physician, nurse practitioner or physician assistant. The Certificate of Vision must be completed by the driver's vision specialist.

- (2) The driver must submit the completed medical report form or Certificate of Vision form within 30 days of the date of the requirement letter. DMV may grant an extension, not to exceed 120 additional days, if:
 - (a) The person is seriously ill or injured and a physician requests an extension in writing;
 - (b) The person is temporarily out of state and a written request is received from the person;
or
 - (c) The person can show that an appointment was requested in a timely manner, but the earliest appointment available exceeded the 30 days.
- (3) Sections (1) and (2) of this rule apply when the person must provide a medical report form or Certificate of Vision form to recertify eligibility for driving privileges.

Stat. Auth: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stat. Implemented: ORS 807.340 □ Hist.: DMV 6-2006, f. & cert. ef. 5-25-06

735-076-0018

The Process when a Determination of Eligibility from the Medical Determination Officer is Required

- (1) When DMV determines that the Medical Determination Officer must determine a person's continuing eligibility for driving privileges, as described in OAR 735-076-0007(4), DMV will require the person to submit a medical report form or Certificate of Vision form as set forth in OAR 735-076-0015.
- (2) When received, the medical report form or Certificate of Vision form and any other relevant reports or information in DMV's At-Risk Program file will be reviewed by the Medical Determination Officer. The Medical Determination Officer may determine either that the person is medically eligible or medically ineligible for driving privileges. A determination of medical eligibility may include a requirement that the person's motor vehicle be equipped with an appropriate adaptive device(s), such as hand controls.
- (3) A person determined medically eligible for driving privileges may be required to also pass tests as set forth in OAR 735-076-0010, if DMV has reason to believe that notwithstanding the determination of medical eligibility, the person may not be able to safely operate a motor vehicle. The person will also be required to pass a driving test if the Medical Determination Officer requires that the person's motor vehicle be equipped with an appropriate adaptive device(s), such as hand controls, and before a driving test is given, the person must provide documentation that he or she knows how to use and has practiced with the adaptive device(s).
- (4) A person who is determined to be medically ineligible for driving privileges must complete the requirements set forth by the Medical Determination Officer, if any, before any subsequent review of medical eligibility can occur. DMV and the Medical Determination Officer will consider newly submitted medical information, at any time, if the reported condition has been resolved and is not likely to recur or if it has been determined that the

condition does not affect the person's ability to safely operate a motor vehicle.

Stat. Auth: ORS 184.616, ORS 184.619, 802.010, 807.340 & 809.419 □ Stat. Implemented: ORS 807.090 and 807.340 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0405; MV 37-1989, f. & cert. ef. 10-3-89; MV 14-1993, f. 10-22-93, cert. ef. 11-4-93; DMV 14-2002, f. 8-14-02 cert. ef. 9-1-02; DMV 24-2002, f. 12-13-02 cert. ef. 1-1-03; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; Renumbered from 735-074-0010; DMV 1-2005, f. & cert. ef. 1-20-05; DMV 14-2005, f. & cert. ef. 5-19-05; DMV 14-2005, f. & cert. ef. 5-19-05; Renumbered from 735-074-0170, DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-076-0020

Suspension or Cancellation of Driving Privileges

- (1) DMV may issue an immediate suspension of driving privileges in the following situations:
 - (a) If DMV determines from a non-mandatory report that the person has a mental or physical condition that makes it unsafe for the person to operate a motor vehicle upon the highways and DMV has reason to believe the person may endanger people or property if not immediately suspended;
 - (b) If based upon information included in a police accident report or other law enforcement report, DMV has reason to believe that a person may endanger people or property if not immediately suspended due a mental or physical condition that makes it unsafe for the person to operate a motor vehicle upon the highways;
 - (c) The Medical Determination Officer, upon review of medical information on a driver, recommends an immediate suspension;
 - (d) Information contained in a required Medical Impairment Recertification form submitted as required under OAR 735-076-0035 indicates that the person has a mental or physical condition that makes it unsafe for the person to operate a motor vehicle and DMV has reason to believe the person may endanger people or property if not immediately suspended; or
 - (e) Information contained in a required Certificate of Vision form indicates the person's vision does not meet minimum vision standards under OAR 735-062-0050 and DMV has reason to believe the person may endanger people or property if not immediately suspended.
- (2) DMV will suspend driving privileges or the right to apply for driving privileges as follows:
 - (a) Under ORS 809.419(1) if the person fails to successfully complete the required tests within 60 days of the date of the requirement letter, or within the time period granted if an extension is granted under OAR 735-076-0010(2);
 - (b) Under ORS 809.419(2), for failure to obtain a medical clearance, if the medical report form is not completed by the person and the person's physician, nurse practitioner, or physician assistant, submitted to and received by DMV within 30 days of the date on the

- letter sent from DMV, unless DMV has granted an extension under OAR 735-076-0015;
- (c) Under ORS 809.419(2), for failure to obtain a medical clearance, if the person fails to submit a Medical Impairment Recertification form as required under OAR 735-076-0035, unless an extension is granted by DMV;
 - (d) Under ORS 809.419(2), for failure to obtain a medical clearance, if the person fails to submit a Certificate of Vision form when the person is required to obtain a periodic vision exam under OAR 735-076-0035, unless an extension is granted by DMV;
 - (e) Under ORS 809.419(3), as incompetent to drive because of a mental or physical condition or impairment that makes it unsafe for the person operate a motor vehicle, because the Medical Determination Officer determines that a driver is medically ineligible for driving privileges under ORS 807.090, and the person has valid driving privileges;
 - (f) Under ORS 809.419(3), as incompetent to drive because of a mental or physical condition or impairment that makes it unsafe for the person to operate a motor vehicle, when a person voluntarily surrenders a license to DMV based upon the person's recognition that the person is no longer competent to drive and the person has failed to take or pass required examinations.
- (3) DMV will suspend commercial driving privileges as follows:
- (a) Under ORS 809.419(3) if the Medical Determination Officer has determined that the holder of a Class A, B, or C commercial driver license no longer meets the physical qualifications outlined in 49 CFR | 391.41 through 391.49.
 - (b) Under ORS 809.419(3) if a Waiver of Physical Disqualification allowing intrastate operation is revoked or not renewed; or
 - (c) Under ORS 809.419(3) when DMV is notified by the Federal Motor Carrier Safety Administration that a Skill Performance Evaluation Certificate or exemption has been revoked or not renewed.
- (4) DMV may cancel driving privileges pursuant to ORS 807.350 and OAR 735-070-0010, 735-070-0020 and 735-074-0220 if:
- (a) The person's vision does not meet the minimum vision standards set forth in OAR 735-062-0050; or
 - (b) DMV determines the person no longer meets the qualifications for a driver license, driver permit or endorsement because of a physical or mental condition or impairment that affects the person's ability to safely operate a motor vehicle upon the highway or a problem condition involving alcohol, inhalants or controlled substances.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stats. Implemented: ORS 807.340 & 809.419 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0460; MV 17-1992, f. 12-16-92, cert. ef. 1-1-93; DMV 16-2001, f. & cert. ef. 9-21-01; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-076-0030

Tests Required

Reexamination tests may include one or more of the following:

- (1) A knowledge test for the class of license and endorsement(s) held;
- (2) A vision screening; and
- (3) A drive test for the class of license held including endorsement(s).
- (4) Any other examination or test that DMV determines may be necessary in establishing eligibility or fitness to operate a motor vehicle (e.g., special drive test for a limited route license).

Stat. Auth.: ORS 184.616, 184.619, 807.340 & 809.419 □ Stats. Implemented: ORS 807.340 □
Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0470; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

735-076-0035

Recertification

- (1) If the person retains his or her driving privileges, or regains his or her driving privileges after a suspension, recertification may be required when:
 - (a) The person's reported condition or impairment is progressive or unpredictable;
 - (b) Recommended by the physician or health care provider when completing a medical report form; or
 - (c) Recommended by the Medical Determination Officer.
- (2) The time period for recertification will be based on the recommendation of the Medical Determination Officer or the person's physician, nurse practitioner or physician assistant, or on the recommendation of the person's vision specialist.
- (3) If medical recertification is required, DMV will send the person a Medical Impairment Recertification form which must be completed by his or her physician, nurse practitioner, or physician assistant and returned to DMV.
- (4) If vision recertification is required, DMV will send the person a Certificate of Vision form which must be completed by the person's vision specialist and returned to DMV.
- (5) The person must submit the completed Medical Impairment Recertification form or Vision form within 30 days of the date of the requirement letter. DMV may grant an extension, not to exceed 120 additional days, if:
 - (a) The person is seriously ill or injured and a physician requests an extension in writing;
 - (b) The person is temporarily out of state and a written request is received from the person;or

- (c) The person can show that an appointment was requested in a timely manner, but the earliest appointment available exceeded the 30 days.

Stat. Auth: ORS 184.616, 184.619, 802.010, 807.340 & 809.419 □ Stat. Implemented: ORS 807.340 □ Hist.: DMV 6-2006, f. & cert. ef. 5-25-06; DMV 17-2007, f. 12-24-07, cert. ef. 1-1-08

735-076-0050

Restricted License

- (1) DMV may issue a restricted license to a person who passes the required tests when DMV determines a restriction on the license is necessary to insure the safe operation of a motor vehicle by the person. These restrictions may include but are not limited to the following:
 - (a) Daylight driving only;
 - (b) Driving only on a certain, restricted route;
 - (c) Driving only during certain hours of the day; or
 - (d) Driving only with certain vehicle equipment or adaptive devices.
- (2) A person whose driving privileges or right to apply for driving privileges are suspended under division 76 rules, who is otherwise eligible for driving privileges, may obtain a 60-day restricted license for the express purpose of taking driving lessons, if DMV determines that with driving lessons the person may learn to safely operate a motor vehicle. The person must provide sufficient information to show that there is a reasonable likelihood that driving lessons will improve the person's ability to safely operate a motor vehicle. Such information may include, but is not limited to, medical information, information from a rehabilitation specialist that the person may benefit from lessons to learn to use an adaptive device or technique or an affidavit from a person(s) with information showing that with driving lessons the applicant is likely to learn to safely operate a motor vehicle. The suspension will be rescinded for the 60-day period the restricted license is valid. Driving lessons must be provided by a commercial driving instructor, a rehabilitation specialist or other licensed driver approved by DMV as an instructor. The restricted license will only allow the person to drive with an instructor during instruction. No other driving, under any circumstances, will be allowed by the restricted license. The person must pass a DMV vision screening or submit a Certificate of Vision showing that the person's vision does meet DMV standards and pass a DMV knowledge test before DMV will issue a restricted license to take lessons. To be eligible for a DMV drive test, the person must provide a report from the driving instructor that the person has demonstrated the physical, mental and social driving skills necessary to safely operate a motor vehicle. A restricted license issued under this section shall include a notification that at the end of the 60-day period the suspension will be reinstated without further notice if the person has not successfully passed a driving test given by a DMV employee.
- (3) If, at the end of the 60-day restricted license period under section (2) of this rule, the person has not successfully completed a driving test given by a DMV employee, DMV will reinstate the suspension of the person's driving privileges and right to apply for driving privileges.

When a suspension is reinstated under this section, DMV is not required to provide the person with further notice or an opportunity for a contested case hearing.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.120, 807.340 & 809.419 □ Stats. Implemented: ORS 807.120, 807.340 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-1988, Renumbered from 735-031-0490; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03; DMV 6-2006, f. & cert. ef. 5-25-06

735-076-0052

Restricted Applicant Temporary Permit

- (1) If a person's driving privileges are cancelled under the At-Risk Program, and the driver is denied further testing under OAR 735-062-0073, the person may apply for a 60-day restricted applicant temporary permit for the express purpose of taking driving lessons if DMV determines that with driving lessons the person may learn to safely operate a motor vehicle.
- (2) The applicant for a permit must provide sufficient information to show that there is a reasonable likelihood that driving lessons will improve the person's ability to safely operate a motor vehicle. Such information may include, but is not limited to:
 - (a) Medical information;
 - (b) Information from a rehabilitation specialist that the person may benefit from lessons to learn to use an adaptive device or technique; or
 - (c) An affidavit from a person(s) with information to show that with driving lessons the applicant is likely to learn to safely operate a motor vehicle.
- (3) Driving lessons must be provided by a certified commercial driving instructor, rehabilitation specialist or other licensed driver approved by DMV as an instructor.
- (4) The permit restriction only allows the person to drive with an instructor during driving lessons and at no other time.
- (5) To be eligible for a restricted permit the person must:
 - (a) Apply for driving privileges;
 - (b) Pass a DMV vision screening or submit a Certificate of Vision showing that the person's vision meets DMV standards; and
 - (c) Pass a DMV knowledge test.
- (6) To be eligible for a DMV drive test, the person must provide a report from the driving instructor that the person has demonstrated the physical, mental and social driving skills necessary to safely operate a motor vehicle.
- (7) A restricted permit issued under this rule will include a notification that at the end of the 60-day period the permit expires and the person no longer has driving privileges until he or she has successfully passed a DMV driving test and is eligible for driving privileges.

Stat. Auth.: ORS 184.616, 184.619, 802.010, 807.120, 807.310, 807.340 □ Stats. Implemented:
ORS 807.120, 807.310, 807.340 □ Hist.: DMV 6-2006, f. & cert. ef. 5-25-06

735-076-0060

Hearing Provisions

A person issued a notice of suspension or cancellation under these rules has the right to request a contested case hearing. To request a hearing, the person must submit a hearing request that meets the requirements of OAR 735-074-0220.

Stat. Auth.: ORS 184.616, ORS 184.619, ORS 807.340 & ORS 809.419 □ Stats. Implemented:
ORS 807.340 □ Hist.: MV 19-1987, f. 9-21-87, ef. 9-27-87; Administrative Renumbering 3-
1988, Renumbered from 735-031-0495; DMV 8-2003, f. 5-14-03, cert. ef. 6-1-03

**APPENDIX E:
DMV MANDATORY IMPAIRMENT REFERRAL FORM**



MANDATORY IMPAIRMENT REFERRAL

(OAR CHAPTER 735 DIVISION 74)

For Official Use Only – DMV

Ref#: _____ Action: _____

Date: _____ MV#: _____

THE MEDICAL INFORMATION IN THIS REPORT IS CONFIDENTIAL AND WILL BE USED BY THE DRIVER AND MOTOR VEHICLE SERVICES (DMV) ONLY TO DETERMINE THE QUALIFICATIONS OF THE PERSON TO OPERATE MOTOR VEHICLES.

| | | | | | |
|--------------------------|------------|-------------|------|-----------------------|---------------|
| LAST NAME (PLEASE PRINT) | FIRST NAME | MIDDLE NAME | SEX | ODL / CUSTOMER NUMBER | DATE OF BIRTH |
| RESIDENCE ADDRESS | | | CITY | STATE | ZIP CODE |
| COUNTY | | | | | |

The underlying medical condition or diagnosis is: _____

IMPAIRMENT(S) IS: CHRONIC PROGRESSIVE DATE OF MOST RECENT EXAM: _____

The patient named above is over 14 years of age and has the impairment(s) checked or described below. The impairment(s) is documented as **severe and uncontrollable** and not correctable by medication, therapy and/or surgery, driving device and/or techniques. Submission of this form may result in an immediate suspension of the patient's driving privileges.

Checking one or more of the boxes below indicates that the above referenced patient has one or more severe and uncontrollable functional and/or cognitive impairments listed on the reverse side unless otherwise described below.

FUNCTIONAL IMPAIRMENTS: (Check all that apply.)

| | |
|---|--|
| <input type="checkbox"/> VISUAL ACUITY and/or FIELD OF VISION Patient is unable to meet the state vision standards listed below, even with correction: | <input type="checkbox"/> STRENGTH |
| <ul style="list-style-type: none"> • Acuity must be no worse than 20/70 in the best eye • Horizontal field of vision of 110 degrees or greater (includes temporal and nasal vision of persons with usable vision in only one eye) | <input type="checkbox"/> PERIPHERAL SENSATION |
| | <input type="checkbox"/> FLEXIBILITY |
| | <input type="checkbox"/> MOTOR PLANNING & COORDINATION |
| | <input type="checkbox"/> OTHER (describe): _____ |

COGNITIVE IMPAIRMENTS: (Check all that apply.)

| | | |
|---|---------------------------------------|---|
| <input type="checkbox"/> ATTENTION | <input type="checkbox"/> IMPULSIVITY | <input type="checkbox"/> LOSS OF CONSCIOUSNESS OR CONTROL |
| <input type="checkbox"/> JUDGMENT & PROBLEM SOLVING | <input type="checkbox"/> VISUOSPATIAL | – Date of Last Episode _____ |
| <input type="checkbox"/> REACTION TIME | <input type="checkbox"/> MEMORY | – Medication to prevent recurrence _____ |
| <input type="checkbox"/> PLANNING & SEQUENCING | <input type="checkbox"/> OTHER: _____ | |

Describe how the patient is affected by the impairment(s) checked above. Please provide any information relevant to the patient's ability to safely operate a motor vehicle. Relevant information includes but is not limited to: chart notes; pertinent test results; prescription or OTC medications that may interfere with safe driving behaviors; problem drug, alcohol, or inhalant use; or other factors that may contribute to the impairment.

Are you the patient's primary care provider (PCP)? YES NO*
* If "NO," does the patient have a PCP? YES NO

| | | |
|--|-----------|--------------------------|
| HEALTH CARE PROVIDER'S NAME (PLEASE PRINT) | SPECIALTY | LICENSE or CERTIFICATE # |
| MAILING ADDRESS | FAX # | TELEPHONE # |
| CITY | STATE | ZIP CODE |
| SIGNATURE OF HEALTH CARE PROVIDER | | DATE SIGNED |

735-7230 (1-08)

FAX or Mail Instructions on Reverse of form

STK# 300457

INSTRUCTIONS TO HEALTH CARE PROVIDER

1. Please complete the first page with your findings and recommendations. Attach any additional information, including test results and chart notes, that will assist DMV in determining a patient's ability to safely operate a motor vehicle.
2. **FAX** or *mail* medical information and completed forms on the patient to:

DMV - DRIVER SAFETY UNIT
1905 LANA AVE NE
SALEM, OR 97314-4120

Phone: (503) 945-5083
TTY: (503) 945-5001
FAX: (503) 945-5329

Submission of this Mandatory Impairment Referral form is in compliance with HIPAA regulations for the release of medical information.

IMPAIRMENT DEFINITIONS

The definitions listed below are to be used by physicians and health care providers as an aid to correctly identify the impairment listed on the front of this form. The definitions apply to those impairments that are documented as severe and uncontrollable, **and** not correctable by medication, therapy and/or surgery, **and** not correctable by driving device and/or technique.

PERIPHERAL SENSATION OF EXTREMITIES (Including but not limited to):

- Tingling and numbness and loss of position sense in extremities affecting the ability to feel, grasp, manipulate or release objects or use foot controls effectively.

STRENGTH (Including but not limited to):

- The inability to consistently maintain a firm grip on objects.
- The inability to apply consistent pressure to objects with legs and feet.
- Weakness or paralysis of muscles affecting the ability to maintain sitting balance.
- Weakness or paralysis in extremities affecting the ability to feel, grasp, manipulate or release objects or use foot controls effectively.

FLEXIBILITY (Including but not limited to):

- Rigidity and/or limited range of mobility in neck, torso, arms, legs or joints.

MOTOR PLANNING AND COORDINATION (Including but not limited to):

- Difficulty and slowness in initiating movement.
- Vertigo, dizziness, loss of balance or other motor planning conditions.
- Involuntary muscle movements.
- Loss of muscle control.

ATTENTION (Including but not limited to):

- Decreased awareness.
- Reduction in ability to efficiently switch attention between multiple objects.
- Reduced processing speed.

JUDGMENT AND PROBLEM SOLVING (Including but not limited to):

- Reduced processing speed.
- An inability to understand a cause and effect relationship.
- A deficit in decision-making ability.

REACTION TIME (Including but not limited to):

- A delayed reaction time.

PLANNING AND SEQUENCING (Including but not limited to):

- A deficit in the ability to anticipate and/or react to changes in the environment.
- Problems with sequencing activities.

IMPULSIVITY (including but not limited to):

- Lack of emotional control.
- Lack of decision-making skills.

VISUOSPATIAL (Including but not limited to):

- Problems determining spatial relationships.

MEMORY (Including but not limited to):

- Problems with confusion and/or memory loss.
- A decreased working memory capacity.

LOSS OF CONSCIOUSNESS OR CONTROL