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**Volume 1:
A Case Study of Guidelines and
Processes in Seven U.S. States**

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16. Abstract <p>This report is the first of three examining driver medical review practices in the United States and how they fulfilled the basic functions of identifying, assessing, and rendering licensing decisions on medically at-risk drivers. The aim was not to identify an optimal medical review method, but rather to document strengths and weaknesses of a variety of approaches. This report presents the methods used to group the diverse medical review practices across the 51 driver licensing agencies into four broad medical review structures, describes selection of States for case study, and identifies strengths and weaknesses associated with each of the four medical review structures.</p> <p>The classification scheme was based on (1) whether a State had a Medical Advisory Board (MAB); and (2) whether in-house medical professionals performed case review. The seven States for case study were: Maine and North Carolina (States with MABs and medical professionals on the licensing agency case review staffs [<i>MAB & MP</i>]); Texas and Wisconsin (States with MABs and where administrative staff perform case reviews [<i>MAB & Admin</i>]); Ohio and Washington (States with no MABs and where administrative staffs perform case reviews [<i>Admin Only</i>]); and Oregon (no MAB but with medical professionals on the licensing agency case review staff [<i>MP Only</i>]). We contacted each case study State and followed up with telephone interviews and e-mail queries where more information was needed.</p> <p>Although programs within targeted medical review structures varied considerably, each allowed the State to determine whether a driver flagged as potentially medically unfit posed an unacceptable crash risk. Preliminary data from the case study States suggests that having an MAB, and/or having medical professionals on the case review staff, may convey some advantages to the driver medical review process with respect to identifying at-risk drivers, and the assessment of referred drivers. The four case study States with MABs and the <i>MP Only</i> State had more comprehensive medical guidelines in place, and were the only States among those in the case study that provided legal immunity to physicians who voluntarily reported an at-risk driver. Both measures may encourage physician referrals. The two <i>Admin Only</i> States relied heavily on the opinion of the driver's physician regarding fitness to drive, as well as testing carried out at local licensing offices. In contrast, States with MABs were more likely to base licensing decisions on whether medical standards were met. Practices in the <i>MP Only</i> State were a hybrid of the two. States with MABs and/or medical professionals on their staffs also generally had a broader range of licensing options available. However, appeals were lowest in the two <i>Admin Only</i> States. Finally, having medical professionals on staff, or having paid MABs perform reviews, was <u>not</u> always associated with a higher overall cost per case, although the lowest cost was found for one of the <i>Admin Only</i> States.</p> <p>Volume 2 describes the findings of data collected prospectively, by following 500 people in each case study State through their medical review process and Volume 3 describes the medical review guidelines and practices in each State and the District of Columbia.</p>					
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- North Carolina DMV – Ericka Amerson, medical review unit assistant manager;
- Ohio BMV – Joyce Blanton, customer service manager;
- Oregon DMV – Lisa Wallig, medical programs coordinator;
- Texas DPS – Amanda Edwards, program supervisor, Enforcement and Compliance Service;
- Washington DOL – Judy Groezinger, driver records administrator; and
- Wisconsin DMV – Steve Pazynski, medical review supervisor, and Matt Brielle, medical review unit lead.

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- Washington DOL – Teresa Berntsen, director, Washington State Department of Licensing; and
- Wisconsin DMV – Lynne Judd, administrator, Wisconsin Division of Motor Vehicles and Alison Lebwohl, DMV Qualifications and Issuance chief.

Executive Summary

The purpose of this research project was to examine driver medical review practices in the United States. This report is the first of three documenting study findings. It presents the methods used to group medical review practices across the 51 driver licensing agencies into four broad medical review structures, describes how we selected seven States for case study, and identifies strengths and weaknesses associated with each of the four medical review structures. The aim was not to identify an optimal medical review method, but rather to document strengths and weaknesses of a variety of approaches. Volume 2 describes the findings of data collected prospectively, by following 500 people in each case study State through their medical review process to examine in more detail the relationship between medical referrals and licensing outcomes in each of the medical review structures. Volume 3, describes the medical review guidelines and practices in each State and the District of Columbia in narrative format, with appendix tables comparing and contrasting practices across the 51 licensing agencies in the U.S.

Given the diversity of program structures and procedures across the 51 driver licensing agencies, the research team defined a set of key attributes to classify States based on four basic medical review program types. They developed a database of over 40 candidate descriptive variables, drawing from recent information gathered by the AAA Foundation for Traffic Safety and AAA National (Stutts & Wilkins, 2009, 2011) and an earlier NHTSA project report (Lococo, 2003). After evaluating these candidate variables, researchers decided to base the classification scheme on the structural aspects of a State's medical review program, focusing on just two key variables:

- whether a State had a Medical Advisory Board (MAB) or other formal liaison with a State Health Department that functioned as such; and
- whether there were in-house medical professionals who performed case review.

The resulting classification included four groups:

- MAB & Medical Professionals on Licensing Agency Case Review Staff (*MAB & MP*) – 6 States;
- MAB & Administrative Staff Performed Case Reviews (*MAB & Admin*) – 30 States;
- No MAB & Administrative Staff Performed Case Reviews (*Admin Only*) – 13 States and the District of Columbia; and
- No MAB & Medical Professionals on Licensing Agency Case Review Staff (*MP Only*) – 1 State.

An initial pool of four to five candidate case study States in each of the first three groups was based on the general representativeness of their programs with respect to the other States in their group, and adequate caseloads to support the case study data collection activities (described in Volume 2). A researcher contacted a motor vehicle administrator in each of the 15 States to determine their willingness to participate in the study and the ability of their Medical Review Departments to provide the required data for the planned case study data collection. The following seven States were selected to participate:

- *MAB & MP* – Maine and North Carolina;
- *MAB & Admin* – Texas and Wisconsin;
- *Admin Only* – Ohio and Washington; and
- *MP Only* – Oregon.

An employee in the medical review department in each case study State responded to questions that provided detailed information about the structure and operation of their driver medical review program. This report summarizes these results and provides an initial basis for identifying potential strengths and weaknesses associated with each medical review structure.

The study examined a range of topic areas and made comparisons both across and within the four medical review structures. These topics included:

- medical review caseload;
- composition and characteristics of the MAB and licensing agency case review staff;
- specific activities of the MAB;
- employment status of MAB physicians and number and types of cases reviewed;
- strength of medical guidelines and practices for collecting medical information;
- whether non-medical case review staff made licensing decisions;
- sources for medical referrals;
- whether an accumulation of citations and/or multiple crashes within a specified timeframe triggered medical review;
- whether the licensing agency provided outreach to physicians about how to refer drivers for medical review;
- whether physicians who reported their patients to the license agency for reexamination were provided with legal immunity;
- whether referral sources were investigated to determine whether good cause existed for referring a driver, to rule out malicious reporting;
- whether triage practices existed to prioritize and process cases more quickly when they involved drivers particularly at high crash risk due to their medical or functional impairment;
- the depth of medical information collected as part of driver reexamination;
- the type of information factoring into licensing decisions;
- characteristics of road tests given as part of driver reexamination;
- circumstances under which licensure could be removed during medical review;
- potential licensing outcomes for referred drivers; and
- estimated time and costs to process medical referrals.

Practices differed depending on whether a State had an MAB and whether it had medical professionals on its in-house case review staff. However, considerable differences *within* each Group, coupled with the case study approach used in this investigation, limit the conclusions that can be drawn about the relative strengths and limitations of the four medical review structure types. Although programs within targeted medical review structures varied considerably, each allowed the State to determine whether a driver flagged as potentially medically unfit posed an unacceptable crash risk.

Preliminary data from these seven case study States suggest that having an MAB, and/or having medical professionals on the case review staff, may convey some advantages to the driver medical review process. With respect to **identifying at-risk drivers**, the four case study States with MABs and our *MP Only* State had more comprehensive medical guidelines in place, and were the only States among those in the case study that provided legal immunity to physicians who voluntarily reported an at-risk driver. Both measures could encourage physician referrals. Our *MP Only* State had a mandatory physician reporting law; in this State, physicians accounted for the highest proportion of driver referrals (59%) of the seven case study States. As this report was being developed, licensing agency educational outreach efforts were made to physicians in Maine (an MAB State) and Oregon (*MP Only*), and to license agency personnel in Washington (a non-MAB State) and Oregon.

With respect to **assessment of referred drivers**, our two States without MABs or medical professionals on staff relied heavily on the opinion of the driver's physician regarding fitness to drive, as well as testing carried out at local licensing offices. In contrast, States with MABs (both with and without physicians on staff) were more likely to base decisions on whether medical standards were met. Practices in our *MP Only* State were a hybrid of the *MAB* and the *Admin Only* groups, depending on whether a referral was a mandatory physician referral (resulting in an immediate suspension based on the treating physician's opinion) or a voluntary referral (where testing and *possibly* the treating physician's opinion would be used to assess driver fitness).

States with MABs and/or medical professionals on their review staffs generally had a broader range of **licensing outcomes** available to drivers undergoing review. However, appeals were lowest in the two States without MABs or medical professionals on staff. Finally, having medical professionals on staff, or having paid MABs perform reviews, was not always associated with higher overall **costs per case**, although the lowest cost was represented by one of the *Admin Only* States.

Most importantly, the results of this effort demonstrate that there are many approaches State driver medical review programs can take to fulfill their responsibilities to identify, assess, and render licensing decisions on medically at-risk drivers. A more in-depth examination of the medical review process and licensing outcomes for a sample of 500 drivers who underwent medical review in each case study State in 2012 is presented in Volume 2 of this report.

Introduction

As our population ages, medical conditions and associated impairments affecting driving abilities will become more prevalent. The private automobile remains by far the most often used and most preferred means of meeting mobility needs among older adults. Along with the increase in the number of older drivers, an increase in the driving exposure of older adults is likely (Lynott, et al., 2009). At the same time, older people are more likely to be seriously injured or killed in a crash that would be survived by young and middle-aged drivers, due to increased physical frailty (Kent & Henary, 2005). For these reasons, driver medical review is almost certain to assume a more prominent role in State driver licensing activities in the near future.

Society benefits from effective guidelines and practices that identify and evaluate persons whose driving abilities may be compromised by declines in visual, cognitive, or physical function. Drivers of any age, whose competency is in question, may be reported or referred to their State driver licensing agency by a number of sources outside of the agency (e.g., family members, physicians, and law enforcement). These drivers may also be identified by driver licensing personnel based on drivers' interactions during license renewal. Similarities and differences in driver medical review practices across the United States were highlighted in *Strategies for Medical Advisory Boards and Licensing Review* (Lococo & Staplin, 2005). The purpose of the present study was to document strengths and limitations of the different approaches developed by the States to evaluate medical fitness to drive. In particular, we were interested in the methods States used to identify those most at risk due to medical and age-related impairing conditions, subsequent licensing actions, and the effects of these actions on individuals' licenses.

Project objectives were to identify attributes of States' medical review processes that permitted their classification into three or more broad structures, and to describe strengths and limitations of each structure. The classification drew upon the results of previous studies sponsored by NHTSA, AAA Foundation for Traffic Safety, and others, supplemented by limited ad hoc contacts with States as necessary, to characterize the driver medical review process in all U.S. jurisdictions. We identified a set of key attributes to classify States in terms of four basic review structures. For each basic structure (with the exception of the structure with only one State), we selected two case study States for a more detailed examination and documentation of their medical review process. Based on this information, we identified potential strengths and limitations of each medical review structure.

In addition, as described in Volume 2, this project collected and analyzed data for a systematic random sample of 500 drivers referred for initial medical review in a one-year period in each case study State. The analyses tracked each driver throughout the medical review process, and documented the referral source (where available), the departmental actions applied, and the licensing outcomes for every individual referral and referral source sampled.

Methods

Classifying States' Medical Review Practices Into Four Structures

To enable our categorization of the States we used general information about States' medical review processes from an earlier comprehensive NHTSA report that included a detailed description of the medical review structure and process of each State (Lococo, 2003), and two subsequent reports that updated the NHTSA report (Stutts & Wilkins, 2009; 2011). The project team also accessed State web sites and driver manuals to update information about license renewal lengths and cycles, and any differences in requirements for older drivers.

We coded the medical review process for each State using the following data elements to describe medical review structures and processes that might set States apart from one another:

- presence of an MAB;
- the major functions of the MAB, e.g., whether it advised on medical criteria for licensing and whether it actively reviewed individual cases;
- whether the medical review staff were medical professionals or administrative staff, and whether these staff were dedicated to medical review or had other administrative duties;
- whether the medical criteria for licensing went beyond vision, and if so, how far (e.g., standards for vision only; standards for vision and loss of consciousness [LOC] only; standards for vision, LOC, plus multiple medical conditions or Functional Ability Profiles);
- whether licensing decisions included opinions from driver rehabilitation specialists;
- whether the licensing agency road test for medical referrals was the same as that for original license applicants, vs. a specialized road test given at the licensing agency for medical referrals vs. a licensing agency administered road test in the licensee's home area for an area-restricted license;
- restriction types *actually imposed* on drivers following medical review (daylight, radius of home, maximum speed restrictions, exclusions from freeway or highway driving, limited to specific destinations), not just those permitted by State statute but never applied; and
- whether periodic medical review was implemented for certain medical conditions.

We entered data into a Microsoft Access database to allow for sorting on multiple criteria to facilitate the identification of basic medical review structures and to aid in the description of each State's process. Appendix A contains a list of the variables describing and categorizing the States, the source of the data, and the coding scheme. A NHTSA Region identifier and two variables describing population density (number of licensed drivers and number of licensed drivers age 65+) were included in the table, to assist with the selection of candidate States within each program type for more in-depth review.

Ultimately, project staff decided to base the classification criteria on the basic *structural aspects* of a State's medical review program. One reason for minimizing the number of disparate variables was to see if the structure of the medical review unit made a difference in how it functioned. An initial sorting of States using the following four structural variables yielded too many classifications with too few States within several of the classifications for conducting a

meaningful case study: (1) presence or absence of an MAB, (2) whether the MAB reviewed individual cases and contributed to the development of driver medical review guidelines, (3) the breadth of the medical guidelines, and (4) whether the licensing agency had in-house staff comprised of medical professionals who performed case review.

The final basis for categorization of States’ practices is shown in Figure 1. The rows and columns of this matrix correspond, respectively, to: (1) whether a State had an MAB or other formal liaison with a State Health Department that functioned as such; and (2) whether there were in-house medical professionals who performed case review. The resulting classification matrix identifies four groups of States that served as the basis for a further narrowing of candidates for case study in subsequent project activities.

	Medical Professionals On Licensing Agency Case Review Staff (At Least 1 Staff Member Who Was a Nurse or Physician)	Administrative Staff Perform Case Reviews (No Medical Professionals)		
MAB	<u>Group: MAB & MP (6 States)</u> Maine Maryland New York North Carolina Oklahoma Virginia	<u>Group: MAB & Admin (30 States)</u> Alabama Arizona Connecticut Delaware Florida Georgia Hawaii Illinois Indiana Iowa	Kansas Kentucky Louisiana Massachusetts Michigan Minnesota Missouri Nebraska New Hampshire New Jersey	New Mexico North Dakota Pennsylvania Rhode Island South Carolina Tennessee Texas Utah West Virginia Wisconsin
No MAB	<u>Group: MP Only (1 State)</u> Oregon	Alaska Arkansas California Colorado D.C.	<u>Group: Admin Only (13 States + DC)</u> Idaho Mississippi Montana Nevada	Ohio South Dakota Vermont Washington Wyoming

Figure 1. Classification Scheme to Sort States Into Four Medical Review Structure Groups

Selection of Case Study States

The criteria for selecting candidates for case study were: (1) States whose practices were typical or representative of the Group, since ultimately, prospective data describing the process and outcomes for drivers referred for medical review were collected for a maximum of two

States in each Group; and (2) States with a large enough caseload for our targeted data collection. The candidate States identified in each grouping are shown in Table 1.

Table 1. Recommended Case Study States, by Medical Review Group

<p><i>MAB & MP</i></p> <ul style="list-style-type: none"> • MAB • Medical Professionals on Licensing Agency Case Review Staff 	<p><i>MAB & Admin</i></p> <ul style="list-style-type: none"> • MAB • No Medical Professionals on Licensing Agency Case Review Staff 	<p><i>Admin Only</i></p> <ul style="list-style-type: none"> • No MAB • No Medical Professionals on Licensing Agency Case Review Staff 	<p><i>MP Only</i></p> <ul style="list-style-type: none"> • No MAB • Medical Professionals on Licensing Agency Case Review Staff
<p>Maine Maryland North Carolina Oklahoma</p>	<p>Kansas Kentucky Minnesota Wisconsin Texas</p>	<p>Arkansas Idaho Ohio Washington Wyoming</p>	<p>Oregon</p>

Seven States indicated a willingness and ability to participate as case study States: Maine and North Carolina representing Group *MAB & MP*, Texas and Wisconsin representing Group *MAB & Admin*, Ohio and Washington representing Group *Admin Only*, and Oregon representing Group *MP Only*.

Collection of Medical Review Structure and Process Data

Similar to the methodology employed in our prior NHTSA work summarizing Medical Advisory Board practices in the United States (Lococo, 2003) and in the AAAFTS Driver Licensing Policies and Practices project (Stutts & Wilkins, 2009), we solicited information from each of our seven case study States initially by electronically distributed (e-mail) questions, and followed up with telephone interviews and e-mail queries as needed to clarify and expand on the information provided. The 41-question data collection tool is shown in Appendix B, along with the letter of instruction for completion. Data were collected from May to November 2013.

In each State, one key individual familiar with the medical review program assumed responsibility for providing the requested information. The PI corresponded with each contact on multiple occasions (via telephone and e-mail) to obtain more detail for selected responses.

Results

This section summarizes characteristics of the driver medical review programs in our seven case study States, highlighting similarities and differences in processes and outcomes across the four structure groupings as well as within each structure. License renewal intervals and in-person requirements, as well as special requirements for older drivers in each of the seven States are presented in Appendix C. Detailed narratives describing the driver medical review structure, process, and outcomes for each State are presented in Appendices D through J, each with supplemental forms used in the process (license application and renewal forms, referral forms, and physician and vision specialist forms).

Medical Review Caseload

Table 2 presents the medical review caseload for the year 2012 in each case study State, as well as the population of licensed drivers and the proportion of those 65 and older in the same year (FHWA, 2013). This table shows that States with medical professionals on the licensing agency case review staff (i.e., the *MAB & MP* Group and the *MP Only* Group) had the largest proportion of initial referrals in relation to licensed driver population (0.13% for North Carolina, 0.91% for Maine, and 0.17% for Oregon), compared to the States without medical professionals on the licensing agency case review staff (i.e., 0.07% for Texas and 0.09% for Wisconsin in Group *MAB & Admin*, and 0.07% for Ohio and 0.06% for Washington in Group *Admin Only*). It was not possible to consider the total number of drivers undergoing medical review (initial plus periodic review) as counts of drivers undergoing periodic medical review were not tracked in all case study States.

Within the set of all six *MAB & MP* States (see Figure 1), Maine had the smallest population of licensed drivers, and North Carolina nearly the largest (second to New York), yet similar counts of drivers were referred for medical review in 2012. This might be partially explained by Maine having the highest proportion (19.6%) of licensed drivers 65 and older of the seven case study States. Maine was also the State with the highest median age (43.5 years), more than 6 years older than the U.S. median age of 37.4 years in 2012 (U.S. Census Bureau, 2013). It makes sense that a State with a large proportion of older drivers to total drivers would have a large medical review caseload, as the prevalence of most medical conditions increases with age. Furthermore, rural counties in Maine had a larger proportion of people 65 and older (17%) compared to their metropolitan counterparts (13 to 14%; Mills, 2012). It is plausible that increased driving exposure necessitated by rural living has led to increased opportunities for others to observe risky behavior, which may have resulted in increased reporting to the driver licensing agency for medical review. In addition, Maine's Medical Advisory Board was proactive; members regularly gave presentations to physicians across the State about medical conditions and driving and how to report a potentially at-risk driver.

Oregon, the sole *MP Only* State, was like Maine in its proportion of licensed drivers 65 and older (19%), which could have, in part, accounted for its relatively large caseload with respect to the total population (0.17%) Oregon was also the only case study State with a mandatory physician reporting law (which will be described in a later section of this report); such reports accounted for 43% of the referrals to the Oregon licensing agency in 2012.

Table 2. Population of Licensed Driver and Medical Review Caseload

Study Group	State	NHTSA Region	Number Licensed Drivers in State ^a	Number Licensed Drivers 65+ ^a (% of All Drivers)	Number of Drivers Referred for Initial Medical Review 2012 ^b (% of All Drivers)	# of Cases Reviewed by MAB in 2012 (% of Initial Reviews)	Number of Drivers Reviewed in 2012 on Periodic Review (% of All Reviews)	Percent of Initial Cases that Appealed License Decision in 2012
MAB & MP	North Carolina	3	6,677,693	1,127,066 (16.9%)	8,689 (0.13%)	449 (Appeals Only) (5.2%)	39,809 (82.1%)	5.2%
	Maine	1	1,008,190	197,158 (19.6%)	9,185 (0.91%)	25 (0.3%)	24,223 (72.5%)	1.4% requested a hearing and 1 driver appealed to Superior Court.
MAB & Admin	Texas	6	15,252,192	2,253,232 (14.8%)	10,842 (0.07%)	6,609 (61.0%)	Not tracked	Unknown (medical review appeals not tracked separately)
	Wisconsin	5	4,074,128	699,358 (17.2%)	3,655 (0.09%)	90 (Appeals Only) (2.5%)	24,695 (87.1%)	<6% ^c
Admin Only	Ohio	5	8,040,719	1,419,174 (17.6%)	5,971 (0.07%)	N/A	18,996 (76.1%)	0.3%
	Washington	10	5,227,889	795,582 (15.2%)	3,179 (0.06%)	N/A	Not tracked	1.6% in person hearings 6.3% informal telephone interviews
MP Only	Oregon	10	2,769,757	526,304 (19%)	4,660 (0.17%)	N/A	1,817	2.8%

^aData provided by the FHWA Office of Highway Policy Information on October 16, 2013, for the year 2012, in advance of publication of *Highway Statistics 2012*.

^bTotal (includes both non-alcohol and alcohol related, as only North Carolina distinguishes between the two).

^cWI did not begin tracking requests for appeal until October 1, 2012. From October 1, 2012, to June 15, 2013, 164 requests for an MAB review were processed (MAB for initial review and periodic review not distinguished). During that period, 2,815 Driver Condition or Behavior Reports were processed; however, not all appeals were associated with a Driver Condition or Behavior Report.

Within the set of 30 *MAB & Admin* States, Texas had the highest number of licensed drivers and Wisconsin ranked 12th. Within the set of 14 driver licensing agencies in the *Admin Only* Group, Ohio ranked second and Washington third in terms of numbers of licensed drivers. The medical review caseloads in these four States were similarly proportional to their populations of licensed drivers (ranging from 0.06% to 0.09%).

Medical Review Structure and Program Responsibilities

The characteristics of the people who conducted case review in each State are presented in Table 3. Only one of the two *MAB & MP* case study States (North Carolina) included physicians among the medical professionals comprising the licensing agency case review staff; however, they were contract physicians working in private practice and in hospitals, and performed their work for the licensing agency off-site. Both *MAB & MP* States had a nurse on staff who performed case review activities. The non-medical administrative positions in both *MAB & MP* States were dedicated to medical review activities (i.e., medical review duties were their sole responsibility); North Carolina had double the number of such staff compared to Maine. In terms of the composition of the MAB in the *MAB & MP* States, more than twice as many physicians and medical specialties were represented in Maine as in North Carolina.

The non-medical administrative licensing agency case review staff members in the *MAB & Admin* case study States, like their counterparts among the *MAB & MP* States, were dedicated to medical review activities. However, in Texas, the number of non-medical administrative staff was generally smaller than in any of the other case study States. The medical specialties represented by the MAB physicians in Texas and Wisconsin were broad, and similar to those in Maine (as shown in Table 3).

Among the *Admin Only* case study States, Washington also had non-medical administrative staff whose sole responsibilities related to medical review activities, but Ohio's Special Case Unit consisted of non-medical administrative staff who had responsibilities in addition to their medical review activities.

In Oregon (*MP Only* Group), four physicians were employed part-time by ODOT to serve as medical determination officers (MDOs). These included two internists, one physiatrist, and one osteopath. These four physicians shared one full-time, permanent licensing agency position. The Oregon licensing agency had recently hired a gerontologist as its medical programs coordinator. In addition to coordinating programs, this individual performed case review and served as a medical program expert and consultant on complex medical issues. Non-medical administrative ODOT licensing agency staff had responsibilities in addition to processing medical evaluations.

Table 3. Composition and Characteristics of the Medical Advisory Board and License Agency Case Review Staff

Study Group	State	Composition of MAB	Composition and Characteristics of License Agency Case Review Staff
MAB & MP	North Carolina	3 Physicians ^a <ul style="list-style-type: none"> - General Practice - Public Health - Anesthesia 1 Licensing Agency Nurse (CNA) 2 Licensing Agency Hearing Officers	4 Contract Physicians <ul style="list-style-type: none"> - Ophthalmology - Internal Medicine - Family Medicine 1 Certified Nursing Assistant 2 Hearing Officers 9 Non-Medical Administrative Staff
	Maine	7 Physicians <ul style="list-style-type: none"> - Ophthalmology - Cardiology - Family Practice & Geriatrics - Internal Medicine & Neurology - Psychiatry - Physical Med/Rehab - Pulmonary & Sleep Medicine 1 Substance Abuse Specialist 	<ul style="list-style-type: none"> - 1 Medical Review Coordinator/Health Educator (RN, MPH) - 4 Non-Medical, Dedicated Administrative Positions
MAB & Admin	Texas	9 Physicians <ul style="list-style-type: none"> - Ophthalmology - Family Practice - Internal Med. - Neurology - Endocrinology - Physiatry - General Practice - Dermatology 	2+ Full-Time, Non-Medical, Dedicated Administrative Technicians (number varies)
	Wisconsin	150 members; only ~ 20 volunteer consistently: <ul style="list-style-type: none"> - Optometry - Ophthalmology - Cardiology - Family Practice - Internal Med. - Neurology - Psychiatry - Endocrinology - Physiatry 	<ul style="list-style-type: none"> - 6 Full-time Transportation Customer Service Representatives - 1 Unit Lead Worker (all non-medical administrative staff dedicated to medical review activities)
Admin Only	Ohio	N/A	<ul style="list-style-type: none"> - 1 Supervisor - 5 Customer Service Assistants (all non-medical administrative staff with other responsibilities in addition to medical review activities)
	Washington	N/A	<ul style="list-style-type: none"> - 5 Fulltime, Dedicated, Non-Medical Customer Service Specialists in the Medical Section - 343 License Service Representatives Who Evaluate Medical and Vision Certificates Returned to Field Offices and Conduct Re-Exams (non-medical staff)
MP Only	Oregon	N/A	<ul style="list-style-type: none"> - 4 Parttime ODOT Physicians Who Serve as Medical Determination Officers <ul style="list-style-type: none"> - 2 Internists, 1 Physiatrist, 1 Osteopath - 1 Fulltime Gerontologist (Medical Programs Coordinator) - Non-Medical Administrative Staff With Other Duties in Addition to Medical Review <ul style="list-style-type: none"> - 1 Driver Safety Manager, 2 Technicians in Driver Safety Unit, 300 Transportation Service Reps (driver examiners; some also trained as driver improvement counselors)

^a The Medical Review Board was not fully staffed at the time this report was prepared. When fully staffed, it comprised 4 physicians.

Table 4 presents the activities in which the MAB in each State was involved. The MAB roles in North Carolina (*MAB & MP*) and Wisconsin (*MAB & Admin*) were limited to hearing appeals when drivers challenged a license decision (restriction, suspension, or revocation) made by the licensing agency. In contrast, the MABs in Maine (*MAB & MP*) and Texas (*MAB & Admin*) assisted with the *initial* licensing decision. Additionally, the Texas and Maine MABs provided other medical review support activities, including advising the licensing agency on medical criteria, guidelines, and procedures for licensing drivers with medical conditions; and developing forms for use in medical review. In Maine (but not Texas), the MAB also reviewed and advised on individual cases when drivers appealed the licensing action; and developed educational material on driver impairment for public education. In Texas (but not in Maine), the MAB kept the licensing agency updated about new research on medical/functional aspects of fitness to drive.

While Oregon had no MAB (and is therefore not included in Table 4), its four part-time medical determination officers (MDOs) carried out multiple medical review duties, similar to those of the Texas and Maine MAB physicians. Oregon's MDOs had the following responsibilities: (1) determine medical eligibility in situations where the licensing agency had determined that testing could not be used to establish eligibility; (2) determine the need for and frequency of periodic medical review for these drivers; and (3) assist the licensing agency in developing medical criteria, procedures, and guidelines used in the medical review process. In fact, the Oregon medical review guidelines were evaluated annually by the MDOs and the medical program coordinator, and updated if necessary. The volume of reviews carried out by Oregon's MDOs (approximately 75% of initial medical review cases) was more consistent with the volume of case reviews conducted by the Texas MAB (approximately 60%) than the Maine MAB (less than 1% of initial cases; see Table 3).

Table 5 summarizes the employment of the MAB physicians in the four States with MABs and the types of cases reviewed. There was no consistency within group regarding whether MAB physicians were compensated for their case review activities or the types of cases the MAB reviewed; rather, it appears that compensation was tied to the caseload demands placed on the MAB members (see last column, which is repeated from Table 2). MAB case review in North Carolina (*MAB & MP*) and Wisconsin (*MAB & Admin*) was limited to appeals; in North Carolina, MAB physicians were compensated, whereas in Wisconsin, they were not. In contrast, in Maine (*MAB & MP*) and Texas (*MAB & Admin*), licensing agency case review staff referred cases to the MAB for review and recommendation. However, the types of cases referred and the numbers differed widely. Maine's licensing agency (the Bureau of Motor Vehicles, or BMV) referred very few cases to the MAB—only those where the Functional Ability Profile (FAP) didn't contain enough information for the Medical Review Unit to make a determination. In contrast, the Texas licensing agency (the Department of Public Safety, or DPS) referred the majority of their medical review cases to the MAB (e.g., drivers under the care of a physician for various conditions). The Texas MAB was housed within the Texas Department of State Health Services (and not within the licensing agency). Once a case was referred to the Texas MAB, it was the MAB physicians who sent the driver the physician evaluation forms, and who received the completed forms. The non-administrative licensing agency case review staff in Texas did not evaluate or even see the medical information provided by the treating physician. Medical information remained within the Department of State Health Services, in order to protect personal information because open records laws applied to licensing agency operations. In

contrast, the non-administrative case review staff within the Maine licensing agency *did* review and evaluate the medical information returned to the department by the drivers' treating physicians, and these non-medical staff made license determinations based on the FAP guidelines.

Table 4. Current MAB Activities in Case Study States

Study Group	State	MAB Activities								
		Advise Agency on Medical Criteria and Vision Standards for Licensing	Review & Advise on Individual Cases Referred by Licensing Agency Case Review Staff	Review & Advise on Individual Cases for Appeals	Develop Medical Forms	Develop Forms to Refer Drivers for Medical Review	Develop Educational Material on Driver Impairment for General Public	Recommend, Develop, or Deliver Training for Driver License Examiners in Medical and/or Functional Aspects of Fitness to Drive	Apprise Agency of Research on Medical/Functional Aspects of Fitness to Drive	Advise on Medical Review Procedures
MAB & MP	North Carolina			✓						
	Maine	✓	✓	✓	✓	✓	✓			✓
MAB & Admin	Texas	✓	✓		✓	✓			✓	✓
	Wisconsin			✓						

While the North Carolina MAB only heard appeals, the majority of North Carolina's medical review cases were evaluated by the licensing agency's four contract physicians. These physicians performed a role similar to that of the Texas MAB physicians, who were also paid consultants (to the Department of State Health Services, not to the licensing agency), and reviewed the majority of the cases referred to the licensing agency. Despite these structural differences, the role of physicians in the review process was similar in both States in that they reviewed the majority of medical review cases. In both States, the non-medical administrative staff *did not* make license determinations based on medical guidelines for licensing.

While Oregon had no MAB (and is therefore not included in Table 5), its four part-time Medical Determination Officers performed a role similar to that of the Texas MAB physicians and North Carolina physicians, in that they reviewed the majority of cases referred to the licensing agency for medical review, and were compensated. The MDO physicians aggregately reviewed approximately 280 cases per month, requiring over 20 hours per month at a cost to the licensing agency of \$71.24 per hour. MDO case review cost to the Oregon licensing agency averaged \$5.09 per case, similar to that of the North Carolina licensing agency's contract

physician cost (\$6/case). However, unlike in North Carolina and Texas, non-medical administrative staff in Oregon *could* make a limited number of licensing determinations based on rules, checklists, or medical guidelines. Unlike the contract physicians in North Carolina who performed their reviews off-site, the Oregon MDOs conducted case reviews on-site and were licensing agency employees.

Table 5. Employment of MAB Physicians and Types of Cases Reviewed

Study Group	Employment of MAB Physicians and Types of Cases Reviewed				
	State	Employment of MAB Physicians	Types of Cases Referred to MAB	Fitness-to-Drive Recommendations	# of Cases reviewed by MAB in 2012
MAB & MP	North Carolina	Paid consultants to the licensing agency (\$6/case plus \$50/hr., and daily expenses). Employed in private practice	Appeals only (no referrals from the licensing agency)	Consensus of 3 physicians	426 non-alcohol 23 alcohol-related 449 Total
	Maine	Volunteer consultants to the licensing agency (compensated \$25 for mileage reimbursement). Employed in private practice or hospital settings	When Functional Ability Profile didn't contain enough information for MRU to make a determination	Generally 1 specialist	25
MAB & Admin	Texas	Paid consultants to TX Department of State Health Services (\$100 meeting attendance fee per meeting). Employed in private practice	Under care of a physician for: eye disease, cardiovascular disease, diabetes, hypo or hyperglycemia, shortness of breath or wheezing neurological disorders, mental/nervous/emotional patients, alcohol and drug induced problems, others when road test showed safe driving ability considerably affected by condition	Panel of 3 MAB Physicians	6,609
	Wisconsin	Volunteer consultants to the licensing agency (paid \$25/day plus mileage reimbursement). Retired physicians or private practice physicians in hospitals, clinics, or Gov't Agencies	Appeals only (no referrals from the licensing agency)	At least 2 but usually 3 physicians	90

Medical Guidelines and Sources of Driver Medical Information

There was wide variability in the case study States' medical criteria for driver licensing (see Table 6). These ranged from standards only for vision (Ohio, Group *Admin Only*); to vision and loss of consciousness (LOC) only (in Washington, also Group *Admin Only*); to vision, LOC, and multiple medical conditions in all four States with an MAB (North Carolina, Maine, Texas, and Wisconsin), as well as in Oregon (the sole *MP Only* State). Maine and North Carolina (Group *MAB & MP*) and Oregon (*MP Only*) used Functional Ability Profiles to make license determinations (c.f. Maine Secretary of State, 2000 and Cole & Passaro, 2004 for more details regarding Functional Ability Profiles). Profiles for seizure disorders/loss of consciousness or control for North Carolina, Maine, and Oregon are presented in Appendices D, E, and J, respectively.

The breadth and depth of medical review guidelines was associated with two other medical review practices in these States: what medical conditions drivers were requested to self-report when they renewed their licenses, and the amount of detail requested of treating physicians about drivers' medical conditions (see Table 6). Three of the five States that had detailed medical criteria for multiple medical conditions also asked drivers to self-report on the driver license application/renewal form whether they had these medical conditions (North Carolina, Maine, and Texas did, while Wisconsin and Oregon did not). These same three States had the largest numbers of drivers referred for initial medical review each year (see Table 2). While drivers may not have always been fully forthcoming about self-reporting medical conditions on their license application, the practice of listing multiple, specific medical conditions on the license application may have contributed to higher self-referral rates in these States. Wisconsin's license application/renewal form asked drivers to indicate only whether they experienced a loss of consciousness or muscle control within the past year *as a result of* several listed medical conditions. Oregon's form asked drivers whether they had an uncorrected vision condition or any physical or mental condition that affected their ability to drive safely; and whether they used alcohol, inhalants, or controlled substances to a degree that it affected their ability to drive safely. Similarly, Ohio and Washington, the two *Admin Only* group States which had only limited medical guidelines, only required drivers to respond to general questions about their medical fitness to drive.

Table 6. Medical Guidelines and Practices for Collecting and Using Information about Medical Conditions

Study Group	State	Visual + Medical Guidelines for Licensing	Questions Relating to Medical Conditions on License Renewal Application	Info. Requested from Treating Physician			Licensing Decisions Made by Non-Medical Case Review Staff (Based on Rules or Checklists)?
				Detailed Medical History for Multiple Medical Conditions	Recomm. Periodic Review	Recomm. Restrictions	
MAB & MP	North Carolina	- Vision - LOC - Multiple Med. Cond.	- Epilepsy or LOC - Addicted to alcohol or drugs - Multiple specific medical conditions listed	Yes	Yes	Yes	No
	Maine	- Vision - LOC - Multiple Med. Cond.	- Epilepsy or LOC - Multiple specific medical conditions listed	No ^a	No ^a	No	Yes
MAB & Admin	Texas	- Vision - LOC - Multiple Med. Cond.	- Epilepsy or LOC - Alcohol or drug dependencies or abuse - Multiple specific medical conditions listed	Yes	No	No	No
	Wisconsin	- Vision - LOC - Multiple Med. Cond.	- LOC or muscle control	Yes	Yes	Yes	Yes
Admin Only	Ohio	- Vision	- LOC or muscle control - Dependent alcohol/drugs of abuse - General question: "physical or mental condition preventing reasonable and ordinary control of a motor vehicle"	No	Yes	No	No
	Washington	- Vision - LOC	- General Q in-person: "Mental or physical condition or taking meds which could impair your ability to operate a motor vehicle?" - General Q online/mail: "LOC in last 6 mo.?"	No	Yes	No	Yes
MP Only	Oregon	- Vision - LOC - Multiple Med. Cond	- 3 general questions about conditions that affect ability to drive safely: - Uncorrected vision cond. or impairment - Any physical or mental cond. or impairment - Use of alcohol, inhalants, controlled substances to a degree that affects safe driving ability	No	Yes	No	Yes

^aPhysician was asked to provide Functional Ability Profile level for each diagnosis, using a licensing agency booklet; severity of condition, review length, and restrictions (for vision conditions only) were subsumed under FAP level.

The four MAB States with detailed medical criteria for multiple medical conditions also requested detailed medical histories about relevant medical conditions from drivers' treating physicians to use in making license determinations (Table 6). For example, physicians in Wisconsin were asked to complete all sections of the seven-section medical form that were pertinent to the person's health (general medical, mental/emotional/neurological, endocrine, cardiovascular, and pulmonary). Similarly, in North Carolina, physicians completed sections of the form based on whether the person had ever had any of the nine listed impairments or disorders (visual, cardiovascular, endocrine, respiratory, neurologic, emotional/mental illness, musculoskeletal disorders, any other impairment, or substance abuse). Physicians in Texas were asked to respond to questions as appropriate to their patient's medical condition in seven categories (cardiovascular, neurological, mental, substance abuse, metabolic, musculoskeletal, and vision). North Carolina, Maine Texas, and Wisconsin's forms all requested the treating physician to classify the driver's functional capacity (Classes 1 – IV) for drivers with cardiovascular disorders, using the American Heart Association and New York Heart Association functional classification of cardiovascular impairment (New York Heart Association, 1994). Wisconsin and North Carolina requested laboratory results such as blood glucose levels of drivers with diabetes, and blood gas levels for drivers with pulmonary disorders.

It should be noted that Maine's physician evaluation form was much different than the forms used to gather medical information from the other case study MAB States. Rather than requesting physicians to complete detailed information about each condition a driver had, including test results for some conditions, Maine's form asked physicians to list each diagnosis, and then to profile it as a level 1, 2, 3 (a-c) or 4, according to that State's Functional Ability Profiles (FAP). Detailed medical information and severity of the condition were categorized in these profiles as minimal, mild, moderate, and severe, as were intervals for review and indications for no driving. The only additional information requested on the Maine licensing agency form for physicians (beyond the profile) was a listing of medications, the driver's reliability in taking the medication, whether there were driver impairing side effects of these medications, and the date of any seizure or LOC (if applicable). Treating physicians in Maine *were not* asked whether, in their opinion, the individual was capable of driving safely, or what restrictions should be applied. The FAP included direction for suspending or granting continued licensure, restricting licensure (vision only), and requiring a road evaluation. This form guided the non-medical administrative staff in making license determinations, as specified in Maine's detailed Medical Rules. This driver profiling by treating physicians into impairment levels with associated licensing outcomes (suspension, restriction, periodic review) may explain why so few drivers were referred to the MAB. Specifically, our respondent indicated that MAB referral generally occurred only when the profile was not completed accurately by the treating physician, based on other comments provided on the form. While North Carolina also used FAPs to make license determinations, the treating physician was not asked to profile the patient; this was done by the licensing agency medical advisors (the four contract physicians). Similarly, Oregon's medical determination officers profiled drivers undergoing medical review.

In contrast, in the two non-MAB States *without* detailed medical criteria for multiple medical conditions and no self-report of these conditions on the license application (Ohio and Washington), very limited medical information was requested from drivers' treating physicians. The level of detail required of treating physicians in Oregon fell somewhere between the two

extremes exemplified by the *MAB States* and *Admin Only States*, but information about *only the reported condition* was requested, rather than all conditions that could affect driving performance. Forms used to gather medical information from drivers' treating physicians are included in the narratives for each State in Appendices D-J.

Physician input regarding driving. Broadly speaking, licensing agency case review staff used the information provided by treating physicians, along with their State's vision and medical (where they existed) guidelines to make license determinations, and to identify when a licensing agency-administered road test was needed to make a license determination. Non-medical administrative staff in Wisconsin, like those in Maine, could make license determinations based on medical criteria and guidelines, and on the information provided in the physician's report. As indicated earlier, in Wisconsin, MAB physicians only became involved in case review when a driver appealed a case. While the Wisconsin licensing agency medical examination report contained detailed information about medical history and tests (like in North Carolina and in Texas), and had to be interpreted by staff without a medical background, it was unique in that it also asked the physician to indicate whether driving was likely to be impaired by limitations in four listed cognitive areas (e.g., judgment and insight, problem-solving and decision making) and in six listed physical areas (e.g., reaction time, strength and endurance). The physician also provided an opinion regarding whether the person was medically safe to drive, and if so, whether he/she recommended licensing agency testing, licensing restrictions, or any additional medical evaluation. This judgment by the physician assisted the licensing agency administrative staff in making a licensing determination and in ordering other licensing agency testing (road, knowledge). The request for specific areas of impairment guided the treating physician in providing a more informed opinion regarding the driver's medical fitness to operate a motor vehicle safely, and whether to recommend road and/or knowledge testing, for drivers they deemed medically safe.

The form used to gather information from treating physicians in Texas asked for diagnoses and detailed information about medical conditions, but addressed driving only in one general question at the end of the form as follows: "Any recommendations or specific comments regarding driving capability?" Physicians in Texas were not specifically asked whether their patient should be permitted continued licensure, have driving restrictions, or be required to undergo periodic medical review.

Ohio and Washington (both *Admin Only States*, and both without detailed medical guidelines beyond vision and/or LOC) did not ask the treating physician for detailed medical history, nor whether and what types of driving restrictions should be imposed. In Ohio, physicians were asked to supply only the length of time since the driver was diagnosed with a condition, the date of the last episode or the length of time a condition had been under control, what medications were prescribed and whether the patient was compliant in taking medication. Then, physicians were asked whether the patient should be permitted to retain their license and, if so, which license agency tests the driver should undergo (vision, knowledge, road, or none), and whether and how often the driver should be reevaluated. The non-medical administrative case review staff followed the physician's recommendation. They did not apply any medical guidelines in determining the licensing action. Of the case study States, Washington requested the least detailed medical history. The Washington Department of Licensing asked only three questions of the treating physician, with space for comments following each question: (1) Does

this individual have a condition which may cause a loss of consciousness or control (and if so, month and year of most recent occurrence); (2) Does this individual have a condition which may interfere with driving; and (3) Should this individual be required to submit periodic medical examination reports as a condition of licensing (and if so, how often: 6 months, 1 year, 2 years). Case review staff cancelled the license if a person had experienced a loss of consciousness or control within 6 months. Physicians in Washington were not asked to provide a medical opinion regarding their patients' ability to drive safely or what restrictions should be applied to a driver's license. If a physician indicated that a patient had a medical condition that could interfere with driving, the licensing agency case review staff required a driver to undergo road, knowledge, and vision testing.

Treating physicians in Oregon (*MP Only*) completed one of two sections of the licensing agency medical form, depending on whether the reported condition, impairment, incident, or event (which the licensing agency provided on the form) affected or could affect the patient's ability to drive safely. If the physician responded affirmatively, the licensing agency asked the physician to answer a series of 10 questions to better characterize the severity of the condition and the likelihood that it would adversely affect the person's driving ability. Physicians were not asked to recommend restrictions, nor were restrictions included in the medical guidelines for licensing. Physicians were, however, asked to recommend periodic review cycles. The non-medical administrative case review staff in Oregon (driver safety manager and the two technicians) could make license determinations under limited circumstances. For example, they could determine that periodic review was no longer required in low-risk cases where the driver was required to pass licensing agency vision screening, knowledge, and drive tests as the result of a referral, and the driver passed all tests. Similarly in cases where a driver was required to submit a Certificate of Vision from their vision specialist, case review staff could drop the periodic review requirement after a driver submitted a Certificate of Vision that met State standards, and recertification was not required.

Medical Review Process

Identification of potential medically at-risk drivers. The seven case study medical review contacts were asked to provide the sources of the initial medical review referrals in 2012, and the proportion of total referrals each source represented. Maine and Ohio were unable to estimate proportions of referrals by source. North Carolina, Texas, Wisconsin, and Washington provided estimated percentages, and Oregon provided percentages based on actual data (see Table 7). Forms used to report drivers to the licensing agency are shown in the descriptive narratives for each State in the Appendices.

Among the seven case study States, only Oregon mandated physician reporting; physicians and certain health care providers¹ were required to report people over age 14 who had *severe and uncontrollable* functional, visual, or cognitive impairments to the licensing agency.

¹ Mandatory reporters had to be currently licensed in Oregon **and** be a *designated reporter* (MD, DO, chiropractic physician, naturopathic physician, nurse practitioner, occupational therapist, physical therapist, physician assistant, podiatric physician or surgeon); **and** they were the *primary care provider* of the person being reported, **or** they were providing specialized or emergency services to a person who did not have a primary care provider. A *vision specialist* (ophthalmologist or optometrist) licensed to practice in Oregon who was providing health care services to a person whose vision (with corrective lenses or devices) did not meet DMV vision standards was also a mandatory reporter.

Severe and uncontrollable meant the impairment substantially limited a person's ability to perform activities of daily living, including driving, because it could not be controlled or compensated for by medication, therapy, surgery, or adaptive devices. The threshold for reporting severe and uncontrollable impairments was generally at the end of medical management when all efforts to control the impairments had failed. This did not include a temporary impairment for which the person was being treated by a physician or healthcare provider and which was not expected to last more than six months. Mandatory reports by healthcare providers accounted for 43% of Oregon's initial referrals (2,004 of 4,660) in 2012. Oregon Administrative Rule also allowed the licensing agency to receive information through *voluntary* reporting of a physical or mental condition or impairment that could affect a person's ability to drive safely. There was no specific threshold for reporting. Voluntary reports were received primarily from three sources: non-mandatory reports from medical professionals, law enforcement, and citizens. Physicians accounted for 29% of the non-mandatory reports submitted to the licensing agency. Considering both mandatory and voluntary reports, physicians accounted for 59% of the referrals to the Oregon licensing agency in 2012, making Oregon the case study State with the highest proportion of referrals by physicians.

Several other factors that may increase the medical review caseload, beyond self-reporting of medical conditions on the license application, and mandatory physician referral are displayed in Table 7. In the case study States with MABs (and in Oregon, which had a mandatory physician reporting law), but in neither of the two case study States without MABs, physicians who reported drivers to the licensing agency were provided with immunity from civil and criminal liability. Although the questions asked for this study did not include whether reports were confidential without exception, data from Stutts and Wilkins (2009) and updated in 2011 indicates that among the seven case study States, only in Ohio were such reports confidential without exception. In Texas and Oregon, physician reports were confidential unless judicial action was taken. Oregon Revised Statute 802.240 (7) specifically stated that such judicial action was limited to an administrative hearing or an appeal from an administrative hearing in which the qualification of the person to operate a motor vehicle was at issue; physician and healthcare provider reports could not be admitted as evidence in any civil or criminal action. In North Carolina, Maine, Washington, and Wisconsin, the physician's name would be released to the driver upon their request. It seems plausible that providing for physician immunity and confidentiality of physician reports would increase physicians' willingness to report drivers.

Table 7. Referrals for Medical Review, by Reporting Source and Estimated Proportions in 2012, and Factors that May Affect Medical Review Caseload

Study Group	State	Estimated Proportion of Referrals by Source, for New Medical Cases Opened in 2012							Licensing Agency Training to Any Sources in 2012 About How to Refer for Medical Review	Accumulation of Crashes or Violations	Physician Immunity ^a
		Law Enf.	Physicians	Self-Report on License Application/Renewal	Licensing Agency Staff at License Renewal	Family, Friends, Other Concerned Citizens	Courts	Other States			
MAB & MP	North Carolina	30%	40%	5%	10%	15%			No	No, but MRU reviews all crash reports coded as medical	Yes
	Maine	✓	✓	✓	✓	✓			Yes (Physician)	Yes Plus review all crash reports coded as medical	Yes
MAB & Admin	Texas	20%	10%	30%	30%	10%			No	Yes Plus review all crash reports coded as medical	Yes
	Wisconsin	72%	23%			5%			No	No	Yes
Admin Only	Ohio	✓	✓	✓	✓	✓	✓		No	No	No
	Washington	35%	33%	2%	9%	20%		1%	Yes (License Agency Personnel)	No	No
MP Only	Oregon	43%	100% ^b 29%		15%	13%			Yes (Physicians, Vision Specialists, License Agency Personnel)	No, but MRU reviews all crash reports coded as medical, plus all fatal crashes trigger medical review	Yes

^a Physician reporting was voluntary in all case study States, with the exception of Oregon. Immunity data from Stutts and Wilkins (2009) and confirmed through State contact review of narratives in Appendices D-J.

^b Physicians accounted for 100% of the mandatory reports and 29% of the voluntary reports submitted in Oregon. Physicians accounted for 59% of total referrals (mandatory plus voluntary).

Medically coded crash reports or an accumulation of crashes in a certain time period could trigger medical review only among the case study States that had an MAB (with the exception of Wisconsin) or medical professionals on the case review staff. In Maine, North Carolina, Texas, and Oregon, medical review staff reviewed all crash reports where the responding law enforcement officer had checked a box on the crash report form that indicated a driver may have lost consciousness, fallen asleep, or something else caused the officer to have concern about a medical condition (through observation of the driver or the driver's self-report). Medical review staff sent the driver medical forms for completion by their physician (North Carolina, Maine, and Oregon) or requested that the driver appear at a licensing agency field office for reexamination and possible referral to the MAB (Texas).

One question asked whether any training relevant to referring drivers for medical review had been conducted in the past year, either by or with the assistance of the licensing agency, for law enforcement, licensing agency staff, physicians, and/or judges. Three States responded affirmatively, with no distinctive trends by group. In Maine (Group *MAB & MP*), the MAB conducted seven presentations to over 260 medical providers on the topic. In Washington (Group *Admin Only*), ongoing training was provided to their license service representatives on observing applicants for medical and functional impairments, selecting applicants for reexamination, and conducting reexaminations. Similarly, in Oregon (Group *MP Only*), ongoing training was conducted for licensing agency staff by a field services trainer (also an employee of the licensing agency) that included initial and refresher training in the At-Risk Driver Program. One of the modules in the 7.5-hour training in the At-Risk Program included observations of driver behavior that could prompt a field employee to file a driver evaluation request, such as a customer stumbling or approaching the counter with an unsteady gait, appearing visibly confused, or unable complete a form legibly due to shakiness. Additionally in Oregon, four presentations were made to physicians, physician assistants, and vision specialists regarding the mandatory reporting requirement. Oregon had plans to deliver Statewide training for law enforcement.

Wisconsin (*MAB & Admin*) and Washington (*Admin Only*) provided detailed guidelines that licensing personnel used to observe drivers (original and renewal applicants) for functional impairments, and referral for reexamination or medical review. These guidelines are reproduced in Appendix G for Wisconsin and Appendix I for Washington. North Carolina's (*MAB & MP*) *Guidelines for Requiring the Issuance of a Medical Report Form* included examples of physical, mental, and emotional impairments, as well as medical conditions that would trigger a medical review (see Appendix D). Oregon's Driver Programs Manual contained a page describing circumstances under which a licensing agency employee should submit a Driver Evaluation Request, following contact with the driver and witnessing questionable driving ability or a sign of a medical condition that raised questions about an individual's ability to drive safely. Neither Maine nor Texas provided similar guidelines for observing applicants for functional impairments, and Ohio indicated that there was no specialized training for observing applicants for conditions that could impair their ability to drive safely.

The requirement to appear in-person to renew a driver's license provides licensing staff members the opportunity for direct observation of physical and cognitive impairments. Standard license renewal cycles and those truncated for older drivers are presented in Appendix C, along with the requirements to appear in person. Ohio had the most stringent in-person renewal requirements: *all* drivers were required to renew in-person every 4 years. Looking just at the in-

person requirements for older drivers, Maine had a 4-year renewal cycle beginning at age 62, and North Carolina a 5-year cycle beginning at age 66. Texas had the longest interval, 12 years, for seniors 65 to 79, but this dropped to 6 years at age 79, and just 2 years at age 85. Wisconsin and Oregon required in-person renewal every 8 years for drivers of all ages.

Another mechanism for identifying drivers for medical review was vision screening conducted by the licensing agency at renewal. In six of the seven case study States (all but Oregon), *all* drivers underwent vision screening when they renewed their licenses in-person; in Oregon, only drivers 50 and older received vision screening at each renewal. Drivers who did not pass the vision screen were given a form to take to a vision specialist for completion. The outcome of a vision specialist evaluation could include license restrictions, a periodic review requirement, or license suspension. Forms used by the license agencies to obtain information about drivers' visual impairments are included in the narratives for each State in Appendices D-J.

Authentication of referred drivers prior to opening a case. As shown in Table 8, anonymous reports were accepted only in Texas. In all other case study States, the individual reporting the driver was required to provide his or her name (and often their signature) before the medical review unit opened a case. Specifically, those who referred drivers to the Washington Department of Licensing signed a perjury statement that the information provided on the driver evaluation request was true and correct. The forms used to refer drivers for medical review/reexamination are provided within the narrative for each State in Appendices D-J.

Table 8. Case Authentication

Study Group	State	Anonymous Referrals Accepted?	Referral Sources Investigated for Authenticity Prior to Opening a Case?
MAB & MP	North Carolina	No	No
	Maine	No	No ^a
MAB & Admin	Texas	Yes	No
	Wisconsin	No	No ^a
Admin Only	Ohio	No	Yes Interviews with reporter, driver, family, neighbors, physician; visual inspection of driver's car when report was made by an individual other than law enforcement, physician, or courts
	Washington	No	No
MP Only	Oregon	No	Yes ^b

^a Both Maine and Wisconsin indicated No; however, on very rare occasions a referral source could be investigated.

^b The Oregon licensing agency did not investigate reports submitted by family/friends/citizens for authenticity, but three sources were used to verify reports submitted by physicians, to ensure they were licensed and to verify their practice specialty.

Generally, because anonymous reports were not accepted, license agencies did not investigate the reporting source to ensure that there was no malicious intention underlying the

report. Maine indicated that they *could* investigate a case if they suspected malicious intent, but had only done so for at most, five cases in any year. Similarly, Wisconsin *could* investigate reports where there was concern that malicious intent was involved, but the occurrence of such reports had been essentially zero over the five years leading up to this study. Ohio was the one exception among the case study States. For all referrals with the exception of those from law enforcement, the courts, or physicians, the Ohio Bureau of Motor Vehicles was required to conduct an extensive investigation prior to opening a medical review case to determine whether there was sufficient cause for issuing a medical statement or requiring a driver reexamination. Oregon investigated only reports submitted by physicians to verify that the physician had a license and was in good standing with the State Medical Board, and to verify the physician's stated practice specialty. This was done to determine whether a Mandatory Report form met the criteria required for a mandatory report (i.e., that the reporter was licensed to practice in Oregon and was a designated reporter). The licensing agency used several databases in their physician verification process.

Triage for high-risk drivers. As shown in Table 9, there was no “triage” system in either of the *Admin Only* States to expedite cases that might be particularly risky. In one each of the Group *MAB & MP* and Group *MAB & Admin* States, there was some procedure either to prioritize such cases in the work flow (Wisconsin), or to expedite notification to a driver of the licensing action (North Carolina). In Wisconsin, cases that appeared to be risky based on the information provided in the referral were processed before routine medical follow-up cases. In North Carolina, cases proceeded as usual with the driver being required to undergo examination by his or her treating physician. However, if the physician indicated on the physician evaluation form that the patient should not drive, the driver was notified within 48 business hours (7 days) that their driving licenses were suspended, rather than the usual 4 to 8 weeks it generally took to advise a driver of other license actions.

In Oregon (*MP Only Group*), where physicians were required to report people whose impairments were severe and uncontrollable, the licensing agency mailed the driver a letter stating that his or her license was being immediately suspended (within 5 days of the date of the letter). Such drivers could choose to turn in their driver license and obtain a licensing agency-issued identification card, request a hearing under Oregon's Administrative Procedures Act, or request an opportunity to demonstrate the ability to drive safely. To regain his or her license, the driver had to be determined to be medically eligible for testing, and then pass the licensing agency vision, knowledge, and drive tests. If needed, additional medical information was obtained from the treating physician. Review by a licensing agency medical determination officer to determine the driver's medical eligibility for testing was required on all reports of cognitive impairments.

In four of the case study States (one in each group), a driver's license could be suspended immediately—upon receipt of a referral—and remain suspended, pending the outcome of the medical review (or a hearing, if requested by an Oregon driver referred by a physician under the mandatory reporting program). In Wisconsin and Washington, this was the case only for referrals made by medical professionals. In Maine, a license could be suspended immediately, based on information contained in a physician referral, on information contained in an adverse driving report submitted by law enforcement, or based on the concern of a Bureau of Motor Vehicles official. In Oregon, while a mandatory report by a physician always resulted in immediate

suspension, a license could also be immediately suspended as the result of a voluntary referral by *any* source, *if* the information in the referral indicated the medical condition presented an immediate danger to safety. However, in most cases, drivers referred through voluntary reporting in Oregon were given 30 to 60 days to submit additional medical information, obtain MDO clearance, and/or pass licensing agency tests before any suspension action was taken.

Table 9. Triage Practices for High-Risk Drivers

Study Group	State	Was There a "Triage" System to Expedite Particularly Risky Cases?	Were High-Risk Drivers Immediately Suspended (Upon Referral) Pending Medical Review Outcome?
MAB & MP	North Carolina	Yes When physicians returned a completed <i>licensing agency medical form</i> that recommended no driving, customers received a notice of license cancellation in 48 business hours, instead of the customary 4-8 weeks; but not as a consequence of a physician <i>referral</i> where no driving was advised.)	No
	Maine	No	Yes (For law enforcement adverse driving report, physician concern, or licensing agency officials)
MAB & Admin	Texas	No	No
	Wisconsin	Yes Driver Condition or Behavior Reports were prioritized in Medical Review Unit work queue so they were processed before routine medical follow-ups.	Yes (If referral came from a physician, advance practice nurse practitioner, or certified physician's assistant, the license action could be taken immediately).
Admin Only	Ohio	No	No
	Washington	No	Yes, when a medical professional indicated a patient should not drive, license was immediately cancelled until medical review & re-exam were completed.
MP Only	Oregon	Yes All mandatory physician referrals were immediately suspended	Yes (all mandatory physician referrals were suspended immediately; voluntary referrals by any source could be immediately suspended when medical condition was deemed an immediate safety risk).

Licensing agency functional screening. Among the case study States, only Washington licensing agency staff conducted functional screenings that were apart from their standard vision, knowledge, and on-road tests. Drivers with a moderate degree of physical impairment, with no other impairments requiring the full Reexamination Drive Test, were given an In-Vehicle Assessment in their parked vehicle. These tests were conducted to determine whether the driver had the strength and range of motion to perform tasks such as moving the foot from the accelerator to the brake quickly, turning their head to look over their shoulders, and turning the steering wheel left and right.

None of the case study States conducted computer-based tests to detect functional deficits that could impair safe driving performance, and that had been shown to be significant predictors of crash risk. This cost-effective functional screening approach may be a missed opportunity to complement traditional referral sources.

Collection of required medical information. As shown in Table 10, a report completed by the driver’s treating physician was required for *all* drivers undergoing reexamination/medical review in Maine (*MAB & MP*) and Ohio (*Admin Only*). In the other case study States, this requirement could depend on the source of the referral, the information included in the referral, or the outcome of an interview and reexamination testing in a licensing agency field office (vision, knowledge, and road tests), as described in more detail below. In other words, in some States, the reexamination process could take one of several paths, where only one path required a physician statement.

Table 10. Information Collected as a Part of Driver Reexamination

Study Group	State	Treating Physician Report Required for ALL Drivers Undergoing Initial Reexamination?	Did MAB or License Agency Staff Conduct In-Person Screening of Physical or Cognitive Abilities as Part of Reexamination (apart from licensing agency Vision, Written, and Road Tests)?
MAB & MP	North Carolina	No	No
	Maine	Yes	No
MAB & Admin	Texas	No	No
	Wisconsin	No	No
Admin Only	Ohio	Yes	No
	Washington	No	YES, Reexamination-certified LSRs conducted In-Vehicle Assessments (in parked vehicle) for drivers demonstrating mild or moderate physical impairment (to demonstrate functional ability to operate controls).
MP Only	Oregon	No	No

In North Carolina, when a physician or vision specialist referred a patient to the licensing agency for reexamination, the driver was issued a Medical Report Form for completion by their treating physician or vision specialist. Similarly, if a crash report or referral from a law enforcement officer indicated that the driver admitted to blacking out prior to the crash or having epilepsy or other seizure disorder, the driver was required to have their treating physician complete the medical form. For all other referrals for medical reexamination in North Carolina, the driver was required to report to the local licensing agency office for a vision test, traffic sign test, and a road test. After the reexamination was completed, the driver license examiner determined whether a medical report form needed to be completed. North Carolina licensing agency guidelines for when an examiner should issue a medical report form were provided in the Driver License Examiner's Manual, and are reproduced in Appendix D.

In Texas, only drivers referred by the licensing agency to the MAB were required to have their treating physician complete a medical form. The criteria for MAB referral are reproduced in Appendix F. If an examination request was received from a physician, a law enforcement officer, the courts, or a driver license examiner, the staff in the Enforcement and Compliance Services (ECS) Department reviewed the information to determine whether to refer the case to the MAB, requiring completion of a medical form. When an examination request was received from any other source, the ECS sent the driver a letter informing them to appear at a local driver license office to schedule an interview. Based on the driver's responses to the medical questions and the examiner's observations of the driver during the interview, the driver could be referred to the MAB (requiring a medical form), required only to take the licensing agency tests, or the case could be dismissed.

In Wisconsin, if the Medical Review Section was confident that the condition was strictly physical in nature (e.g., amputated limb, deformity, congenital condition, etc.), and it was not a progressive condition, then a medical report was not issued and the driver needed only to demonstrate the ability to drive safely. If a report from law enforcement or a concerned private citizen did not cause medical review to question the driver's medical condition, the licensing agency could just evaluate the driver with a road test. All other cases required completion of a medical report form.

In Washington, a driver was required to have a medical report completed based on a referral from the public. When a referral was received from a medical professional or a law enforcement officer, the medical section reviewed the information to determine whether a medical or vision report was required; but not all such referrals required a medical report. The driver *could be* required to submit medical information, to undergo licensing agency testing only, or the license could be immediately cancelled.

In Oregon, the Driver Safety Unit evaluated all mandatory and voluntary report forms using Risk Intake Criteria (see Appendix J) to determine the risk level (high, moderate, low) and the course of action (immediate suspension, medical report required, vision report required, knowledge and road test required). All mandatory reports that were accepted as such were considered *high risk* and the driver's license was suspended in 5 days. People requesting restoration of their license were required to provide a medical report from their treating physician. This medical report was reviewed by a licensing agency medical determination officer. If the driver was determined medically eligible for testing by the MDO, he or she had to pass the vision, knowledge and driving tests. Similarly, drivers referred by voluntary reports

from all sources and by reports from physicians that were not accepted as mandatory, but were deemed high risk by the Driver Safety Unit, received license suspensions within 5 days. Their licenses remained suspended until they provided medical information that cleared them to drive (according to the licensing agency guidelines) and they passed any required licensing agency tests.

Oregon drivers deemed at *moderate risk* could be required to obtain medical reports from their treating physicians. If so, they were given 30 days to provide the medical report to the licensing agency (or face license suspension); if cleared, they could also be required to take the licensing agency vision, knowledge, and drive tests. Some drivers assigned as moderate risk were not required to obtain a medical report from their physician; they were required only to take and pass the licensing agency tests. This included reports of driving behavior only (no mention of medical condition), voluntary reports of a one-time driving behavior incident without clear evidence of medical cause, or voluntary reports of mental or physical conditions or impairments that could affect a person's ability to drive safely, but did not include loss of consciousness or control or a problem condition involving alcohol, inhalants, or controlled substances.

No licensing agency action could be taken for Oregon drivers placed at *low risk*, based on information included in the referral (e.g., a report from a physician or healthcare provider indicating the condition or impairment was not likely to recur or did not affect the person's ability to drive safely, or a report of driving behavior of a single incident with no indication of a mental or physical condition or impairment affecting the person's ability to drive safely).

Medical information used in making licensing decisions. Table 11 shows what information provided by treating physicians the licensing agency case reviewers considered when making license determinations, and the types of cases that were most difficult to judge. Check boxes were included on the data collection form for the following types of information: newly diagnosed conditions, conditions a driver has had for some time, medications, conformance with department guidelines, and treating physician's opinion of fitness to drive. Five States checked all five information types: North Carolina, Texas, Wisconsin, Washington, and Oregon. Of particular note, all five States had guidelines for loss of consciousness disorders, four of the five had guidelines for multiple medical conditions (all but Washington), and three of the five asked the physician to complete detailed medical history for multiple medical conditions (all but Oregon and Washington, although Oregon's form was more comprehensive than Washington's). More detail about the two outlying States, Maine and Ohio, is provided below.

Maine indicated that case reviewers relied on newly diagnosed conditions as well as conditions a driver had for some time and conformance with department guidelines. Reviewers also considered information about medication use for the conditions under evaluation, but indicated that they did not follow up on medications used to treat other conditions. Medication use and effects on function were subsumed within the FAP for some conditions (e.g., seizures and unexplained episodic alterations of consciousness, psychiatric disorders). Maine, which asked physicians to profile a driver according to the State's Functional Ability Profile (FAP), did not ask the treating physician to provide an opinion about the patient's ability to drive safely; however, this determination was subsumed within the FAP.

Table 11. Information From Treating Physicians That Licensing Agency Case Reviewers Factor into Licensing Decision

Study Group	State	Newly Diagnosed Conditions	Conditions a Driver Has Had for Some Time	Medications, Interactions, Effects on Function	Conformance With Department Guidelines	Treating Physician's Opinion of Fitness to Drive	Types of Cases Most Difficult to Judge, or to Complicate Licensing Decisions
MAB & MP	North Carolina	✓	✓	✓	✓	✓	Vision cases, because visual acuity can change from year to year
	Maine	✓	✓	✓	✓		Dementia cases that improve, improper form completion by physicians (no profile, or incorrect profile level based on comments made by physician)
MAB & Admin	Texas	✓	✓	✓	✓	✓	Psychiatric and cardiovascular issues
	Wisconsin	✓	✓	✓	✓	✓	Cases where there was not a clear medical consensus, cases where a driver passed license tests (given inadvertently) but driver did not meet medical/licensing standards, and cases where the driver met medical standards but field office had concerns.
Admin Only	Ohio					✓	N/A: Licensing decision (maintain or revoke) based solely on treating physician's recommendation and licensing agency tests, if physician recommended testing for drivers with medical condition under effective control.
	Washington	✓	✓	✓	✓	✓	Interpreting narrative descriptions on physician reports by staff with no medical background. Physicians were hesitant to provide the detail needed or failed to report due to liability concerns
MP Only	Oregon	✓	✓	✓	✓	✓	Receiving conflicting medical information from the driver's medical providers complicated the process

Ohio's physician examination form asked how long a condition had lasted, the date of the last episode (if applicable, or how long the condition had been under effective medical control), and about medications and compliance. The physician provided an opinion as to whether the patient's condition was sufficiently under control to operate a motor vehicle, and if so, whether the patient should undergo any licensing agency tests to determine licensure, and whether periodic medical review should be required. The licensing agency considered only the physician's opinion to determine medical fitness to drive. This was consistent with Ohio's other medical review practices; namely, that there were no medical guidelines for driver licensing, and that case reviewers with no medical background proceeded with a licensing determination solely based on the physician's opinion (and the results of licensing agency tests, if testing was recommended by the physician). This practice removed any complications for case review staff; there were never "judgment calls" or borderline cases. However, this practice assumed that all treating physicians in Ohio realized which physical and cognitive abilities underlie safe driving performance, and at what level of severity a medical condition impaired these functions.

Although six of the seven case study States indicated that they took into consideration the treating physician's opinion of fitness to drive, only North Carolina, Wisconsin, Ohio, and Oregon included a question on the medical evaluation form asking specifically whether the patient was able to drive safely.

Road testing. Previous research has shown variability in the kinds of road tests States offer for driver reexamination. Some licensing agencies conduct the same skills test for driver reexaminations as that conducted for original license application. That is, a test consisting of a standard number of driving skills or traffic situations on a pre-established route. Other licensing agencies conduct an examiner-directed limited skills test for reexamination drives to determine whether a driver can compensate for a disability safely, with or without special equipment. Others may conduct a longer evaluation than used for original applicants, with additional elements such as finding the way back to the beginning of the test, including freeway segments, requiring additional lane changes, and other memory and concentration tasks (see Lococo, 2003).

Table 12 shows how road testing differed in the seven case study States for drivers undergoing reexamination compared to novice drivers applying for their first license. The road test given to drivers undergoing reexamination was the same as the test given to original applicants in both Group *MAB & MP* States (North Carolina and Maine), as well as in Ohio (*Group Admin Only*) and in Oregon (*MP Only*). Although the standard course *could be* used in Texas and Wisconsin (Group *MAB & Admin*), and Washington (Group *Admin Only*), more time and additional maneuvers could be allotted; and in Washington, more verbal communication was included. Specifically, Washington's Examiners were trained to bring errors to the driver's attention, and to ask them to explain if they were aware of the error and why they made it (for example, failing to use turn signals, failing to check a vehicle's blind spot for approaching traffic, or committing a violation of a law or a dangerous action). Reasons for errors often point to physical impairments such as an inability to turn the head to check for blind spots, and the need for additional mirrors and restrictions to driving vehicles so equipped. One reason drivers were asked why they made errors was because special equipment and associated restrictions (such as extra mirrors) would be applied only if a driver *couldn't* turn their head as opposed to *wouldn't* turn their head. Reexamination tests in Washington required extra time as a result of Examiners asking questions about errors and discussing ways to correct them.

Table 12. Characteristics of Road Tests Given to Drivers Undergoing Reexamination

Study Group	State	Specialized Training or Experience Requirements for Licensing Agency Examiners Who Conducted Road Test for Medical Review	Was On-Road Test for Medical Review the Same as On-Road Test for Original Novice Applicants?	If On Road Test was Different, How?	Were Home Area Tests Sometimes Given?	Did the Licensing Agency Require Some Drivers to Undergo Evaluation by CDRS/DRS Prior to a Licensing Decision?
MAB & MP	North Carolina	No	Yes	N/A	No	Yes
	Maine	Yes	Yes	N/A	Yes	No
MAB & Admin	Texas	No	Maybe	Sometimes the same, or on an undetermined course long enough to score all categories listed on the comprehensive exam form. Could include demonstrations of seeing ability.	Yes	No
	Wisconsin	Yes	No	Although the course could be the same, the maneuvers were examiner-directed to enable a DLE to judge how safely a person with mental or physical impairment operated a vehicle, with or without adaptive equipment. It also included a highway/freeway segment.	Yes	Yes
Admin Only	Ohio	No	Yes	N/A	No	No
	Washington	Yes	No	The approved standard drive course was used, but more time was allotted, the in-vehicle physical assessment test was conducted first, more verbal communication was used, goal was to identify shortcomings and find correction or compensation.	No	No
MP Only	Oregon	Yes	Yes	N/A	Yes	Yes ^a

^a Only for drivers who were denied further road testing and had their licenses cancelled, who needed proof that they had successfully completed a driver rehabilitation program and wished to be allowed to complete the licensing agency road test to regain licensure.

With regard to special training or experience required of driver license examiners who conducted road tests for drivers undergoing medical review, one State in each group (Maine, Wisconsin, Washington, and Oregon) had extended requirements. In Maine, reexamination testing was conducted by examiner supervisors, who could assign cases to senior examiners. In Wisconsin, examiners who conducted reexamination tests had conducted at least 100 regular skills tests, and had completed a one-day training course in conducting reexamination tests. In Washington, reexamination tests were conducted by reexamination-certified examiners—a subset of more experienced examiners who received additional training specific to the reexamination process. In Oregon, staff who conducted At-Risk Program tests were more experienced, and included either transportation services office leaders or customer service managers. Training consisted of an initial specialized at-risk training and a refresher training approximately every two years.

In contrast, in North Carolina, Texas, and Ohio, the same examiners who road tested novice drivers also road tested drivers undergoing reexamination. In Texas, all examiners were trained to conduct comprehensive exams.

Some States allowed drivers who had failed the standard reexamination test, or who simply preferred not to take the standard test, the option of a road test conducted on familiar roadways near their homes. Tests conducted to determine whether drivers were safely able to drive in their home area were given in four of the seven case study states: Maine (*MAB & MP*), Texas and Wisconsin (*MAB & Admin*), and Oregon (*MP Only*). These tests were given by the examiners who conducted the reexamination road tests in each State. Drivers could be restricted to driving within a specified radius of their home, or only to specific destinations, specific routes, or within a specific city/town.

Among the case study States, only in North Carolina and Wisconsin did case reviewers sometimes refer drivers to driver rehabilitation specialists (DRSs) to assist with a licensing determination. In North Carolina, this occurred either when recommended by the treating physician or by the medical advisors following several road test failures in the local office, due to suspected cognitive decline. In Wisconsin, referrals to DRSs were made when the treating physician recommended additional testing. Meanwhile, in Oregon, DRSs did not assist with licensing determinations. Rather, drivers whose licenses had been cancelled and who were denied further road testing due to unsafe performance during a drive test had to show proof that they have taken steps to improve driving skills before the licensing agency would allow subsequent road testing. One means of adequate proof was successful completion of a driver rehabilitation program conducted by a driver rehabilitation specialist.

Circumstances for suspension during the medical review process. In all case study States, licensure should be removed during the medical review process for failure to submit the requested physician or vision specialist reports, for unfavorable medical reports (when the treating physician advised against driving or profiled a driver into such a category), or for failing (or failing to take) the licensing agency's reexamination tests (road, vision, knowledge) (See Table 13).

Table 13. Circumstances Under Which Licensure May Be Removed During the Medical Review Process

Study Group	State	Circumstances Under Which Licensure May be Removed During the Medical Review Process						
		Referral Indicated LOC or Other Severe Risk to Safe Driving	Failure to Submit Medical or Vision Reports	Unfavorable Medical or Vision Report	Failure to Take Required Licensing Agency Tests	Failure on Licensing Agency Tests	Unfavorable DRS/CDRS Evaluation	Disqualification Based on Licensing Agency Medical Criteria for Licensing
MAB & MP	North Carolina		✓	✓	✓	✓	✓	✓
	Maine	✓	✓	✓	✓	✓		✓
MAB & Admin	Texas		✓	✓	✓	✓		✓
	Wisconsin	✓	✓	✓	✓	✓	✓	✓
Admin Only	Ohio		✓	✓	✓	✓		
	Washington	✓	✓	✓	✓	✓		✓
MP Only	Oregon	✓	✓	✓	✓	✓		✓

In all case study States except Ohio, drivers undergoing reexamination/medical review faced license removal during the reexamination process if they did not meet the medical criteria for licensing. In Ohio, where there were no medical criteria for driver licensing beyond those for vision, the licensing agency relied on the opinion of the driver's treating physician as to whether their condition was under sufficient medical control to allow safe driving. Continued licensure was then granted or suspended based on the physician's recommendations, the driver's ability to meet the vision standards, and (if recommended by the driver's physician) their ability to pass the licensing agency's knowledge and road test.

In four of the seven case study States, licensure could be removed upon receipt of a referral that indicated the driver suffered from a loss of consciousness disorder or other medical condition posing a severe risk to safe driving. There was no pattern by group, as one State in each of the four groups allowed for immediate suspension or cancellation pending the outcome of the medical review.

Only in North Carolina (Group *MAB & MP*) and in Wisconsin (Group *MAB & Admin*) could a driver's license be suspended or cancelled pending the results of a Driver Rehabilitation Specialist's evaluation and recommendation

Licensing outcomes. Table 14 provides the licensing outcomes that could result from driver reexamination in each State, and the proportion of referrals in 2012 with each outcome (where States could provide actual data or their best estimate). The following outcomes were common to all case study States: no change in license status, removal of licensure (suspension, cancellation, revocation) daytime only restrictions, corrective lenses required, adaptive equipment required, and periodic review. Regarding Wisconsin's large proportion of suspensions (34 of the 61 cases sampled for these questions, or 56%), just over half of these were due to people disregarding the licensing agency's request for information or testing. Oregon suspended 43% of the drivers referred in 2012, including all of those referred under the mandatory reporting law for physicians and other healthcare providers (drivers with severe, uncontrollable, and uncorrectable impairments). Washington estimated a large proportion of drivers with no change in their license status (55%), and provided no explanation, other than there was some "doctor shopping" – visiting multiple physicians until one provided a favorable report. It was the policy of the Washington licensing agency to cancel a driver's license if a medical professional indicated that a driver had a condition not under control (e.g., a loss of consciousness had occurred within the past 6 months) which could interfere with driving. License outcomes and their proportions, based on a 500-driver sample in each case study State, are provided in Volume 2 of this report.

Time-of-day restrictions were unique to Wisconsin and Oregon. Although there were no such restrictions applied in Wisconsin's small sample of 61 referrals in a 5-day sample, such a restriction would need to stipulate specific times, such as "no driving between midnight and 5 a.m." Wisconsin would not issue a time of day restriction indicating "no rush hour." In Oregon, drivers in the At-Risk Program who had restrictions applied by the Driver Safety Unit or a licensing agency field office employee for specific times of day, routes, or destinations were required to carry a "Restriction Letter" along with their licenses when they drove, that outlined where and when they were permitted to drive (see Appendix J).

Table 14. Potential Outcomes of Referrals for Initial Cases Opened in 2012, and Estimates, Where Available

Study Group	State	Potential Outcomes of Non-alcohol Referrals and % of Initial Cases Opened in 2012 (Unknown if no % entered)														Estimates or Actual Data
		No Change in License Status	Removal of Licensure	Daytime Only Restrictions	Time of Day Restrictions	Restrictions to a Radius of Home	Restrictions to Specific Destinations	Designated Route Restrictions	Restrictions to a Specific Geographic Area (City, Town)	Speed Restrictions	Road Type Restrictions (e.g., No Freeways)	Corrective Lenses required	Adaptive Equipment Required	Prosthetic Aid Required	Periodic Review	
MAB & MP	North Carolina	✓ (6%)	✓ (23%)	✓ (17%)		✓ (5%)	✓ (5%)			✓ (10%) combo max speed/no interstates		✓ (12%)	✓ (9%)	✓	✓ (13%)	Actual Data
	Maine	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	
MAB & Admin	Texas	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Wisconsin	✓ (8%)	✓ (56%)	✓ (3%)	✓ (0%)	✓ (1%)	✓ (0%)	✓ (0%)	✓ (0%)	✓ (1%)	✓ (1%)	✓ (2%)	✓ (0%)	✓ (0%)	✓ (26%)	Estimates based on a 5-day sample of referrals (N=61)
Admin Only	Ohio	✓	✓	✓							✓ some bioptic telescopic lens drivers	✓	✓		✓	
	Washington	✓ (55%)	✓ (5.5%)	✓ (2%)								✓ (10%)	✓ (8%)	✓ (3%)	✓ (16.5%)	Estimates
MP Only	Oregon	✓ (7%)	✓ (43%)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ (30%)	Actual Data ^a

^a In Oregon, 20% of referrals result in some type of license restriction, but percentages by restriction type could not be broken out.

Geographic, road type, and speed restrictions were not implemented in the two *Admin Only* Group States. Such restrictions were implemented among the States that conducted home-area road tests (Maine, Texas, Wisconsin, and Oregon), and occasionally in North Carolina, which did not offer home-area tests. Prosthetic device restrictions were not implemented often (if at all) in North Carolina or at all in Ohio, but were available and implemented in the other five States.

In all seven case study States, the licensing decision was communicated to the driver by a letter mailed to their homes; in Maine and Washington, it could also be given verbally by the license examiner at the conclusion of the drive test if one was conducted. Similarly, in Oregon, if a driver failed a road test, an examiner could recommend another opportunity to test, special vehicle equipment, a limited route restricted license if appropriate, or a restricted license to allow the driver to take driving lessons if the license was already suspended.

The outcome of the referral was not communicated back to the referral source in any case study State, with the exception of a physician referral in Oregon for a high-risk driver who received an immediate suspension as a result of the referral. All referral sources in Oregon were sent a letter indicating that the report was received. The letter stated either that the licensing agency would evaluate the person's qualifications to drive, or that the information provided the licensing agency with sufficient reason to question the person's ability to drive safely and that the licensing agency would notify the person reported of the actions needed to prove that he/she was able to drive safely. These could include passing licensing agency vision, knowledge and driving tests and/or submitting medical information.

North Carolina's Medical Request for Driver Reexamination form specifically stated that the Program was unable to release its final recommendation to the reporting source, due to confidentiality requirements. Similarly, Washington's referral form stated that the licensing agency was unable to divulge the outcome of the evaluation to the referral source.

Time and costs to process medical referrals. Time and costs (salary for personnel) to process drivers referred for medical review are shown in Table 15. Five of the seven case study States processed medical review cases within 30 to 60 days (on average) from the referral date. The variation was a function of how long it took for drivers and their treating physicians to submit completed medical reports, and whether a road test was required. Maine could not provide an estimate. In Oregon, a case could be processed as quickly as 5 days (for mandatory referrals that resulted in immediate suspension). Voluntary referrals requiring a physician's statement and licensing agency testing were processed within 60 days (30 days to obtain the medical statement and 30 days to test). Forty-three percent of the referrals in Oregon received immediate suspensions. Consequently in Oregon, cases were processed in 10 to 14 days, on average.

Based on a comparison between Texas, where the majority of cases were referred to the MAB, and the other MAB States with lower MAB caseloads, it did not appear that case disposition time was affected by whether cases were reviewed by an MAB. It also did not appear that case disposition time was a function of a larger MAB staff, based on a comparison between Texas and North Carolina. Texas' nine MAB physicians and North Carolina's four contract physicians served in similar capacities and reviewed caseloads of similar size (6,608 in Texas and the majority of the 8,689 cases in North Carolina). Although Oregon did not have an MAB, its

Medical Determination Officers filled a role similar to Texas' MAB and North Carolina's contract physicians. In 2012, 80% of the At-Risk Program referrals in Oregon were evaluated by the MDOs. Case disposition time in Oregon (30 days to obtain the medical statement and 30 days to test) did not appear to be affected by reliance on licensing agency physicians.

Table 15. Time and Personnel Costs to Process Medical Referrals

Study Group	State	Cases Where Licensing Agency Road Test Was Not Required	Cases \Where Licensing Agency Road Test Was Required	Additional Costs if Case Referred to MAB	Additional Cost if Case Appealed	Average and Range of Time for Processing Medical Review Case (Referral to Licensing Decision)
MAP & MP	North Carolina	10 minutes to 1 hour \$8 to \$11 (regardless of time)	1 hour ~\$25	N/A	\$56 per case, plus reimbursement for 3 physicians' daily costs	30-60 days
	Maine	1.25 hours \$20.09	6.25 hours \$135.59	\$25 mileage reimbursement	unknown	unknown
MAB & Admin	Texas	2 hours \$24	3 hours \$37.09	30 minutes licensing agency time \$6.54 ^a	1.75 hours \$22.91	30-60 days if driver responded for request for medical information in a timely manner
	Wisconsin	1 hour \$30	2.33 hours \$70	N/A	2.66 hours \$80 for staff time to prepare case, plus \$25 to each of the 3 medical professionals plus mileage (Total \$155 per case, plus mileage to physicians)	Unknown, but goal was to complete the process within 60 days from the date of referral
Admin Only	Ohio	15 minutes \$4.50	<u>Complete Test</u> (Vision, Written, Road) = 1 hour , plus 15 minutes to process case \$22.50 <u>On-Road Test Only</u> = 30 minutes (15 minutes to test + 15 minutes to process case) \$9.00	N/A		45 days if medical form from physician was received before the due date
	Washington	1.5 hours \$30	3 Hours \$60	N/A	1 hour of staff time at \$20 plus 1 hour of Hearing Examiner time at \$35. Total \$55	When no road test required: average 33 days (17 to 96 days) When road test required: average 70 days (37-135 days)
MP Only	Oregon	2.69 hours \$78	4 hours \$119	N/A	\$80 (plus \$33 per default)	Range: 5 days (immediate suspension) to 60 days (for medical and testing). Average: 10 days to 2 weeks

^aPlus approximately \$1.00 per case paid by Texas Department of State Health Services for MAB physician meeting attendance cost.

When no licensing agency road test was required, the two *MAB & MP* States, North Carolina and Maine, were the most similar in terms of person-hours required to process a case (approximately 1 hour), when looking at just the two States within each structure. Wisconsin (*MAB & Admin*) and Washington (*Admin Only*) also averaged approximately 1 hour for case review time. The range of person-hours required was defined by Texas (*MAB & Admin*), and Oregon (*MP Only*), where case review time was estimated at 2 hours or more, and Ohio (*Admin Only*), where case review occurred as quickly as 15 minutes. Case reviewers in Ohio followed the treating physician's recommendations; there was no decision time, only the time required for processing paperwork. In Texas, there was a medical interview that lasted approximately 20 minutes and was followed by 1.5 hours of time for closing out the interview. In Oregon, while MDO case review averaged only 4 minutes per case, over 2 hours per case of office personnel time (office specialists and office assistants) was used for at-risk case entry, preparing cases for MDO review, entering findings of the review, processing licensing agency and MDO clearances, generating and proofing forms, making medical calls, filing, and correspondence.

The States with the highest costs for case review were Oregon (*MP Only*) followed by two States with no medical professionals on staff (Wisconsin and Washington). Oregon's costs were highest due primarily to the longer case preparation time. In addition, Oregon and Wisconsin had the highest average office personnel costs of the seven case study States. It was not the cost of the medical professionals in Oregon that added significantly to the case review costs, as the MDO average cost per case in 2012 was \$4.50. Rather, it was the higher average annual salary of the office personnel and the time they committed to each case. Washington's higher costs likely reflected their longer review times as well.

When a road test was required, Ohio's time and dollar cost were the lowest, and Maine's the highest, followed by Oregon. There was no consistency within Group. It was noteworthy that Oregon, Maine, and Wisconsin had the highest costs of living of the seven case study States. Therefore, it is plausible that the higher driver medical review costs in these States was, at least partially, a consequence of higher costs of living.²

Costs to appeal a case (where provided) also varied, as shown in Table 15. In general, these costs tended to be highest in States where MAB physicians were involved in the appeals process (North Carolina, Wisconsin), and lowest when the appeals are handled in-house or administratively (Oregon, Texas, Washington).

² Online cost of living calculators comparing the following seven cities (not all licensing agency headquarters cities available), from highest to lowest: Portland, OR (Salem not included in calculator); Portland, ME (Augusta not included in calculator); Madison, WI; Olympia, WA; Austin, TX, Raleigh, NC; and Columbus, OH.
<http://money.cnn.com/calculator/pf/cost-of-living/>

Conclusions and Discussion

Driver medical review programs have certain basic tasks they need to perform. These include identifying potentially at-risk drivers, assessing individuals' fitness to drive, and rendering licensing decisions that appropriately balance public safety and personal mobility. The discussion below draws from information collected from our seven case study States to highlight ways that having or not having an MAB, and having or not having medical professionals on staff to make medical review decisions, might affect the way a State carries out these tasks.

Identification of At-Risk Drivers

Having an MAB could assist in identifying potentially at-risk drivers if board members also help with outreach to other physicians in the State and/or contribute to the development of physician-friendly reporting forms and procedures. Among the case study States, Maine and North Carolina, both States with MABs and medical professionals on staff, had among the highest rates of new referrals in 2012, based on number of referrals per licensed driver (Table 2). However, only Maine and Texas reported that their MABs assisted in developing forms to refer drivers for medical review, and only Maine reported that it developed educational material on driver impairment for the general public (Table 4). In both North Carolina and Wisconsin, the role of the MAB was solely to review and advise on individual cases for appeals.

In the absence of a formal MAB, a strong liaison with the State Medical Society and/or Health Department could yield some of these same benefits, or as an alternative, having physicians on the licensing agency staff. Among the case study States, Oregon had adopted this model. Until 2008, the Oregon licensing agency relied on the expertise of MDOs in its Public Health Division to certify medical eligibility of at-risk drivers. Essentially, the MDOs functioned as an MAB. After being shifted to the licensing agency in 2008, the MDOs continued to perform case reviews, and have assisted with other aspects of the medical review process. The proportion of initial medical review cases to licensed driver population in Oregon, our *MP Only* State, fell between those of North Carolina and Maine.

It should also be noted that there was little consistency with respect to a State having an MAB, and whether the licensing agency had participated in any training (to any potential referral sources) during the past year (Table 7). Based on these data, it remains uncertain as to whether having an MAB was associated with an increase in the reporting of at-risk drivers by physicians.

Some MAB members also contribute to the development and updating of medical and vision requirements for licensure, which affects the number of drivers qualifying to renew their license as well as the medical review caseload. All four case study States with MABs as well as Oregon (*MP Only*) had comprehensive visual and medical guidelines for licensing, while the two non-MAB States did not (Table 6). In addition, both Maine and Texas indicated that their MABs advised on medical criteria and vision standards for licensing (Table 4), as did Oregon's MDOs. Although the role of the Wisconsin MAB was limited to review of appeals cases, that State's MAB physicians had contributed to the development of guidelines in the past. Finally, although it has an MAB, North Carolina's guidelines were originally developed by a physician employed with the State's Department of Health and Human Services. In contrast, Ohio, a non-MAB State, only had guidelines related to vision, which were developed by a past private consultant, and

Washington's guidelines were developed with assistance from physicians and various State medical associations.

All four case study States with MABs as well as the *MP Only* State provided legal immunity to physicians who voluntarily reported an at-risk driver, while neither of the two non-MAB States did so. Thus having an MAB and/or medical professionals on the licensing agency medical review staff may support other activities that encourage physician reporting of at-risk drivers.

Finally, case study States with MABs that assisted with initial licensing determinations and/or States with medical professionals on the licensing agency case review staff were more likely to incorporate questions about specific medical conditions on their license renewal applications (Table 6). They were also more likely to either use accumulated crashes/violations or a review of crash reports to trigger a medical review (Table 7). Both actions may help to identify potentially at-risk drivers.

Assessment of Referred Drivers

The case study States varied with respect to how they processed a medical review case, including at what point a report from the driver's physician could be requested, the specific information requested of the physician, the basis for a licensing decision, and who made that decision. In addition, the four MAB States varied with respect to the role that MAB members played in the driver assessment process.

In the absence of an MAB, medical professionals on staff, or detailed medical guidelines, Ohio and Washington (the Group *Admin Only* States) adopted different approaches for assessing referred drivers. Ohio required all referred drivers to have their physician or eye care specialist complete a medical report form to provide detailed information about their medical condition, and based its decisions to grant or suspend a license on the recommendations of the referred driver's physician (Tables 10 and 11). In contrast, Washington State could require a medical report, but when requesting such a report, did not specifically ask for the physician's recommendations regarding licensure (beyond frequency of any periodic review). Washington instead relied more heavily on individualized assessments carried out at local licensing offices, which at times included more comprehensive road testing by specially trained examiners. The other five States fell between these extremes, with no consistent pattern based on Group status.

Arguments can be made for both approaches: physicians have knowledge about their patients' medical conditions and the effectiveness of any efforts to manage these conditions, including any medication-induced complications; however, they may not be knowledgeable about how medical conditions and/or medications affect their patients' driving abilities. A comprehensive road exam could expose these driving limitations, but could also result in "incorrect" licensing decisions if otherwise safe drivers were intimidated by the testing process, or if otherwise unsafe drivers were having an "above average" day. Of course, much depends on the overall quality of any licensing agency testing. The best approach to driver assessment probably involves a combination of these two approaches – input from drivers' physicians and licensing agency testing, as appropriate. Having one or more physicians on staff (or an accessible MAB) to help clarify information provided on completed medical forms may facilitate the task.

Having strong medical guidelines for licensing could also be expected to facilitate the medical review process and to lead to more consistent outcomes. However, the five States with strong guidelines were only slightly more likely than the two States without such guidelines to allow non-medical case review staff to make licensing decisions (Table 6). There was no evidence that their reviews could be completed any more quickly or cheaply (Table 15). It should be noted that when drivers were medically cleared (either through applying medical guidelines or their treating physician's opinion), and testing was required to determine whether a driver's skills and abilities warranted continued licensure, it was the Examiners (non-medical personnel) in all States who made the final determination (pass, fail, restrict).

Finally, regardless of whether States had an MAB or medical professionals on their medical review staff—and perhaps, especially if they did NOT have this ready access to medical expertise—another approach to assessing at-risk drivers was to refer them to driver rehabilitation specialists for evaluation, as was sometimes done in North Carolina (*Group MAB & MP*) and Wisconsin (*Group MAB & Admin*). Interestingly, even though they lacked ready access to medical expertise, neither of the *Group Admin Only* case study States reported taking advantage of this resource.

Licensing Outcomes, Time, and Cost

Only preliminary data were available from the case study States on the outcomes of cases referred to medical review. Although all seven States were able to confirm the range of options available to drivers, only one (North Carolina) could provide information on the actual percentage of cases resulting in each outcome, one provided actual percentages but grouped all restrictions into one category (Oregon), and two states (Wisconsin and Washington) were able to provide estimates (Table 14). Thus, a discussion of licensing actions as a proportion of all referrals is provided only for four States: North Carolina (*MAB & MP*), Wisconsin (*MAB & Admin*), Washington (*Admin Only*), and Oregon (*MP Only*).

One could argue that the most efficient and most effective driver medical review program is one that (1) yields few cases with no change in license status (i.e., did not process drivers unnecessarily or permit drivers who may be unsafe under certain circumstances or who have progressive medical conditions to retain full, unmonitored licensure); while (2) avoiding unnecessary license suspension by providing for other outcomes that serve to promote safety without curtailing mobility. In the three States with either an MAB and/or medical professionals on the case review staff, the majority of cases resulted in a licensing action (94% in North Carolina, 92% in Wisconsin, and 93% in Oregon). However, in Washington (*Admin Only*), fewer than half of the cases (45%) resulted in a licensing action.

The proportion of license suspensions in these four States ranged from a low of 5.5% in Washington (*Admin Only*) to a high of 56% in Wisconsin (*MAB and Admin*). Oregon (*MP Only*) also showed a high percentage of suspensions (43%), likely due to the mandatory health care provider reporting requirement for drivers with severe and uncontrollable impairments, who received automatic suspensions. Other than the fact that more licensing outcomes were generally available to drivers in States with MABs and/or medical professionals on their review staffs, no conclusions can be drawn about the likelihood of a medical review program's structure affecting licensing outcomes. Volume 2 of this report, which describes licensing outcomes for a

systematic random sample of 500 drivers in each of the case study States, addresses some of these issues.

Another potential indicator of a medical review program's efficiency is the percentage of review decisions appealed by drivers (Table 2). Although the data were again incomplete, the estimates provided were all less than 6%. Interestingly, the likelihood of an appeal was lowest in Ohio, where all suspensions came either at the recommendation of the driver's physician or failure of the driver to pass the licensing agency's tests. Appeal rates were also low in Washington State, where a large percentage of referred drivers completed specialized testing, and Maine, where treating physicians were responsible for placing drivers into the appropriate Functional Ability Profile, and where home-area road tests and many restriction types were offered. This suggests that drivers may be more accepting of decisions made in these more personal contexts, as opposed to more impersonal approaches typical in the *MAB* and *MP Only* States (e.g., failure to meet certain medical standards; or a decision by an unknown "medical expert").

Finally, having an MAB and/or having medical professionals on staff did not appear to be associated with higher overall program costs. Although the highest estimated cost for a medical review case where road testing was not required was in Oregon (an *MP Only* State), this was primarily due to the longer times required by administrative staff to process a case, coupled with the generally higher salaries of the case review staff (see Table 15). The next highest costs were in Wisconsin and Washington, both States without medical professionals on their licensing agency case review staff. This may reflect higher cost of living indices and associated salaries for licensing employees in these two States, relative to the other case study States. North Carolina kept its costs low by paying its contract physicians a set fee per case reviewed (regardless of time required) while Texas reduced its costs by its Department of State Health Services paying its MAB reviewers a set fee of \$100 for attending bi-monthly case review meetings. Not surprisingly, Ohio's costs were lowest, reflecting that non-medical staff needed only refer to the physician's recommendations to determine whether referred drivers should retain their licenses with or without further testing, resulting in the shortest case review time of the case study States.

Concluding Comments

The information provided by the case study States provides some evidence consistent with the idea that having an MAB and having medical professionals on the licensing agency case review staff both afford some advantages to a driver medical review program. An absence of these elements, however, did not preclude an effective program. What is important is that a medical review program fulfills its basic functions of identifying, assessing, and rendering licensing decisions on medically at-risk drivers. There are many approaches States can adopt to accomplish these objectives.

One of the most important program elements appears to be having access to medical expertise when needed, both with regard to individual case disposition and more broadly for assistance in developing medical standards or guidelines for licensing. Having an MAB or physicians on staff certainly provides such access. Although this tenet may be less critical for programs relying on individual physician recommendations and license agency testing, at some point all States require information on how medical conditions and age-related declines in

physical function can affect driving abilities, if only to educate their own medical review staff and examiners. This information is also beneficial in outreach efforts to educate physicians about the medical review process for licensing drivers, to promote physician reporting of their patients with driver impairing conditions, and informing physician opinion regarding their patients' ability to drive safely, when completing licensing agency medical statements.

It is also important to note that even programs with our targeted elements in place may vary considerably. In States with an MAB (Maine, North Carolina, Texas, and Wisconsin), only in Maine and Texas did the MAB review individual cases to provide the medical review department with recommendations for licensing actions. The North Carolina and Wisconsin MABs only reviewed individual cases for drivers appealing the licensing agency's action. Even in the two States where the MAB assisted in licensing determinations, the percentage of cases that required MAB review varied widely. In Texas, the MAB reviewed over 60% of new referrals, while in Maine it reviewed less than 1%. Texas did not have medical professionals on its case review staff, and North Carolina did; but in practice, North Carolina's contracted physicians functioned very similarly to Texas' MAB, in that they reviewed the majority of cases referred to the licensing agency each year for medical review. As a final example, some States had volunteer MABs, while others provided compensation to their board members; but at least for the case study States, this distinction appears to reflect the practicalities of caseload, rather than the range of responsibilities a licensing agency might assume. While there was no MAB in Oregon, the licensing agency's four MDO physicians fulfilled dual roles as case reviewers for the majority of referred drivers, in addition to roles that MAB physicians in other States fill, such as assisting the licensing agency in developing guidelines and medical review procedures.

Volume 2 of this report describes the relationship between medical referrals and licensing outcomes using prospective data for 500 initial medical review referrals in each case study State. Volume 3 provides detailed narrative summaries for all 50 States and the District of Columbia, as well as tables comparing and contrasting specific elements of States' medical review programs.

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Appendix A: Variable List Used to Categorize States Into Four Medical Review Structures and to Describe Their Medical Review Processes.

Variable	Source of Data, Description of Data Element, Coding
State	Name of State
Group	Medical Review Structure Group: 1=MAB + Medical Professionals on licensing agency Case Review Staff; 2=MAB + No Medical Professionals on licensing agency Case Review Staff; 3= No MAB
NHTSA Region	NHTSA Region 1-10
Licensed Drivers All Ages	FHWA2010: Total licensed drivers all ages
Licensed Drivers Age 65+	FHWA2010: Licensed drivers age 65+
MAB Presence	LPP/AAA: Does the State have an MAB (or formal liaison with the State Health Department that functions as an MAB)? 1=Yes; 2=No
MAB Reviews Individual Cases	LPP/AAA: Does the MAB review and advise on individual cases? 1=Yes; 2=No; 3=N/A (no MAB)
MAB Develops Guidelines	LPP/AAA National: Does the MAB develop guidelines on medical criteria and vision standards for licensing? 1=Yes; 2=No; 3=N/A (no MAB)
Medical Professionals in Unit	NHTSA 2003: Licensing agency case review staff composition:1=all case reviewers were medical professionals (nurses or physicians); 2= there is at least 1 medical professional within those who review cases; 3 = no medical professionals on licensing agency case review staff
Breadth of Medical Guidelines	NHTSA 2003: Breadth of medical guidelines (in addition to hearing and alcohol if present): 1=vision only; 2= vision + LOC only; 3=vision + LOC + Dementia; 4=vision + LOC + multiple other medical conditions
DMV Hearing Interview Determines Path	NHTSA 2003: In-person appointment with Hearing Officer to determine medical review path (whether medical exam is required and/or road, vision, written)? 1=Yes; 2=No
Number Referred for Review	NHTSA 2003/Stutts 2005: Number of drivers referred for medical review per year
Number Reviewed by MAB	NHTSA 2003: Number of cases referred to MAB
Types of Cases MAB Reviews	NHTSA 2003: Types of cases the MAB reviews
Depth of Questions on Renewal Application	NHTSA 2003: Depth of questions on renewal application regarding medical conditions: 0=no questions, 1=very general question or just LOC/seizure, 2=detailed and specific about multiple conditions
Accumulation of Crashes Triggers Review	NHTSA 2003: Does a crash or number of crashes within a timeframe trigger medical review, independent of law enforcement referral for review? 1=Yes, 2=No
Periodic Review	NHTSA 2003: Does the licensing agency impose periodic review requirements? 1=Yes (available); 2=No (never imposed)
Medical Review Road Test Type	NHTSA 2003: Type of road test given to drivers referred for Medical Review: 1=Standard Test given to original / renewal applicants; 2=extended or tailored
Home Area Test	NHTSA 2003: Were home area tests given? 1=Yes, 2=No
Training of Examiners to Observe Medical Impairments	LPP/AAA: Do local examiners receive training or guidelines on how to observe for potential medical impairments? 1=yes 2=no
Training of Examiners to Observe Older Drivers	LPP/AAA: Do local examiners receive specialized training on older or medically-at-risk drivers? 1=yes 2=no

Variable	Source of Data, Description of Data Element, Coding
Who Determines Restrictions	LPP/AAA: Who makes decisions about imposing restrictions on licenses of medically at-risk drivers? 1=med review/central office staff, 2=local examiners, 3=both of the above, 4=other (driver's physician)
Daytime Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Daytime Only 1=Yes, 2=No
Speed or Road Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Speed / Road Type 1=Yes, 2=No
Driving Time Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Length of Time (Minutes) 1=Yes, 2=No
Distance from Home Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Distance from Home 1=Yes, 2=No
Destination Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Trip Destination or Purpose 1=Yes, 2=No
Equipment Restrictions	LPP/AAA: Behavioral License Restrictions Offered: Special Vehicle Equipment 1=Yes, 2=No
DRS Referrals	LPP/AAA: Whether licensing agency refers drivers to OT/DRS's for assessment and/or rehabilitation 1=Yes, 2=No
Mandatory Physician Reporting	LPP/AAA: Mandatory Reporting of One or More Conditions 1=Yes, 2=No
Physician Immunity for Reporting	LPP/AAA: Physician Immunity When Report in Good Faith?: 1=yes, 2=no, 3=yes, mandatory only
Physician Reports Confidential	LPP/AAA: Physician Reports Confidential?: 1=Yes without exception, 2=Yes unless judicial action, 3=Revealed if driver requests, 4=Not confidential
Standard Renewal Interval	LPP/AAA: Standard Renewal Interval (maximum)
Truncated Renewal Interval for Seniors	LPP/AAA: Shortened Renewal for Seniors? 1=Yes, 2=No
Renewal Interval for Seniors	LPP/AAA: Renew Interval for Seniors
Age Renewal Interval Changes for Seniors	LPP/AAA: Age that Renewal Interval is Truncated for Seniors
Standard In-Person Renewal Frequency	LPP/AAA: Standard In-Person Renewal Frequency Requirement (every cycle or every other cycle)
Different In-Person Cycle for Seniors	LPP/AAA: In-Person Renewal Cycle Different for Seniors? 1=Yes, 2=No
In-Person Renewal Frequency for Seniors	LPP/AAA: In-Person Renewal Frequency for Seniors (every cycle or every other cycle)
Earliest Age for In-Person Renewals for Seniors	LPP/AAA: Earliest age that in-person renewal frequency changes for seniors (if it does in fact change)
Max Years Between In-Person Standard Renewals	LPP/AAA: Maximum number of years between in-person renewals (standard)
Max Years Between In-Person Renewals for Seniors	LPP/AAA: Maximum number of years between in-person renewals (seniors)
Age In-Person Renewal Changes for Seniors	LPP/AAA: Age that in-person renewal frequency changes for seniors (if it does in fact change)

Appendix B: Data Collection Tool



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May 17, 2013

Thank you for agreeing to participate in our NHTSA project “Medical Review Guidelines and MAB Practices.” We sincerely appreciate your willingness to work with us to document your State’s Medical Review structure and process used to make license determinations for drivers with medical and functional impairments.

In the following pages, you will find a 41-question survey, which is the first data collection task in our project. Please save this document to your computer, either on a datastick, on the desktop, or in a directory where you’ll be able to find it later (in Microsoft Word 2010, select “file,” and then “save as”).

Please turn on “track changes” (in Microsoft Word 2010, there is a “track changes” button under the “Review” Tab). This will help us know what has changed, and will help you see which questions you’ve addressed, as well as any others in your Department if the document gets passed around to multiple people for completion. Also, it will probably be easier to work with the document if you don’t have to look at the tracked changes, so turn on the view that is just “Final” instead of the “Final Show Mark-up” view (in Microsoft Word 2010, this is under the “Review” tab).

As you will see, about one-third of the questions have check box responses, while the remaining questions ask for a narrative description or a count of cases of a specific type. Some of the questions with check box responses direct you to “check all that apply,” while others were simple “Yes” or “No” check boxes. Just click in the box to place an “X” in it, and if you change your mind, click in the box again, and the “X” will disappear.

To reduce some of the effort it will take to complete a subset of the questions asking for a narrative description, I have filled in what I collected from your State back in 2003, when a similar survey was conducted (*Summary of Medical Advisory Board Practices in the United States*, Lococo, 2003). However, 10 years have passed since the last survey, so if a lot has changed and it would be easier to start over to explain a process, by all means, please delete the narrative text I have provided and start over. If what’s currently there is still the case, then please type “OK” in the text narrative box just before the text begins. If editing the existing text is the easiest, just click in the box and start typing. Each time you work on the document, make sure you save your changes before you close it (select “File” and then “save”).

I’m looking for a turn-around time of 4 to 6 weeks (mid-to late June). When the survey is complete, please attach it in an e-mail to me at [\[redacted\]](#). If you have any questions at all, please don’t hesitate to call me at [\[redacted\]](#). If you’d prefer to start with a completely blank survey, just let me know and I will e-mail you a new file.

Again, thank you for your cooperation and your efforts in providing the requested information.

Sincerely,

Kathy Lococo

State Name

Contact Name: [Click here to enter text.](#)

Title: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

E-mail: [Click here to enter text.](#)

MEDICAL REVIEW PROGRAM STRUCTURE

1. Does your State have a currently functioning Medical Advisory Board (or formal liaison with the State Health Department that functions as an MAB?)

YES NO *(If no, skip to Question #8.)*

2. In which of the following activities does the MAB participate? (Please check all that apply to the current MAB)

- Advise the licensing agency on medical criteria and/or vision standards for licensing
- Review and advise on individual cases referred by DMV case review staff
 - Paper/electronic document reviews
 - In-person or videoconferencing interviews
 - In-person screening or assessment of fitness to drive (visual, mental, physical)
- Review and advise on individual cases for drivers appealing the DMV's license action
 - Paper/electronic document reviews
 - In-person or videoconferencing interviews
 - In-person screening or assessment of fitness to drive (visual, mental, physical)
- Assist licensing agency in developing medical forms for completion by drivers' treating physicians
- Assist licensing agency in developing forms used by law enforcement, the public, physicians, etc. to report drivers to the licensing agency with suspected medical or functional impairments
- Develop educational materials on driver impairment for the general public
- Participate in the recommendation, development, and/or delivery of training courses or materials for driver license examiners in medical/functional aspects of fitness to drive
- Apprise licensing agency of new research on medical/functional fitness to drive
- Advise on medical review procedures (explain): [Click here to enter text.](#)
- Other: [Click here to enter text.](#)

3. **Describe the composition of the MAB (number of members, duration of term, and medical specialties of each)**

Please edit the text below (from Lococo, 2003) or type “OK” if it is still accurate.

4. **Describe the employment of the MAB physicians (i.e., are they full-time or part-time employees of the licensing agency, paid consultants, volunteer consultants? If not employed by the licensing agency, describe whether they are physicians in private practice or employees of a hospital or clinic, or other Government Agency such as the Health Department, etc.)**

Please edit the text below (from Lococo, 2003) or type “OK” if it is still accurate.

5. **If the MAB reviews individual cases referred by DMV medical case review staff, are fitness to drive recommendations (or recommendations for further testing) provided by one MAB physician, or by the consensus of a group of MAB physicians?**

Please edit the text below (from Lococo, 2003) or type “OK” if it is still accurate.

6. **How many cases did the MAB review in 2012? Please indicate how many of these were non-alcohol related, and how many were alcohol-related cases. If it is not possible to distinguish between alcohol and non-alcohol-related cases, enter the total number of cases reviewed only.**

Number of non-alcohol cases: [Click here to enter text.](#)

Number of alcohol-related cases: [Click here to enter text.](#)

Total number of cases: [Click here to enter text.](#)

7. **What types of cases are generally referred to the MAB for review?**

Please edit the text below (from Lococo, 2003) or type “OK” if it is still accurate.

8. **Please describe the number and characteristics of case reviewers in the DMV Medical Review Department (all staff who review medical reports and make license determinations based on the included information and based on input from licensing tests that may be ordered). Please include their professional credentials, training specific to their Medical Review responsibilities, and length of time each has been in this position.**

Please edit this text (from Lococo, 2003) to make it current; please add additional information about training and employment length.

DMV STAFF CASE REVIEW PROTOCOL

9. In 2012, how many drivers were referred to the Licensing Agency for Medical Review or re-evaluation of fitness to drive? (These are initial referrals by law enforcement, physicians, family, friends, other concerned citizens, DMV counter personnel who observe signs of impairment by drivers undergoing renewal, etc.). Please do not include drivers already under periodic review. Provide the number of non-alcohol-related cases, followed by the number of alcohol related cases. If it is not possible to distinguish between alcohol and non-alcohol-related cases, enter the total number of cases reviewed only.

Number of non-alcohol cases: [Click here to enter text.](#)

Number of alcohol-related cases: [Click here to enter text.](#)

Total number of cases: [Click here to enter text.](#)

10. How many cases that were already under periodic review, did the Medical Review Department review in 2012? Provide the number of non-alcohol-related cases, followed by the number of alcohol related cases. If it is not possible to distinguish between alcohol and non-alcohol-related cases, enter the total number of cases reviewed only.

Number of non-alcohol cases: [Click here to enter text.](#)

Number of alcohol-related cases: [Click here to enter text.](#)

Total number of cases: [Click here to enter text.](#)

11. What are the sources of the *initial non-alcohol* referrals, and what percentage of the total number of these referrals does each source represent (e.g., law enforcement 50%, physicians 5%, family 25%, DMV staff during license renewal 10%, self-report on license renewal forms 10%). Please indicate if the percentages are your best estimate, or if they are based on actual data.

[Click here to enter text.](#)

12. Before certain cases are opened on drivers referred for Medical Review, are there any procedures to determine the authenticity of the referral?

YES NO

12a, If YES, please describe the referral sources that undergo authentication and the procedures : [Click here to enter text.](#)

13. Are all drivers undergoing initial Medical Review required to have their treating physician(s) and/or vision specialist complete medical forms and return them to the DMV Medical Review Department?

YES NO

13a. If NO, please describe the circumstances under which a driver would not be required to comply with this step in the Medical Review process.

[Click here to enter text.](#)

14. In their review of the medical information provided by the driver's treating physician, what do DMV case reviewers consider when making a licensing determination? Check all that apply.

- Newly diagnosed conditions
- Diagnosed conditions that a driver has had for some time
- Medications, medication interactions, and their effects of function
- Conformance with Department medical guidelines for licensing
- Treating physician's opinion on fitness to drive
- Other (explain): [Click here to enter text.](#)

14a. We would like to see a blank copy of the form used to gather medical information by treating physicians. If it is online, please provide the website, below, and if not, please e-mail or mail us a copy. [Click here to enter website where physician form may be found, or indicate that one will be mailed or e-mailed.](#)

14b. We would also like to see the referral form that a physician, family member, law enforcement officer, etc. would use to refer a driver for medical review. If it is online, please provide the website, below, and if not, please e-mail or mail us a copy. [Click here to enter website where referral form may be found, or indicate that one will be mailed or e-mailed.](#)

15. Describe the statutes, laws, and guidelines that govern the licensing of individuals with visual impairments

[Please edit the text below \(from Lococo, 2003\) or type "OK" if it is still accurate.](#)

16. Describe the statutes, laws, and guidelines that govern the licensing of individuals with certain medical conditions or functional impairments.

[Please edit the text below \(from Lococo, 2003\) or type "OK" if it is still accurate.](#)

17. Describe the types of cases or case elements that are the most difficult to judge, or that complicate decisions, or make the Medical Review Department reluctant to act.

[Click here to enter text.](#)

18. Does Licensing Agency staff or MAB physicians conduct in-person screening of physical and cognitive abilities as part of a medical re-examination?

YES NO

18a. If YES, please describe the types of tests and the qualifications of the test administrators.

[Click here to enter text.](#)

19. Is there a “triage” system to expedite particularly risky cases?

YES NO

19a. If YES, please describe the procedures when a particularly risky driver is referred for Medical Review:

[Click here to enter text.](#)

20. Are there situations where a high-risk driver’s license is suspended or revoked immediately (upon receipt of the referral), pending the outcome of the medical review process?

YES NO

20a. If YES, please describe the types of situations where this would occur:

[Click here to enter text.](#)

21. Do certain patterns of crashes and/or violations automatically trigger Medical Review (apart from a referral from a law enforcement officer at a crash scene or at a traffic stop)?

YES NO

21a. If YES, describe the conditions under which crashes or violations (or an accumulation) would trigger a medical review (e.g., accumulation of X crashes in X months; Medical Department reviews all crash narratives for descriptions of potential medical or functional impairment or impairment from medication use; only crashes involving a fatality trigger review; whether driver age factors in crashes and/or violations triggering medical review, etc.).

[Click here to enter text.](#)

22. Can case review staff without medical credentials make licensing decisions based on rules or checklists (e.g., order license suspension for drivers with an uncontrolled seizure disorder)?

YES NO

22a. Relevant comments regarding license determinations by non-medical case review staff: [Click here to enter text.](#)

23. If a DMV on-road evaluation is required as a result of the Medical Review, describe the qualifications of the driver license examiners (DLEs) who conduct such tests (i.e., same DLEs who conduct on-road test for original applicants, more experienced or qualified DLEs, DLEs with specialized training in conducting road tests for older or medically/functionally impaired drivers. If the latter, please describe the training).

[Click here to enter text.](#)

24. Describe the on-road test(s) given to drivers undergoing Medical Review (e.g., the same on-road test given to original/novice applicants; a standard, but more comprehensive road test than given to original/novice applicants; a specialized road test tailored to evaluate whether a driver can accommodate his or her functional/medical impairments).

[Please edit the text below \(from Lococo, 2003\) or type "OK" if it is still accurate.](#)

25. Are home-area tests sometimes offered to drivers undergoing Medical Review, to determine whether a driver can navigate safely in a familiar area near home, and to determine whether a limited license can be issued (e.g., x mile radius from home, limited to specific destinations/trip purposes like shopping, doctor's appointments, church).

YES NO

25a. If YES, describe the circumstances under which a home area test is given, the qualifications of the Driver License Examiners who conduct them, and the approximate number of home area tests given in a 1-year period).

[Click here to enter text.](#)

26. Are some drivers required to undergo evaluation by a driver evaluation specialist (e.g., Occupational Therapist or Driver Rehabilitation Specialist [DRS] outside of the DMV) to obtain this specialist's opinion regarding fitness to drive, before a DMV licensing decision is made?

YES NO

26a. If YES, describe the conditions under which drivers are required to undergo evaluation by a DRS, whether there is a DMV-approved list of driver rehabilitation specialists, whether the license is suspended while the driver is pursuing the DRS evaluation, whether the driver has to take and pass the DMV road test following a favorable opinion by the DRS, and whether the licensing agency will suspend a license based on an unfavorable opinion by the DRS.

[Click here to enter text.](#)

27. Under what circumstances might a driver's license be suspended *during* the review process? Check all that apply:

Referral information indicates loss of consciousness or other severe risk to safe driving

Failure to submit medical or vision reports

Unfavorable medical or vision report (physician or eye care specialist indicates the severity of the condition does not permit safe operation of a motor vehicle)

Failure to take required DMV tests

Failure on DMV tests

Unfavorable DRS evaluation

Disqualification based on DMV medical or visual criteria for licensing.

Other (explain) [Click here to enter text.](#)

28. What are the potential outcomes of *non-alcohol related* referrals? Check all that apply, and enter the percent of initial medical review cases opened in 2012 that resulted in each outcome checked:

No change in license status (no new license action taken) [Click here to enter the % of cases](#)

Suspension [Click here to enter the % of cases](#)

Daytime only restrictions [Click here to enter the % of cases](#)

Time of day restrictions (e.g., no rush hour) [Click here to enter the % of cases](#)

Restrictions to a radius of home [Click here to enter the % of cases](#)

- Restrictions to specific destinations** [Click here to enter the % of cases](#)
- Designated route restrictions** [Click here to enter the % of cases](#)
- Restrictions to a specific geographic area (e.g., city, town)** [Click here to enter the % of cases](#)
- Speed restrictions (e.g., max speed 45 mph)** [Click here to enter the % of cases](#)
- Road type restrictions (e.g., no freeways)** [Click here to enter the % of cases](#)
- Corrective lenses required** [Click here to enter the % of cases](#)
- Adaptive equipment required** [Click here to enter the % of cases](#)
- Prosthetic aid required** [Click here to enter the % of cases](#)
- Periodic review** [Click here to enter the % of cases](#)
- Other (explain)** [Click here to enter description, and % of cases](#)

29. For the percents entered in Question 28 above, are these estimates or actual data?

[Click here to enter text.](#)

30. How is the licensing decision typically communicated to the driver?

[Click here to enter text.](#)

31. Is the outcome of the referral communicated back to the referral source (e.g., the physician, law enforcement officer, or family member who referred the driver)?

YES NO

31a. If YES, how is the referral source typically notified (e.g., phone call, e-mail, mailed letter, etc.)?

[Click here to enter text.](#)

32. Please provide a description of any training relevant to referring drivers for Medical Review that the DMV has conducted or assisted in during the past year for law enforcement officers, licensing agency staff, physicians, and/or judges. If such training has occurred, please also provide the dates of the training and the expansiveness of the target audience reached.

[Click here to enter text.](#)

33. Please describe the sequence of events/procedures for a driver undergoing medical review, from the time the Medical Review Department receives a referral (or letter of concern/driver behavior report) until the driver is advised of a licensing decision.

[Click here to enter text.](#)

COSTS OF PROCESSING MEDICAL REFERRALS

- 34. What is the approximate cost, financially and in staff time, to process a referral for cases where a DMV-administered on-road test is not conducted?**

[Click here to enter text.](#)

- 35. What is the approximate cost, financially and in staff time, to process a referral for cases where a DMV-administered on-road test is conducted?**

[Click here to enter text.](#)

- 36. What is the average and the range of time for processing Medical Review cases, from the time a driver is referred until a licensing decision is communicated to the driver?**

[Click here to enter text.](#)

- 37. Describe additional costs if cases are referred to the MAB (for States with MABs), and if a case is appealed.**

Additional costs for cases referred to MAB: [Click here to enter text.](#)

Additional costs for cases appealed: [Click here to enter text.](#)

APPEALS PROCESS

- 38. Describe the appeal process for a driver aggrieved by a licensing action following Medical Review.**

[Please edit the text below \(from Lococo, 2003\) or type "OK" if it is still accurate.](#)

- 39. How many, or what percentage of drivers who underwent initial Medical Review in 2012 appealed the license decision (excluding alcohol-related cases)?**

[Click here to enter text.](#)

- 40. How many, or what percentage of alcohol-related cases that underwent initial Medical Review in 2012 were appealed?**

[Click here to enter text.](#)

ADDITIONAL INFORMATION

41. If there is any other information to describe your Medical Review program that was not addressed in this questionnaire, please provide it below; alternatively, please feel free to call Kathy Lococo at TransAnalytics (215) 538-3820 to discuss it directly.

[Click here to enter text.](#)

Thank you very much for your time and patience in completing this questionnaire

Appendix C: License Renewal Intervals and in-Person Requirements

Study Group	State	Standard renewal interval (years)	Accelerated renewal interval for seniors and age begins	Standard in-person renewal requirements	Added in-person renewal requirements for seniors and age begins	Maximum years between standard in-person renewals	Maximum years between in-person renewals for seniors
MAB & MP	North Carolina	8	5 (age 66)	Every	None	8	5
	Maine	6	4 (age 65)	Every Other	Every (age 62)	12	4
MAB & Admin	Texas	6	2 (age 85)	Every Other	Every (age 79)	12	6 (age 79) 2 (age 85)
	Wisconsin	8	None	Every	None	8	8
Admin Only	Ohio	4	None	Every	None	4	4
	Washington	6	None	Every Other	Every (age 70)	12	6
MP Only	Oregon	8	None	Every	None	8	8

Appendix D: Summary of Driver Medical Review in North Carolina

Organization of the Medical Program

Driver licensing in North Carolina was administered by the Department of Transportation, Division of Motor Vehicles. The program for evaluating impaired drivers was established in 1964 by the North Carolina Medical Society in conjunction with the Division of Motor Vehicles, using guidelines and administrative policies developed by the North Carolina Medical Society's Committee on Traffic Safety.

At the time these data were collected, North Carolina had a Medical Review Board that consisted of three physicians appointed by the Department of Health and Human Services (DHHS), who represented the following specialties: general practice, public health, and anesthesia.³ They served in this capacity for an indeterminate term. The sole function of the Medical Review Board was to review and advise on individual cases for drivers appealing the DMV's licensing decision. Drivers who wished to appeal the decisions of the Medical Review Section of the DMV (approximately 1% of the total medical review cases annually) could participate in a hearing before North Carolina's Medical Review Board. The Medical Review Board for a particular case would consist of two Medical Review Board physicians, plus a DMV Medical Review Section staff member who acted on behalf of the commissioner as the head of the Medical Review Board, when conducting medical hearings (either the nurse or one of the two hearing officers). In 2012, there were 449 Medical Review Board hearings (426 involving non-alcohol related cases and 23 alcohol-related cases). At the time of data collection, hearings were conducted one day during each month; when fully staffed, hearings were planned for a 1-week period each month. The DMV paid Medical Review Board physicians \$6 per case, plus \$50 per hour, and daily expenses.

The North Carolina Medical Review Section of the DMV did not refer cases to the Medical Review Board for fitness to drive and licensing recommendations, because DMV-contracted physicians reviewed and evaluated all medical review cases. North Carolina's Medical Review Section consisted of four contract physicians (called medical advisors); one certified nursing assistant who also reviewed medical/vision cases; two hearing officers who reviewed medical/vision cases; and nine technical assistants who were non-medical administrative staff. The specialties represented by the four contract doctors included ophthalmology, internal medicine (2 physicians), and family medicine. At the time data were collected, the ophthalmologist had performed reviews for the division for 1 year, and the other three physicians for 9 years (since 2004). The medical advisors worked in private practice and in hospitals, and performed their work for the DMV outside of these positions. They came into the DMV weekly to pick up medical case files for review, and performed their reviews off-site. The DMV paid the medical advisors \$6 for each case they reviewed. The hearing officers were non-medical administrative staff who had completed on-the-job training regarding General Statutes;

³ The Medical Review Board was not fully staffed at the time this report was prepared. When fully staffed, it comprised 4 physicians.

office procedures; DMV and court codes; ability to read a motor vehicle record; procedures for conducting motor vehicle hearings; and understanding of medical terminology, Federal Motor Carrier laws, and State laws. They were also provided with the medical guidelines for licensing, which they used when reviewing and rendering a recommendation based on the customer's medical condition as well as their driving needs and abilities. The hearing officers were the only non-medical administrative staff in the Medical Review Section who could make licensing decisions. The 9 administrative staff *did not* make license determinations. They obtained in-house training in policies and procedures for handling customer telephone calls, scanning documents, keying codes into the licensing database, and printing documents for hearings.

In 2012, the Medical Review Section of the DMV processed 8,689 initial referrals (8,485 non-alcohol cases and 204 alcohol-related cases), and 39,809 cases already under periodic review (39,061 non-alcohol related and 748 alcohol related). While data describing the sources of these initial referrals and the proportion of referrals by source could only be estimated at the time this summary was prepared, actual counts were gathered from January 1, 2009, to December 31, 2009, for a separate NHTSA project,⁴ and were as follows for the 11,836 initial referrals that year: driver license examiners at renewal (23%); highway patrol reports (17%); crash reports (12%); drivers with medical conditions applying for school bus endorsement (12%); drivers adjudicated incompetent by the courts (11%); unrequested documents from physicians/family/friends (10%); student drivers/driver education with a medical condition (8%); involuntary commitments from the courts for customers sent to hospitals for drug/alcohol treatment (5%); and driver license examiner reports for customers receiving duplicate licenses (2%). That same project documented 13,882 referrals in 2008.

Identification of Drivers With Medical Conditions and Functional Impairments

DMV Examiners During Initial License Application and Renewal

Drivers with medical conditions or functional impairments came to the attention of the DMV Medical Review Section in several ways. First-time and renewal applicants were required to respond to several health-related questions posed by a driver license examiner, and pass a traffic sign and vision test. The examiner read the following required question from the physical condition screen of the NC Driver License System: "Have you ever suffered from seizures, heart trouble, stroke, emotional/mental illness, addicted to alcohol/drugs, or other health problems?" If the answer was "Yes," the applicant was asked to describe the condition. Applicants who answered "Yes" or failed the vision or traffic sign test could be required to have a vision or physical examination performed by their personal eye care specialist, physician, or both. Guidelines were provided in the Driver License Examiner's Manual for issuing a medical report form when an examiner observed obviously significant physical, mental, or emotional issues, as well as for the following conditions: neurological, diabetes, cardiac problems, musculoskeletal problems, respiratory problems, and psychiatric problems. These guidelines are shown in Table D-1.

⁴ Evaluation of State Licensing Referral Projects, US DOT/National Highway Traffic Safety Administration, DTNH22-07-D-00049 (Project No. 07-02876, Task Order 2).

Table D-1. Guidelines for Requiring the Issuance of a Medical Report Form (From NC Driver License Examiner's Manual, Chapter 25, Rev 11-2009).

Issue a Medical Report Form for the following disabilities, impairments, or problems:

1. GENERAL:

Anyone with an obviously significant problem, which in the opinion of the Examiner merits review:

a. Physical:

Difficulty walking (weak or wobbly), limitation of motion, moving very slowly or with difficulty, weakness, uncoordinated.

b. Mental:

Confusion, slow comprehension, inability to maintain attention, forgetfulness, disassociated or jumbled thoughts, poor judgment.

c. Emotional:

Instability or extreme variability in emotions or behavior, excitability, paranoia, poor contact with reality, inability to maintain concentration.

2. NEUROLOGICAL:

a. Seizure(s) since the last medical evaluation or since the last visit for a license if there has been no previous medical evaluation.

b. Serious head injury requiring hospitalization with no previous medical evaluation.

c. Narcolepsy (uncontrollable urge to fall asleep or falling asleep suddenly without warning) or cataplexy (drop attacks or sudden loss of muscle tone causing the person to suddenly fall down) with no previous medical evaluation.

3. DIABETES:

a. Problem with blood sugar control since the last visit for a license: hypoglycemia (insulin reactions, low blood sugar) that has resulted in the assistance of another person, medical intervention, or causing a seizure or coma; very high blood sugar or ketoacidosis requiring hospitalization.

b. Complications of diabetes since the last visit for a license: vision problems; numbness, pain, tingling, or muscle wasting in the legs, arms, feet or hands; blocked arteries to the legs, head, or heart; kidney problems, weak kidneys, or kidney failure,

NOTE, DO NOT REQUIRE MEDICAL EVALUATION JUST FOR THE DIAGNOSIS OF DIABETES. ONLY FOR THOSE DIABETICS WITH ANY OF THE PROBLEMS LISTED ABOVE.

4. CARDIAC PROBLEMS:

a. Cardiac problems causing loss of or alterations in consciousness (syncope, blackouts, dizziness, fainting, passing out or nearly passing out), blurring of vision, and/or severe shortness of breath.

b. Chest pain or shortness of breath severe enough to cause the person to limit or give up engaging in activities like walking, climbing stairs, a physically demanding occupation, or other activities previously enjoyed like golf, swimming, tennis, basketball, playing with children or grandchildren, etc.

NOTE: DO NOT REQUIRE MRF FOR HEART ATTACK, MYOCARDIAL INFARCTION, HEART SURGERY, HEART TRANSPLANT, PACEMAKER, CONGESTIVE FAILURE, EARLY OR EXTRA HEART BEATS, PVCs (PREMATURE VENTRICULAR CONTRACTIONS), ATRIAL FIBRILLATION, HEART VALVE PROBLEMS PROLAPSED MITRAL VALVE, OR HYPERTENSION, UNLESS THE PERSON ALSO HAS ONE OF THE SYMPTOMS.

5. MUSCULOSKELETAL:

a. Impaired functions of an arm, shoulder, hand, leg, or foot, restricted neck motion, severe pain with movement, poor coordination, or slow movement.

b. Losses of an arm, hand, foot, or leg as a result of disease since the last visit for a license.

NOTE: DO NOT REQUIRE MRF FOR COMPLAINTS OF ARTHRITIS, BURSITIS, BAD BACK, LOW BACK PAIN, SLIPPED DISC, OR DISC SURGERY.

6. RESPIRATORY PROBLEMS:

Use of oxygen at home or while driving, or if a person has, by history or by your observations, severe coughing spells, or severe limitation by shortness of breath.

NOTE: DO NOT REQUIRE MRF JUST BECAUSE THE PERSON HAS A DIAGNOSIS OF EMPHYSEMA, ASTHMA, BRONCHITIS, CHRONIC BRONCHITIS, OR C.O.P.D, (CHRONIC OBSTRUCTIVE PULMONARY DISEASE)

7. PSYCHIATRIC PROBLEMS:

Only if the person (1) has been hospitalized for the problem since the last visit for a license, or (2) takes medicine that causes drowsiness during the day (ask the person), or (3) if you observe behaviors noted under Section H.1.C above.

Vision Screening and Vision Standards

Original and renewing applicants were required to pass a vision screening test. Drivers who could not meet the 20/40 acuity standard were referred to a vision specialist, who completed a Medical Report Form. Drivers whose vision was correctable to 20/50 or better were restricted to wearing corrective lenses when driving. If vision was correctable to 20/50 or better, but could deteriorate soon as a result of a progressive disease, a follow-up report from a vision specialist was required every 1 to 2 years, upon the recommendation of the medical advisors and vision specialist. Drivers whose vision was correctable to 20/70 were restricted to wearing corrective lenses, driving on roads with a speed limit of no more than 45 mi/h, and no driving on interstate highways. The State could require an annual report from their vision specialist. Drivers whose vision was correctable to 20/100 were restricted to all of the above restrictions, plus daylight driving only. The State could require a report from their vision specialist at 6-month or 1-year intervals. Applicants whose vision was not correctable to at least 20/100 could not drive.

In North Carolina, telescopic lenses could *not* be used to meet the standard, but were allowed to be used for driving if an applicant met the standard without the telescopic lens. The telescopic lens had to be prescribed by a licensed ophthalmologist or optometrist, who ensured that the applicant could look around the telescopic lens and view the full traffic pattern.

The visual field requirement in North Carolina was 60 degrees in one eye, or 30 degrees on each side of the central point of fixation. Persons with homonymous hemianopsia (cannot see out of the left side of either eye or the right side of either eye) could not drive.

According to the Assistant Manager of the Medical Review unit, vision cases were among the most difficult cases to review, because a customer's visual acuity could change from year to year.

Referral Sources

As noted earlier, the department provided guidelines for examiners for issuing a Medical Report Form in its policy manual. These guidelines stated that "the Examiner cannot and should not diagnose medical conditions, but should learn to recognize signs and symptoms of potential trouble, and take appropriate action in requesting a Medical Report Form based on the customer's responses to the medical questions asked during the application/renewal process." These guidelines were presented in Table D-1.

Crash reports were also a source of information used by the department to identify drivers with medical conditions. DMV Medical Review staff downloaded crash reports where reporting officers indicated a possible medical condition⁵ and reviewed the officer's narrative description of the crash. Drivers suspected of having medical conditions (including alcohol and

⁵ By checking one of the following boxes on the crash report under physical condition: medical condition, illness, fatigue, fell asleep/fainted/loss of consciousness, impairment due to medications/drugs/alcohol, other physical impairment.

drug addiction) that could impair safe driving ability, were sent Medical Report Forms for completion by their physicians if they were not already under medical review by the department.

Physician reports were another mechanism for identifying drivers who should be included in the medical program. Although the North Carolina Division of Motor Vehicles did not require physicians to report drivers with medical conditions to the agency, physicians could report drivers on a voluntary basis, after consulting with that patient. Physicians who reported drivers in good faith on a volunteer basis were immune from civil and criminal liability, as were physicians who chose not to disclose information. The information provided to the agency was limited to the patient's name, address, date of birth, and diagnosis; remained confidential; and was used only for the purposes of determining the qualifications of the individual to operate a motor vehicle. Figure D-1 presents the form used by physicians (as well as any other citizens) who wanted to report a driver for medical review.

An individual might also be added to the medical program through a referral from a law enforcement officer, following a crash, violation, or other observation of functional impairment. Any North Carolina law enforcement agency could submit a Driver Reexamination Recommendation form to the Medical Review Section that would result in the requirement for the driver to undergo a medical evaluation by his or her physician. Some Highway Patrol Departments used the form, shown in Figure D-2, which listed the following reasons for the reexamination request: admitted blacking out just before having the crash; poor physical condition apparently; poor vision; reported as having been a recent patient at a mental institution; reported as having been a recent patient at a center or institution for alcoholism; reported to have epileptic or some other type of seizure disorder; reported as having poor driving habits or admits involvement in two or more chargeable crashes within the past 12 months; and "Other." Law enforcement also submitted requests using the DL-2, shown in Figure D-1.

The DMV also accepted reports from family members and concerned citizens who believed that the driver might be unsafe. Written reports had to be signed and contain a return address. Such notification could result in the requirement for a driver to undergo a medical reevaluation by his or her physician. Referrals were also accepted by hospitals, occupational therapists, and physical therapists. A court-ordered commitment for substance abuse or an emotional problem could result in a medical evaluation requirement. The Medical Review Section also received reports from the courts that a customer had been adjudicated incompetent and was not allowed to drive until a decree from the court was received.

No training for law enforcement, licensing agency staff, physicians or judges relevant to referring drivers for medical review had been conducted by the DMV within the year before data collection (2012-2013). However, in 2008 and 2009, The North Carolina Older Driver Safety Coalition and the National Center on Senior Transportation collaborated on a NHTSA project to increase law enforcement and physician's awareness of issues affecting aging and medically at-risk drivers⁶. The "Drive Safe/Ride Smart: Promoting Safe Mobility for Aging Drivers" initiative resulted in the creation of a letter to physicians and a flash drive (distributed at a Geriatrics

⁶ National Center on Senior Transportation (2012). *Demonstration projects to establish and implement older driver safety plans*. : Washington, DC: National Center on Senior Transportation.

Symposium) with resources for assessment of patients for safe driving ability and information about how to refer drivers for medical review. The project also developed a cue card for the State Highway Patrol about what to do if an officer came in contact with an older driver who exhibited signs of dementia.



**North Carolina Division of Motor Vehicles
Medical Request for Driver Re-examination**

This recommendation must provide specific information regarding the medical/visual condition and/or driving ability of the person in question and must be made only in the interest of public safety. Advanced age alone cannot be considered the sole reason for a re-examination request. Based on the information provided, the DMV Medical Evaluation Program will investigate and take action as necessary. Unsigned forms will not be accepted as a proper request and will not be acted upon. Due to confidentiality requirements, the Program is unable to release its final recommendation to you.

Name of Person Being Reported (First, M.I., Last)	Sex	Date of Birth or Approximate Age
Drivers License Number (if available)		
Street Address	City	State Zip

The underlying medical condition or diagnosis is:

Physician Signature: _____

Phone: _____, **Date:** _____

Physician
 Vision Specialist
 Other

Mail this to: DMV Medical Evaluation Program, 3112 Mail Service Center, Raleigh, NC 27699
or fax to: (919) 733-9569

Figure D-1. North Carolina DMV Medical Request for Driver Reexamination (DL-2).

North Carolina Department of Crime Control and Public Safety
STATE HIGHWAY PATROL

DRIVER REEXAMINATION RECOMMENDATION

Name _____
 Address _____
 Driver license No. _____ Type _____ Race _____ Age _____ Sex _____
To: Director, Driver License Section, Division of Motor Vehicles
 From: _____ Reg. No. _____
Rank / Name
 Station Burlington Police Department, NC Date _____

I recommend that the person noted above be reexamined for the following reason (s):
 _____ Admitted blacking out just before having an accident.
 _____ Is in poor physical condition apparently.
 _____ Has poor vision.
 _____ * Reported as having been a recent patient at a mental institution.
 _____ * Reported to have epileptic or some other type seizure.
 _____ Reported as having poor driving habits or admits involvement in two or more chargeable
 Accidents within past 12 months.
 _____ (Other)
 * Name and Address of Institution _____

Remarks: (Note G.S. 20-29.1 below) _____

§ 20-29.1. Commissioner may require reexamination; issuance of limited or restricted licenses.
 The Commissioner of Motor Vehicles, having good and sufficient cause to believe that a licensed operator is incompetent or otherwise not qualified to be licensed, may, upon written notice of at least five days to such licensee, require him to submit to a reexamination to determine his competency to operate a motor vehicle. Upon the conclusion of such examination, the Commissioner shall take such action as may be appropriate, and may suspend or revoke the license of such person or permit him to retain such license, or may issue a license subject to restrictions or upon failure of such reexamination may cancel the license of such person until he passes a reexamination. Refusal or neglect of the licensee to submit to such reexamination shall be grounds for the cancellation of the license of the person failing to be reexamined, and the license so canceled shall remain canceled until such person satisfactorily complies with the reexamination requirements of the Commissioner. The Commissioner may, in his discretion and upon the written application of any person qualified to receive a driver's license, issue to such person a driver's license restricting or limiting the licensee to the operation of a single prescribed motor vehicle or to the operation of a particular class or type of motor vehicle. Such a limitation or restriction shall be noted on the face of the license, and it shall be unlawful for the holder of such limited or restricted license to operate any motor vehicle or class of motor vehicle not specified by such restricted or limited license, and the operation by such licensee of motor vehicles not specified by such license shall be deemed the equivalent of operating a motor vehicle without any driver's license. Any such restricted or limited licensee may at any time surrender such restricted or limited license and apply for and receive an unrestricted driver's license upon meeting the requirements therefor. (1943, c. 787, s. 2; 1949, c. 1121; 1971, c. 546; 1979, c. 667, ss. 26, 41.)

Figure D-2. North Carolina State Highway Patrol Driver Reexamination Recommendation Form (HP-640).

Evaluation of Referred Drivers

Procedures

Circumstances under which the State could require a driver to undergo an evaluation included referral by law enforcement; the courts; physicians; occupational therapists; friends, family or other citizens; self-report of a medical condition; observation by licensing agency personnel of signs of functional impairment during the renewal process; and crash reports that indicated that poor health may have contributed to the crash. Referral sources were not investigated to determine their authenticity prior to a case being opened; however, a referral had to be signed before a case was opened.

North Carolina General Statute 20-9 provided that the Division of Motor Vehicles could seek the recommendation of a medical professional trained in diagnosing and treating the particular medical condition. If a driver's treating physician or vision specialist submitted a Medical Request for Driver Re-Examination, the driver was issued a medical report Form (MRF) to be completed by the treating physician or vision specialist. Although the request for reexamination originated from a physician, a MRF was necessary, because detailed medical information about the driver's condition supported the DMV's licensing action in the event that the driver appealed the decision. However, not all drivers referred for reexamination were required to have their treating physician submit a MRF. When the Division received a letter from a law enforcement officer or family member, the file was sent to the local DMV office for the examiner to schedule an appointment for the customer to appear to be re-examined. A reexamination consisted of a vision test, traffic sign test, and a road test. Upon completion of the reexamination, the examiner determined if a Medical Report Form was needed. If the Medical Report Form was *not* needed, the file was closed. If the Form *was* needed and the driver passed the road test, the examiner issued the license, generated the Form, and advised the customer they had 30 days to submit this report to the division. If the customer did not pass the road test after at least three attempts, the Medical Report Form was generated, but the license was not issued; the driver could not road test again until approved by the Medical Section.

If the Driver reexamination form indicated that the driver admitted to blacking out prior to a crash or admitted to having epilepsy or other seizure disorder, the Medical Review Unit immediately mailed the driver a Medical Report Form to be completed within 30 days. During this time, the driver was able to continue driving; there were no suspensions while awaiting medical review. In such cases, drivers were not automatically scheduled for re-examination testing (vision, sign test road testing).

The Medical Report Form to be completed by the driver's physician is shown in Figure D-3. It asked whether the patient had any of the following conditions: visual impairment; cardiovascular disease; endocrine disorder; respiratory disorder; neurologic disorder; emotional/mental illness; musculoskeletal disorder; any other impairment; or substance abuse problem. If the physician answered "Yes," he or she was instructed to complete a more detailed set of questions about the specific disorder or condition. For all conditions, the physician was asked to indicate whether the patient followed the medical recommendations; whether periodic medical evaluations were recommended for driving safety purposes; whether the patient should drive; whether any licensing restrictions should be imposed (e.g., driving distances needed to get to work, shopping church; assistive devices; 45 mph speed limit; no interstate; daylight driving only); and to comment on the patient's medical condition and potential side effects on driving, including any over-the-counter and prescription medications that might exacerbate the risk of driving.

The nine technical assistants who were non-medical administrative staff in the DMV Medical Review Section received the completed physician Medical Report Forms. North Carolina had a State Automated Driver License System (SADLS) and Imaging System that stored all medical information. Automation and imaging of medical data had been in place since 1994. Technical assistants tracked data requests, ensured that reports were complete, and when all requested medical history for a case had been submitted to the department, they forwarded the driver's medical file to the DMV medical advisors. All medical review cases were referred to the DMV medical advisory physicians for evaluation and recommendation.

If the driver's physician indicated on the Medical Report Form that the individual should not drive, the DMV generally cancelled the license and notified the driver of the department's decision. This was done within 48 business hours from receipt of the MRF. This was the only "triage" to expedite "high-risk" cases.

Licensing decisions were based on all information received from the customer's physicians, reports from driver license examiners indicating knowledge and skill test results, the driving record, crash reports, occupational therapy driving evaluations, and any other medical information that was received. The medical advisors performed electronic and paper reviews, and used medical guidelines established to promote highway safety in their review of the information. They considered newly diagnosed conditions as well as conditions a driver had had for some time, in addition to medications, their interactions, and effects on function. They sometimes recommended further testing such as vision, skills, and rules of the road/knowledge testing. Testing was conducted by DMV examining personnel, individual personal physicians, and/or occupational therapists (OT).

LDLSMRF00059

NORTH CAROLINA DIVISION OF MOTOR VEHICLES
DRIVER LICENSE SECTION
CONSENT/INFORMATION FORM

Name _____
Address _____
City, State Zip Code _____
Customer No. _____
Dr. Ed. Rep. No. _____ Dr. Ed. _____ Sch. Bus _____

Driver please complete the following:

Date of Birth _____ Race _____ Sex _____ County _____
I hereby authorize Dr./Counselor _____ to give any examination he deems necessary for the purpose of determining my physical fitness to operate a motor vehicle. I also authorize any other physicians who attended me, or any hospital or clinic in which I have been examined or treated, to give the Division of Motor Vehicles or its representative any information they may request concerning my condition. I understand this authorization includes permission for this information to be reviewed by a panel of unidentified physicians for the purpose of giving the Division a medical opinion on my case.

SIGNATURE OF APPLICANT: _____
PARENT/GUARDIAN IF MINOR: _____

Telephone No.: Home () _____ Business () _____
Are there any other Drivers in your household? Retired _____ Disabled _____
Miles from Home to: Work _____ Church _____ Groc Store _____ Drugstore _____ Doctor Appt _____
Days of week you work: _____ During what hours? _____
Is someone always with you when you drive? _____ Occupation: _____
Type vehicle do you drive? _____ Automobile _____ Truck _____ Bus _____ Other _____
Number of hours driven daily? _____ Does job require driving? _____

TO PHYSICIAN:
MEDICAL REPORT SUBMITTED DUE TO (SEE CODES ATTACHED):

If filling out the Medical Report Form, please keep in mind the physical, mental and emotional requirements necessary for the safe operation of a motor vehicle, for the patient and public welfare.

Please answer all questions and applicable parts of PP. 4-7, which list the review of conditions pertinent to driving. If you circle "Yes" for any of these conditions, you should fill out the questions pertaining on the proceeding pages. Please refer to the primary reason listed on page 1 of this form, also. You do not need to answer questions on the form for which you circled "No". When the form is completed, please make an overall statement about your patient's medical condition and its potential effect on safe driving.

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Figure D-3. Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 1 of 7).

LDLSMRF00060

Name
CUSTOMER NO.

PATIENT'S MEDICAL HISTORY (Please complete in black ink):

A. If the patient has been hospitalized in the past two years, please give location, dates and discharge diagnoses. _____

B. How long has applicant been your patient? _____
Date you last treated patient before today? _____

C. Names of other physicians who have treated applicant in past two years: _____

D. What is patient's height? _____ weight? _____ B.P. _____

E. HAS PATIENT EVER HAD: (CHECK YES OR NO. IF YES, COMPLETE APPROPRIATE PART(S) OF PP. 3-7)

	YES	NO		YES	NO
VISUAL IMPAIRMENT? (If yes, complete p.3)			EMOTIONAL/MENTAL ILLNESS? (If yes, complete entire section p.5)		
CARDIOVASCULAR DISORDER? (If yes, complete entire section p.4)			MUSCULOSKELETAL DISORDER? (If yes, complete entire section p.5)		
ENDOCRINE DISORDER? (If yes, complete entire section p.4)			ANY OTHER IMPAIRMENT? (If yes, complete entire section p.5)		
RESPIRATORY DISORDER? (If yes, complete entire section p.7)			SUBSTANCE ABUSE PROBLEM? (If yes, complete p.6)		
NEUROLOGIC DISORDER? (If yes, complete entire section p.7)					

F. ANSWERED BY PHYSICIAN LICENSED TO PRACTICE MEDICINE IN THE U.S.:

1. In your opinion, has the patient followed your medical recommendations?
Yes _____ No _____

2. Are periodic medical evaluations for highway safety purposes recommended for patient? Yes _____ No _____ If yes, how often? _____

3. Do you feel patient should drive? Yes _____ No _____

4. In your opinion, should patient be restricted to driving distance (consider distance to work, shopping, church), assisting devices, 45 mph speed limit, no interstate, daylight driving only, etc. Yes _____ No _____
If yes, specify _____

Give your overall assessment of this patient's medical condition and any potential effect on safe driving. Please comment on ALL medical conditions, and any over-the-counter or prescription medications that might exacerbate the risk of driving. _____

Physician's Signature: _____, MD, NP, PA Date: _____

Physician's Specialty: _____

Physician's Name: (Print) _____ Phone No. _____

Address: _____ City/Zip: _____

Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 2 of 7).

Name
Address
City, State Zip Code
CUSTOMER NO.

I hereby authorize Dr. _____ to give any examination he/she deems necessary for the purpose of determining my visual fitness to operate a motor vehicle. I also authorize any other physicians who attended me, or any hospital or clinic in which I have been examined or treated, to give the Division of Motor Vehicles or its representative any information they may request concerning my condition. I understand this authorizes the Division's panel of physicians to review my case.

Signature of Applicant: _____ TELEPHONE # _____
Parent/Guardian if Minor: _____

***** NOTE VISION SPECIALIST *****
ALL QUESTIONS MUST BE ANSWERED BY A LICENSED NC PHYSICIAN

1. Diagnosis? _____
2. Progressive condition? _____ Yes _____ No
3. Visual acuity

	BOTH EYES	RIGHT	LEFT
	TOGETHER	EYE ONLY	EYE ONLY
W/ Best Correction	20/	20/	20/
WO/Best Correction	20/	20/	20/
4. (a) Field of vision in degrees from central fixation horizontally.

	RIGHT		LEFT
	_____/_____ N T		_____/_____ N T

(b) Are there any field deficits that could compromise driving ability?
Yes No If yes, explain _____
5. New lenses prescribed? Yes No
Comments: _____
6. Recommend corrective lenses for driving purposes? Yes No
7. Recommend any other restrictions? _____ None _____ Daylight driving only
45MPH, No interstate Miles from home
Other: _____
8. As a vision specialist, does the patient's visual impairment compromise their ability to operate a motor vehicle safely? Yes No
9. Recommend DMV follow-up? _____ Yes _____ No

This certificate is presented to authorize your professional evaluation of a visual impairment. Your findings, recorded on this certificate, will make possible a complete evaluation of this person's visual qualifications for safe motor vehicle operation.

Date: _____ Signature of Specialist: _____
Print Name: _____
Street: _____
City _____ Telephone: _____

Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 3 of 7).

LDLSMRF00062

Name
CUSTOMER NO.

***** CARDIOVASCULAR *****

1. What is the diagnosis? _____
Date of onset: _____
2. Check AHA Cardiovascular Functional Class: I II III IV
3. Does patient have arrhythmia that alters mental or physical functions?
Yes___ No___ If yes, how often?
What is the severity and does it cause syncope? _____
Is it controlled? Yes No
4. Does patient currently use a pacemaker? Yes No
5. Does the patient currently use an automatic implantable cardioverter-
defibrillator? Yes No If yes, give date of surgery _____
Date(s) of hemodynamically significant arrhythmia events post-op:

6. Has the patient had cardiac surgery? Yes No
Date and type of operation _____
7. Has the patient had CHF and is it controlled? Yes No
8. List current medications: _____

***** ENDOCRINE/DIABETES *****

1. What is the diagnosis? _____
Date of onset _____ Therapy _____
2. If patient has experienced significant hypoglycemia in past year give
dates of last episodes: _____
3. What is the patient's attitude toward treatment?
Accepts and complies Non-compliant HgbA1C Level _____
4. Does the patient have any current or past systemic effects of diabetes
and if so comment on its effect on driving? _____

5. Is the patient aware of the early warning signs of hypoglycemia and are
reliable in taking necessary precautions to avoid hypoglycemia? __Yes__ No

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Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 4 of 7).

LDLSMRF00063

Name
CUSTOMER NO.

***** MENTAL OR EMOTIONAL *****

1. What is the diagnosis? _____ Date of Onset _____
2. When and where was patient treated for this condition? _____
3. What is patient's current status? Recovered ___ Partially Controlled
Intermittently Controlled ___ Inadequately Controlled ___ Fully Controlled
4. Does patient have memory problems? Yes No
If yes, to what degree? Mild Significant Severe
5. What is patient's mental capacity? Average or above _____
Below Average Limited _____
6. Do you believe that this patient's mental or emotional illness poses a
driving risk to himself/herself or others? Yes No
7. List current medications:-----
8. Assess compliance with medications: Excellent Good Poor

***** MUSCULOSKELETAL *****

1. What is the diagnosis? _____ Date of Onset? _____
2. Describe extent of impairment and prognosis _____
3. Is it progressive? Yes No
4. Indicate percent of function (full range of motion equals 100%)
RIGHT ARM LEFT ARM RIGHT LEG LEFT LEG NECK
_____% _____% _____% _____% _____%
5. Indicate percent of strength (full range of motion equals 100%)
RIGHT ARM LEFT ARM RIGHT LEG LEFT LEG NECK
_____% _____% _____% _____% _____%
6. To what extent is coordination or reaction time impaired?
None Slight Moderate Severe
7. To what extent does patient's motion produce pain?
None Slight Moderate Severe
8. What spastic muscles does patient have? _____
9. What extremities are missing? _____
10. What assistive devices does the patient use to compensate for
disability? _____
11. To what extent will the patient's musculoskeletal disorder impair
driving? None ___ Slightly ___ Significantly ___ Should not drive
REMARKS: _____
12. List current medications: _____

***** OTHER IMPAIRMENTS *****

1. Are there other medical impairments? Yes No
2. If yes, describe:-----

Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 5 of 7).

LDLSMRF00065

Name

CUSTOMER NO.

***** SUBSTANCE ABUSE *****

NOTICE: Recommendations for licensure for persons suspected of having substance abuse disorders will largely be made on the basis of their medical and other relevant records and documents.

1. Is the patient aware that driving with ANY amount of alcohol in their system is likely to affect driving performance and increase the risk of injury? Yes No
2. Has the patient ever been charged with driving while impaired (DWI)?
Yes ___ No ___ If yes, how many convictions? _____
3. At what age did the patient start drinking alcohol? _____
4. How often does (or did), patient drink?
Daily ___ Weekly ___ Monthly ___ Binge ___
5. How much does (or did), patient drink at a time?
1-2 drinks 3-4 drinks 5 or more drinks Pint
6. How many times a year does (or did), patient drink enough to affect speech, walking, driving, or other activities?
7. Did the patient ever completely stop drinking? Yes No
If yes, give the date(s) length of time stopped: _____
8. What was the date of patient's last drink(Beer,Wine,Whiskey)? _____
9. Has patient ever had a drinking problem? Yes No
10. Does the patient believe that he/she can still drink without causing problems? Yes ___ No ___ If yes, why? _____
11. Has patient ever abused other drugs (illicit/prescription)? Yes No
If yes, give drugs and describe extent of usage: _____
12. Describe patient's current use of drugs and/or medications: _____
13. When did patient last abuse drugs? _____
14. Which of the following types of substance abuse education, treatment, or rehabilitation programs has patient SUCCESSFULLY COMPLETED?
ADETS (Alcoh. Drug Ed. Traffic Sch.) Dates: _____ to _____
Alcohol Rehabilitation Center Dates: _____ to _____
Name: _____
Mental Health Program Dates: _____ to _____
Alcoholics Anonymous Dates: _____ to _____ Sponsor? Yes No
Approximate number of sessions: _____
None: The patient did not complete a substance abuse program.
15. Have you recommended that this patient seek help? Yes ___ No
16. Is patient actively involved in any social or other type of health aid program such as mental health, private counseling, Alcoholics Anonymous, etc.? If yes, please complete the following:
Name of program: _____
Address: _____ Telephone: _____
17. Does the patient have sufficient support for maintaining sobriety?
Yes No
18. Is the patient using Methadone or Naltraxone? Yes No

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Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 6 of 7).

CUSTOMER NO.

***** RESPIRATORY *****

1. What is the diagnosis? _____
2. What is the degree of severity? Mild Moderate
Severe (paO2<60rrunHg) Debilitating
**NOTE: IF paO2 IS LESS THAN 60rrunHg, PLEASE OBTAIN AND ATTACH
ROOM AIR ARTERIAL BLOOD GAS IF NOT CONTRAINDICATED.
3. Does patient use oxygen at home? Yes No

***** NEUROLOGIC *****

1. What is diagnosis? _____
Date of onset: _____
2. Has patient suffered brain damage from trauma, cerebrovascular disease,
stroke, or other cause? Yes No Has it resolved? _____
3. Has patient suffered impairment of any of the following:
Mentation? Yes No Memory? Yes No
Judgment? Yes No Emotional Stability? Yes No
**NOTE: IF YOU CHECKED "YES" TO ANY OF THE ABOVE CATEGORIES,
COMPLETE THE EMOTIONAL PORTION OF THIS FORM.
4. Has patient suffered impairment of any of the following:
Muscular strength? Yes No Coordination? Yes No
**NOTE: IF YOU CHECKED "YES" TO ANY OF THE ABOVE CATEGORIES,
COMPLETE THE MUSCULOSKELETAL PORTION OF THIS FORM.
5. If patient has seizure disorder, what type?
With seizure, is there any loss of consciousness? Yes No
Date of onset: _____ Number of seizures in last 2 yrs: _____
Date of last: _____ Aura? If yes, duration: _____
Does the seizure occur during sleep only? Yes No
6. Is patient taking medication for his/her epilepsy or seizures?
Yes No If yes, complete the following:
List medications and dosage _____
Date of last medication change _____ Blood levels _____
If on no medication, date discontinued _____ Who discontinued _____
Compliance with medication: Excellent Good Poor
7. Has the patient had an EEG: Yes No If yes, when: _____
Interpretation: _____
8. Have there been other episodes of altered consciousness? Yes No
If yes, give data, description and work-up: _____

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Figure D-3 (Cont'd). Medical Report Form Used by North Carolina Medical Review Section to Gather Medical Information About Drivers Referred for Reexamination (Page 7 of 7).

When an OT evaluation was required, the division provided a list of occupational therapist evaluators in North Carolina; however, the customer was free to contact a therapist of their choice as long as the therapist could conduct a behind-the-wheel test. The test could only be administered if a driver had an active driver's license or permit. Typically, OT evaluations were requested by the medical advisors when the customer failed several road tests in the local office due to a suspected cognitive decline or the customer's medical doctor recommended this evaluation. The OT provided a written recommendation to the division describing the results of the behind-the-wheel testing and a recommendation based on the customer's driving needs and abilities.

The on-road test conducted by DMV examiners as part of the reexamination was the same as the road test conducted for novice/original applicants, and it was conducted by the same driver license examiners who conducted the tests for original applicants. All examiners were required to attend and pass a 7-week Driver License Examiner School training and on-the-job training with their senior examiner. Home area tests were not conducted in North Carolina.

Medical Guidelines

The medical advisors generally relied on the information provided in *The North Carolina Physician's Guide to Driver Medical Evaluation* to provide advice regarding fitness to drive. North Carolina had very detailed guidelines for licensing drivers with medical conditions. The guidelines were prepared by Thomas Cole, MD, MPH, who at that time was the chief of the Injury Control Section, North Carolina Department of the Environment, Health and Natural Resources from 1989 to 1995 (where the Medical Review Unit was housed, before it was shifted to the DMV), and his colleagues Mary Vinsant, MD, MPH, and Carol Popkin, MSPH. The NC Medical Review Guidelines were updated in 2004 to include findings from new studies of the effects of medical conditions and their treatments on driving performance (Cole & Passaro, 2004).

Guidelines and Driver Impairment Profiles were provided for the following medical conditions.

- Visual disorders
- Heart disease
- Diabetes mellitus and other endocrine disorders
- Respiratory disorders and sleep disorders
- Musculoskeletal disorders
- Seizure disorders
- Disturbances of higher cortical function (dementia, stroke, traumatic brain injury, and mental retardation)
- Mental illness
- Use and abuse of legal, illicit, and prescription drugs.

For each medical condition or grouping of conditions, there were four broad categories of functional status: (1) no known impairment; (2) past impairment, fully recovered or compensated; (3) active impairment; and (4) condition under investigation. There were three

subcategories under active impairment: (a) potential interference with driving; (b) interferes with driving; and (c) permanent interference with driving. Driving restrictions were determined on the basis of a driver's functional status within one of the four categories. There were eight basic types of driving restrictions: daylight driving only, no driving on interstate highways, speed restrictions (max speed 45 mph), distance restrictions, destination restrictions, class of vehicle restrictions, vehicle modification restrictions, and medical appliance restrictions (prostheses or eyeglasses). Special restrictions could be applied to enable drivers with unusual conditions to drive safely.

A detailed discussion of medical guidelines is limited in this report to seizure disorders. In North Carolina, the medical advisors recommended (as a baseline) that drivers be seizure free for 6 months, with the intent of preventing people from having a seizure while driving. Consequently, people with seizure disorders could drive if their disorders were well controlled with antiepileptic therapy or if they were in remission. Recognizing that some persons who have had a recent seizure were at less risk of recurrence than others, the following exceptions to this general rule were occasionally allowed:

- A person who had a seizure because his or her antiepileptic therapy had been recently changed or withdrawn by a physician could continue to drive if the previous therapy, which controlled the seizure disorder, was immediately resumed.
- A person who had rare seizures that occurred only while he or she was asleep or whose seizures did not result in a loss of consciousness, loss of control of motor function, or loss of appropriate sensation and information processing, could continue to drive.

Other unusual circumstances affected the general requirement that drivers be seizure free for 6 to 12 months; interpretation of these circumstances and assignment of restrictions was at the discretion of the medical advisor. However, compliance with medical therapy was essential for safe driving. If a previously uncontrolled seizure patient became suddenly compliant and seizure free, he or she still had to be seizure free for 6 to 12 months to establish that a change of behavior has truly occurred. The Driver Impairment Profile for seizure disorders is reproduced in Table D-2.

Table D-2. North Carolina Driver Impairment Profile: Seizure Disorders.

Functional Status	Condition Examples	Driving Restrictions*	Interval for Review*
No known impairment	No known disorder	None	None†
Past impairment, fully recovered/compensated	History of seizure disorder, now resolved, or active seizure disorder, under control, without loss of consciousness or altered mental status for at least 1 year	None	None
Active impairment			
a. Potential interference with driving	Active seizure disorder, under control, without loss of consciousness, altered mental status, or loss of control of motor function for at least 6 months	None	Re-evaluation after 6 additional months of control
b. Interferes with driving	Active seizure disorder, inadequately controlled for driving purposes, with 1 or more seizures in the past 6 months	No driving	Re-evaluation after 6 months of control‡
c. Permanent interference with driving	Uncontrollable seizure disorder with frequent, recurrent seizures	No driving	...
Condition under investigation	Newly discovered seizure disorder	Variable	As needed

*These driving restrictions and intervals for review were only guidelines; individual restrictions and intervals for review were at the recommendation of the medical advisor.

†These patients did not need to be followed in the driver medical evaluation program.

‡At the recommendation of the medical advisor, a shorter period of follow-up before the next driver medical evaluation could be sufficient if the driver had had a seizure because his or her antiepileptic therapy has been recently changed or withdrawn by a physician, and if the previous therapy, which controlled the seizure disorder, was immediately resumed.

There were no circumstances where the license of a “high-risk” driver was suspended immediately (upon receipt of the referral), pending the outcome of the review process. However, a driver’s license could be suspended during the medical review process for the following reasons.

- Medical Report Form indicated loss of consciousness or other severe risk to safe driving.
- Failure to submit medical or vision reports.
- Unfavorable medical or vision report (physician or vision specialist indicated the severity of the condition did not permit safe operation of a motor vehicle).
- Failure to take required DMV tests.
- Failure on DMV tests.
- Unfavorable DRS evaluation.
- Disqualification based on DMV medical or visual criteria for licensing.

Disposition

License Restrictions, Periodic Evaluations, and Remediation

Licensing actions were based on the recommendation of a single medical advisor physician; however, if the customer appealed the decision, the recommendation was made by multiple members of the Medical Review Board. Medical advisors could recommend license restrictions including radius of home, to and from work, to and from church/store/doctor's office, adaptive equipment, hearing aids, outside mirrors, visual correction, and no interstate driving/max speed 45 mph. Periodic reexaminations could be recommended for periods from as short as 6 months up to the standard renewal cycle interval (5 years for drivers age 66 and older, 8 years for drivers younger than 66). In 2012, the following outcomes (and percent of cases) for the 8,485 initial, non-alcohol related medical review cases were reported.

- No change in license status/no new license action taken (6%)
- Suspension (23%)
- Daytime only restrictions (17%)
- Restrictions to a radius of home (5%)
- Restrictions to specific destinations (5%)
- Maximum speed 45 mph and no interstates (10%)
- Corrective lenses required (12%)
- Adaptive equipment required (9%)
- Periodic review (13%)

Medical review outcomes were not reported back to the referral source, due to confidentiality requirements. Licensing decisions were communicated to the driver by letter sent through the mail. On average, the medical review process—from the time a driver was referred until a licensing decision was communicated to the driver—was 4 to 8 weeks. The exception was when the Medical Report Form completed by the driver's physician recommended "no driving." In this case, a decision was mailed to the driver within 48 business hours of the receipt of the MRF into the Medical Review Section (reaching the driver within 7 days).

Appeal of License Actions

The licensing agency provided for an appeal process for drivers whose licenses were suspended or restricted for medical conditions. Any action taken by the Medical Review Section of the Division of Motor Vehicles could result in a request for a hearing before the Medical Review Board. The Medical Review Section scheduled all hearing requests. The review board for a particular case consisted of the commissioner or his authorized representative (one of the two hearing officers or the DMV certified nurse assistant) and two of the three Medical Review Board physicians. All hearings were conducted in-person, and lasted approximately 15 to 20 minutes. The applicant was given every opportunity to prove that his or her physical or mental problem was one that had been or could be overcome. Applicants brought witnesses, attorneys, additional laboratory tests and physicians reports, and were occasionally screened by board

physicians during the hearing. Applicants who had completed the Medical Review Board Hearing process and whose conditional or restrictive approval or disapproval has been upheld, could appeal the decision of the Medical Review Board to the superior court.

Costs of Processing Medical Referrals

It took approximately 10 minutes to download a customer's complete medical file and driving history. This task was conducted by the technical assistants, at an approximate cost of \$2.00 per case in staff time. Cases reviewed by the medical advisors (DMV contract physicians) took anywhere from 10 minutes to an hour per case; the physicians were paid \$6 per case, regardless of the time required for the review and recommendation. If the DMV certified nurse assistant reviewed a case (instead of a medical advisor), it took approximately 20 minutes, at a staff-time cost of \$9/case. If a DMV hearing officer reviewed a case, the approximate cost in staff time for a 20-minute review was \$6.00. Therefore, costs ranged from \$8 to \$11 per case if a re-examination was not required. If a re-examination (vision, traffic sign test, road test) was conducted, it took approximately 1 hour, at a cost averaging \$15.50 in examiner time. Costs to the DMV in staff time therefore averaged \$8 to \$25 per case, depending on whether a reexamination was conducted.⁷

If a case was appealed, the two Medical Review Board physicians were paid \$6 per case, each, plus \$50/hour and daily expenses. Hearings averaged 20 minutes, at a cost to the DMV for each physician of \$16.67. The DMV nurse or hearing officer was also present, at a cost of \$6 to \$9 per 20-minute case, and the technical assistant would likely download the driver's medical file again (if new information was added), at a cost of approximately \$2 in staff time. Without reimbursement for the physician's daily costs, a 20-minute hearing cost the DMV approximately \$56 per case.

Administrative Issues

Training of Licensing Employees

The licensing agency provided specialized training for its personnel in how to observe applicants for conditions that could impair their ability to safely operate a motor vehicle through in-service schooling and training manuals. Examiners completed an 8-week training course that included 5 weeks of classroom training and 3 weeks of hands-on/on-the-job training. Besides the guidelines listed for issuing a Medical Report Form, training materials included lists of medications and medical terms used for various medical conditions, to help in the identification of conditions that warrant referral for medical evaluation. Examiners did not evaluate medical referral cases for the first 6 months on the job. There was no specialized training for the licensing of older drivers.

⁷ Costs were calculated based on an average annual salary of \$24,000 for a technical assistant, \$56,000 for the certified nurse assistant; \$38,000 for a hearing officer; and \$32,000 for a driver license examiner; and based on 2080 hours in a year of 40-hour work weeks. These DMV employees were not paid by the case; they received an annual salary.

Appendix E: Summary of Driver Medical Review in Maine

Organization of the Medical Program

Driver licensing in Maine was administered by the Bureau of Motor Vehicles (BMV). At the time these data were collected, Maine had a Medical Advisory Board created in the 1970's. Membership consisted of seven physicians and one substance abuse specialist appointed by the secretary of state for 2-year terms, representing the following medical specialties: ophthalmology, cardiology, family medicine, internal medicine, neurology, psychiatry, sleep medicine, substance abuse, physical rehabilitation, and geriatrics. The chair of the board, designated by the secretary of state, was a geriatrician. Board members were volunteer consultants to the BMV who worked in private practice or in hospital/clinic settings. Board members were immune from legal action. Records and deliberations of the board relating to specific cases were confidential, with the exception that the person under review could receive a copy, and reports could be admitted as evidence in judicial review proceedings.

The MAB participated in the following activities:

- Advised the licensing agency on medical criteria and/or vision standards for licensing
- Reviewed and advised on individual cases referred by BMV case review staff (paper/electronic document reviews);
- Reviewed and advised on individual cases for drivers appealing the BMV's license action (paper/electronic document reviews);
- Assisted the licensing agency in developing medical forms for completion by drivers' treating physicians;
- Assisted the licensing agency in developing forms used by law enforcement, the public, physicians, etc. to report drivers to the licensing agency with suspected medical or functional impairments;
- Developed educational materials on driver impairment for the general public;
- Advised on medical review procedures (When questions arose for specific conditions, the appropriate specialist was asked to assist/explain treatment/therapy for the specific condition);
- Participated in various working groups as needs arose.

Licensing actions were generally based on the recommendation of a single specialist; however, in rare cases more than one specialist board member's input was requested. Few board referrals were required due to the thorough medical criteria for licensing developed by the board (*Functional Ability Profiles Governing Physical, Emotional, and Mental Competence to Operate a Motor Vehicle [FAP – II]*).⁸ In 2012 the BMV Medical Review Unit referred 25 cases to the MAB for review. The medical report form (CR-24) developed by the MAB for use by treating physicians was extremely simple, supporting quick evaluation by BMV Medical Review Unit staff. Referrals were made on a case-by-case basis when the *FAP – II* did not contain enough

⁸ The Functional Ability Profiles are shown at www.maine.gov/sos/bmv/licenses/medrules.html

information for the Medical Review Unit to make a determination. Referrals could be made for any of the conditions contained within the *FAP – II*.

The BMV had a separate Medical Review Unit with designated, trained, professional staff that consisted of one medical review coordinator/health educator, and four administrative positions. At the time these data were collected, the medical review coordinator/health educator was a registered nurse with a master’s degree in public health, with 3.5 months of experience in this position. The qualifications for this position called only for a health educator. The four administrative staff had been with the MRU for 3 years, 5 years (2 staff members), and 10 years.

In 2012, the Medical Review Unit processed 9,185 initial cases referred to the licensing agency for medical review or reevaluation of fitness to drive, and processed an additional 24,223 cases already on periodic review, for a total of 33,408 cases. This included both non-alcohol and alcohol-related cases, as the Unit was unable to differentiate these in medical review statistics. The BMV did not track or maintain statistics on referral source, and while the proportion of drivers referred by source could not be estimated, the medical review coordinator suspected that the majority of initial referrals came from license applications and renewals, followed by physicians. Statistics were maintained on medical review cases by diagnosis. In 2012, the plurality of medical review cases was for diabetes/endocrinopathies (32%). This was followed by heart disease- related diagnoses such as ASHD, CAD, CHF, and MI (12%); psychiatric disorders (12%); visual acuity (12%); and chronic obstructive pulmonary disease (11%). Next were musculoskeletal conditions (5%); followed by supraventricular arrhythmia (3%); and then dementia/encephalopathies, seizures/alterations of consciousness, and stroke (2% each). Head injuries, Parkinson’s disease, sleep apnea syndrome, substance abuse, vertigo, and ventricular tachycardia/fibrillation each accounted for 1% or fewer of the initial cases reviewed.

Identification of Drivers With Medical Conditions and Functional Impairments

Application Form

Drivers with medical conditions and functional impairments that could affect safe driving ability came to the attention of the bureau in numerous ways. Initial and renewal applicants answered the following question about medical conditions when they completed their license application:

Initial Application: *Do you have any of the following medical conditions?*

Renewal Application: *Have you developed any of the following medical conditions or have any changes occurred in your present medical condition since your last renewal? If yes, please check which condition(s) below.*

- | | |
|----------------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> Epilepsy/Seizures | <input type="checkbox"/> Stroke/Shock |
| <input type="checkbox"/> Limb Amputation | <input type="checkbox"/> Parkinson’s Disease |
| <input type="checkbox"/> Blackouts/Loss of Consciousness | <input type="checkbox"/> Mental/Emotional |
| <input type="checkbox"/> Heart Trouble | <input type="checkbox"/> Paralysis |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Other Disability_____ |

If an applicant responded in the affirmative, he or she was required to take a Driver Medical Evaluation form (CR-24, see Figure E-1) to his or her treating physician for completion and return it to the medical review coordinator. The physician provided a diagnosis for each medical condition and identified a Functional Ability Profile level, based on the *FAP – II* booklet. The physician indicated the date of the last exam, which had to be within the previous 12 months. Physicians also provided the date of the most recent seizure/loss of consciousness (if applicable); listed any currently prescribed medication; indicated the patient's reliability in taking medicine; and indicated whether the patient had demonstrated any side effects from current medications that would interfere with the safe operation of a motor vehicle. The physician was also asked to describe any physical or cognitive deficits.

Vision Screening and Vision Standards

A mechanism for identifying drivers with visual impairments was the BMV vision screening test required at initial licensure, and then again at the first license renewal after attaining the age of 40, and again at every-other-renewal thereafter until attaining age 62. Upon reaching age 62, vision was screened each time the license was renewed. Drivers under age 65 renewed their licenses every 6 years; drivers age 65 and older renewed their licenses every 4 years.

The visual standards were 20/40 acuity or better in the best eye, with or without correction, and a binocular visual field of 140 or better. Drivers who could not meet the standards using the BMV screening equipment were required to have their eye care specialist complete a Vision Form (MVE-103, see Figure E-2) based on an examination within the previous year. The eye care specialist was asked to provide acuity, visual field, and color vision readings, indicate whether new lenses were being fitted (including telescopic aids), and whether double vision could result from ocular motility. In addition, the vision specialist was asked to provide a recommendation for periodic reexaminations for patients with a progressive eye disease, and to recommend other restrictions as necessary (e.g., corrective lenses, daylight driving only, geographic or area restrictions). Applicants with visual fields of less than 140 degrees but at least 110 degrees were restricted to driving with right and left outside mirrors. Applicants with permanent visual fields of less than 110 degrees could not be licensed to drive. Applicants with 20/50 acuity were restricted to daytime operation only. Applicants with 20/60 to 20/70 acuity were restricted to daytime operation within a 25 mile radius of their residence; however, the radius could be reduced or enlarged based on the eye care specialist's report/recommendations and the applicant's performance on a road test. Applicants with acuity less than 20/70 in each eye without a chance of recovery could not be licensed to drive. Correction through the use of telescopic or bioptic lenses was not acceptable for use in meeting the standards, nor could they be used during road testing.



State of Maine
 Department of the Secretary of State
Bureau of Motor Vehicles
DRIVER MEDICAL EVALUATION

NAME: _____ DATE OF BIRTH: _____
 ADDRESS: _____ LICENSE/HISTORY NUMBER: _____
 _____ PRINT DATE: _____
 TELEPHONE #: _____

(Please Enter Phone Number)

CERTIFICATE OF EXAMINATION

FOR THE REPORTING PHYSICIAN:

1. This report is requested because the issue has been raised as to the possibility that this applicant may have a mental/physical condition which could affect his/her ability to drive a motor vehicle safely. Your report will be advisory and used to assist in determining eligibility for a driver's license. If you have any questions, please call the Medical Review Coordinator's office.
2. A physician acting in good faith is immune from any damages claimed as a result of the filing of a certificate of examination pursuant to 29-A MRSA Section 1258 (6).

FUNCTIONAL ABILITY PROFILE

Please complete the profile level for the listed conditions and provide information for any other conditions not listed below that may affect the driver's ability to drive a motor vehicle safely.

DIAGNOSIS
 (PLEASE PRINT OR TYPE)

If COPD Profile Level B or C provide O₂Sats _____.

PROFILE LEVEL
 THIS SECTION MUST BE COMPLETED
 CHECK ONLY ONE BOX PER DIAGNOSIS

	1.	2.	3.				4.
			A	B	C	D	
_____	<input type="checkbox"/>						
_____	<input type="checkbox"/>						
_____	<input type="checkbox"/>						

Date of last examination _____ How long has applicant been your patient? _____
 (must be within past year)

For seizures/stroke or loss of consciousness give date of most recent episode _____

Current prescribed medication(s): _____

No medication prescribed

Reliability in taking medication

Good Fair Poor Unknown

Has this patient demonstrated any side effects from current medication(s) which would interfere with safe operation of a motor vehicle?

MD-FR-24
 02/12/2009
 Rev. CR-24 Form

* A copy of the rules can be viewed at www.maine.gov/sos/bmv/licenses/medical or a Functional Ability Profile booklet can be obtained by calling (207) 624-9000 extension 52124

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Figure E-1. Maine Bureau of Motor Vehicles Driver Medical Evaluation Form, CR-24 (Page 1 of 2).

PHYSICIAN'S COMMENTS

(Important - please describe physical and/or cognitive deficits.)

AUTHORIZATION FOR RELEASE OF MEDICAL INFORMATION

I hereby authorize the release of my medical history to the Secretary of State, Bureau of Motor Vehicles and understand the information may be shared with any qualified medical professional submitting information pertaining to the disclosed medical history for the purpose of determining my eligibility for a driver's license by:

Dr. _____ or _____ Hospital

Signature of Patient: _____ Date _____
(Please forward this form directly to your physician for completion)

Patient Telephone number: _____

Being duly licensed to practice in the state of _____ I hereby certify that I have examined this applicant.

(Signature)

(Specialty)

(Physician's Name Printed or Typed)

(Address)

(Office Phone Number)

(Date)

Reply to: Medical Review Coordinator
Bureau of Motor Vehicles
29 State House Station
Augusta, Maine 04333-0029
Telephone: (207) 624-9000, ext 52124
Fax: (207) 624-9319

MD-FR-24
02/12/2009
Rev. CR - 24 Form

* A copy of the rules can be viewed at www.maine.gov/sos/bmv/licenses/medical or a Functional Ability Profile booklet can be obtained by calling (207) 624-9000 extension 52124

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Figure E-1 (Cont'd). Maine Bureau of Motor Vehicles Driver Medical Evaluation Form, CR-24 (Page 2 of 2).

EXPLANATION FOR EYE DOCTOR

All applicants who are required to submit to an eye test are given simple vision screenings by certain Bureau of Motor Vehicles personnel. When more accurate measurements are needed; when an improvement in vision would add substantially to safety; when unusual eye defects are apparent, the person is asked to visit an eye doctor. A report from such doctor is particularly valuable if the fitness of a driver is questioned in court or following an accident. In some cases examinations by more than one doctor are required.

You may fill in the form below for the examination which you make; **but please leave blank any spaces for items on which you have made no examination.** If the case is a peculiar one, any additional comments which you may have would be appreciated. Use a separate sheet if needed, and attach.

Please sign this sheet and for proper identification, will you have the person examined sign the report in your presence.

No recommendations or suggestions as to which doctors to visit are given by the Bureau of Motor Vehicles. Only reports from licensed practitioners will be acceptable. The eye doctor assumes no responsibility in making this report other than that of truthfully representing the facts.

Name of person examined (Print) _____
Date of Birth

Address (Print)

1. Visual Acuity	Without Glasses	With Present Glasses	With New Lenses
Right Eye	20/	20/	20/
Left Eye	20/	20/	20/

2. Visual Fields:

To Left of Point of Fixation _____ To Right of Point of Fixation _____

Total Degrees = _____
(Degrees to Left Plus Degrees to Right Must Equal 140 or Greater for Unrestricted License)

3. New lenses are being fitted? Yes No
 A. Are telescopic or Low Vision Aid being used? Yes No
 B. Date patient to receive new glasses: _____

4. Is there definite ocular motility that is apt to produce diplopia or other safety hazard? Yes No
 If "Yes" explain: _____

5. Because of possible progressive visual defect, applicant should be re-examined in _____
 6. Recommendations: Corrective Lenses () Geographic or Area () Daylight Driving Only () None ()

I hereby give my consent that this information may be forwarded to the Secretary of State, State of Maine

Signature of Person Examined

Doctor's Signature

Doctor's Name Printed

Address

Telephone

Date of Examination

Figure E-2. Maine Bureau of Motor Vehicles Eye Examination Form (MVE-103).

Referral Sources

License Examiners were trained to observe applicants for signs of impairment. A section of the training manual described the process an examiner should follow when an applicant appeared for renewal, and exhibited obvious signs of a disability (e.g., wheelchair, walker, limb amputation, or other obvious physical condition, such as dragging a leg or foot). If the license was not appropriately restricted, the Examiner asked the applicant whether the condition was temporary or permanent. If the condition was temporary, the license could be processed in the usual manner. If the condition was permanent, further questioning was conducted to determine if the condition was the result of an accident or a medical condition. If an impairment was permanent and the result of a medical condition, an applicant was required to undergo medical review before being allowed to continue with the licensing process. If a condition was permanent and the result of an accident (e.g., an amputated hand due to a construction accident), the applicant was required to take the road test to demonstrate that he or she could compensate for the disability, and restrictions were placed on the license as necessary. The Examiner Manual listed medical conditions that were exempt from the CR-24 requirement.

Other mechanisms outside of the BMV for identifying potentially unsafe drivers included (but were not limited to) reports from the following sources: physicians; law enforcement personnel and other government agencies; family, other concerned citizens; and crash reports. People who reported drivers to the BMV were required to provide their names; the Bureau did not accept anonymous reports and did not generally investigate reporting sources prior to contacting the driver for possible evaluation. On rare occasions (approximately 5 cases per year), a report by a family member or other citizen was investigated when information received conflicted with other information, and it appeared that the reporting source was acting with malice. In such instances, the complainant, friends, and neighbors could be contacted to ensure the report was valid.

Physicians were not required by law to report drivers to the BMV who had medical conditions or functional impairments that could prelude safe driving, but they could voluntarily report such drivers. Physicians notified the BMV via CR-24 forms, MVE-103 forms, and written letters. Reports made by physicians were confidential, except that a driver could receive a copy upon request, and reports could be admitted in judicial review proceedings of drivers determined to be incompetent. Physicians who reported drivers in good faith were immune from legal action by their patients. The BMV had established that physicians were responsible for counseling their patients regarding driving safety.

The MAB chairman and another MAB physician conducted seven presentations to over 260 medical providers (physicians, nurse practitioners, physician assistants, and medical students) between August 2012 and May 2013 on the topic of Maine's older driver population and crash statistics, why risk increases with age, assessing capabilities for driving safety, how to complete the BMV Driver Medical Evaluation Form, and Maine's ethical and legal climate for reporting drivers with medical conditions that impair safe driving. This 51-slide presentation had been conducted for audiences ranging from 5 to 100 participants, for doctor's office staff, for physicians during hospital grand rounds, at physician specialists' annual meetings (Maine

Osteopathic and Maine Academy of Family Medicine Annual Meetings), and at a fall meeting of the Maine Medical Association.

Law enforcement officers used the form shown in Figure E-3 to report drivers when they thought a medical condition could affect safe driving ability. Drivers could be reported even if the officer did not issue a ticket. Concerns about impairment caused by a medical condition could also be written on a crash report submitted to the BMV. Concerned citizens reported their concerns via written letter. The BMV contacted only the driver following such a report, and did not notify the reporting source of any outcomes. Citizens were immune from civil or criminal liability for reporting in good faith a driver suspected of medical or functional impairment. Drivers involved in three crashes within a 3-year period were automatically reviewed through an administrative hearing. A hearing officer could require a driver to submit to medical evaluation.

Evaluation of Referred Drivers

Procedures

When the Medical Review Department received a referral in any form, the first step was to notify the driver of their need to have a physician complete the Driver Medical Evaluation form. There was no triage system to expedite particularly risky cases, but a high-risk driver's license could be immediately suspended pending the outcome of medical review, based on information contained in a law enforcement report of adverse driving, a report of concern by a physician, or observations reported by BMV officials. When the Driver Medical Evaluation form was returned to medical review, it was reviewed by the BMV medical review administrative staff according to the FAP criteria and entered into the BMV system. The outcome of driving licensure depended on physician scoring of the medical evaluation form. The outcome could result in the driver being cleared medically, or require ongoing follow-up with their physician, a road evaluation, or a complete test (vision, signs, written, road). The outcome was communicated to the driver in writing. If indicated, the license could be suspended.

The types of cases or elements that complicated decisions included dementia cases that improved, and when physicians improperly completed forms (e.g., no profile was indicated or an incorrect profile level based on comments made by the physician). The non-medical administrative staff used Maine's Functional Ability Profile to review medical and vision limitations, and could suspend based on recommendations within that document. The Medical Coordinator could also refer a case to the MAB for advice and recommendation when it was not clear from medical reports whether a person was medically capable of driving safely. Board members could request further medical examinations before recommending a licensing action.

Drivers were allowed three attempts to pass all phases of testing. If the driver failed three times, or if they did not agree with the outcome, they could request an administrative hearing in writing. At the hearing, they were required to show good cause why the licensing action should not be taken. Driver license examiners could grant a fourth attempt to pass testing if a driver showed improvement from test to test.

Generally, reexamination testing was conducted by Examiner Supervisors, who could assign cases to Senior Examiners. Training for conducting medical reexamination testing (vision, written, sign, and road) was on-the-job, through observation and administering evaluations. Reexamination included knowledge testing when applicants had dementia or other cognitive impairments such as stroke, head trauma, etc. The reexamination road test was the same as that given to new applicants; however, Examiners paid particular attention to whether a person could compensate for a physical disability, so that the appropriate restrictions could be placed on the license. A geographic road test in an applicant's home area could be given when it was determined that a driver should be restricted to a limited radius of home. Drivers with cognitive impairment (dementia, strokes) were often restricted to driving within a specified radius of home (e.g., 1 mile, 5 miles, 10 miles, or 20 miles). Home area tests were rare; in most cases, the driver was required to make the request before one was given, but an Examiner could suggest a home-area restricted license based on the results of previous tests. The Bureau did not refer drivers to Driver Rehabilitation Specialists for fitness to drive assessments or recommendations for restrictions, to assist in making license determinations.

A driver's license could be suspended during the medical review process under the following circumstances:

- Referral information indicated loss of consciousness or other severe risk to safe driving.
- Failure to submit medical or vision reports.
- Unfavorable medical or vision report (physician or eye care specialist indicated the severity of the condition did not permit safe operation of a motor vehicle).
- Failure to take required BMV tests.
- Failure on BMV tests.
- Disqualification based on BMV medical or visual criteria for licensing.

Medical Guidelines

Standards to determine the competence of a person to operate a motor vehicle were contained in the "Functional Ability Profiles" adopted by the secretary of state with the assistance of the Medical Advisory Board.⁹ Conditions for which a person was required to submit a report to the secretary of state included, but were not limited to, neurological, cardiovascular, metabolic, musculoskeletal, visual, emotional and psychiatric, and substance abuse. Functional ability to operate a vehicle safely could be affected by a wide range of physical, mental or emotional impairments. To simplify reporting and to make possible a comparison of relative risks and limitations, the Medical Advisory Board had developed Functional Ability Profiles for 10 categories, as follows.

1. Cardiovascular Disorders
2. Diabetes and Other Endocrinopathies
3. Head Injury
4. Hearing Loss/Vertigo

⁹ Available at: www.maine.gov/sos/bmv/licenses/medrules.html

5. Neurological and Related Musculoskeletal Conditions
6. Psychiatric Disorders
7. Pulmonary Disorders
8. Stroke
9. Substance Abuse
10. Visual Disorders

Because cardiovascular diseases may affect a driver's ability in a number of ways, profile guidelines were provided for the following common circumstances: supraventricular arrhythmia and cardiac syncope; ventricular tachycardia and ventricular fibrillation; and atherosclerotic heart disease, congestive heart failure, status post myocardial infarction.

Separate profiles were provided within the "Neurological and Related Musculoskeletal Conditions" category. First, a single miscellaneous category included the various musculoskeletal abnormalities such as muscular atrophies and dystrophies, myasthenia gravis, spinal cord disease, paraplegia, quadriplegia, and orthopedic deformities either congenital or acquired (such as arthritis or amputation). These musculoskeletal conditions have multiple etiologies, but the common need in most cases was adaptive driving equipment (hand controls, etc.). The other three profiles were for dementia/encephalopathies; Parkinson's Disease/-syndrome; and seizures and unexplained episodic alterations of consciousness.

The Pulmonary Disorders category included profiles for chronic obstructive pulmonary disease (COPD) and sleep apnea syndrome. The Visual Disorders category included profiles for double vision, peripheral vision, and visual acuity.

The Functional Ability Profiles had multiple levels, and followed the same format:

1. **No diagnosed condition.** This section was used for a patient who has indicated to the Bureau of Motor Vehicles a problem for which no evidence was found, or for which no ongoing condition was identified. For example, a person with a heart murmur as a young child who indicated heart trouble, or to a teenager who fainted in gym class once on a hot day who indicated blackouts.
2. **Condition, fully recovered/compensated.** This category indicated a history of a condition which had been resolved or which did not warrant review. Guidance for the use of this section was given in each profile.
3. **Active impairment.**
 - a. **Minimal.** This section could call for periodic review if an ongoing condition could deteriorate.
 - b. **Mild.** This section dealt with conditions which could impair driving but were controlled so that a person could still operate a motor vehicle safely. Reviews were more frequent than in (a).

- c. **Moderate.** This section identified impairment which often precludes driving, but for which had the potential for recovery to the point of allowing safe operation of a motor vehicle.
 - d. **Severe.** This section identified permanent conditions with little or no potential for improvement and which precluded safe operation of a motor vehicle.
4. **Condition under investigation.** This section was for newly identified conditions. Follow-up reports placed condition in its proper part of section 3.

A functional ability profile for Seizures and Unexplained Episodic Alterations of Consciousness, under the category of Neurological Conditions, is presented in Figure E-4.

License Restrictions, Periodic Evaluations, and Remediation

Licensing decisions were based on the Functional Ability Profile and a road test evaluation, if required. The Bureau could require a driver to file periodic medical reports for any of the FAP conditions. Road testing was usually required for drivers with Parkinson's disease, minimal and mild dementia, head injuries, strokes, musculoskeletal disorders, psychiatric disorders, and substance abuse. Medical review outcomes included no change in license status, suspension, restrictions, and periodic reporting required (1, 2, 4, or 8 years). License restrictions could include radius of home, specific destinations only, designated route restrictions, restrictions to a specific geographic area, road type restrictions (e.g., no freeways), daytime only, corrective lenses, outside mirrors, prosthetic devices, and special adaptive equipment (e.g., spinner knobs, left-foot accelerators, hand controls). Drivers were not referred for remediation of functional impairments (other than to eye care specialists when they could not meet the BMV standards).

The BMV did not track licensing outcomes for medical review cases; neither could the proportion of cases by outcome be estimated. The time to process a referral, from initial referral to end communication also was not available, nor could the range of processing times be provided.

The licensing decision was communicated to the driver via mailed letter, and/or by the examiner. No feedback was provided to the reporting source regarding the outcome of the medical review, because it was considered confidential information and was protected by the Driver's Privacy Protection Act.

Profile Levels	Circumstances*	Condition Example	Interval for Review
1.	No diagnosed condition	No known disorder	
2.	Condition fully recovered & compensated	Previous history of any seizure, but seizure free and off medication at least 2 years	N/A
3.	Active impairment:		
	a. Minimal	a. Seizure free at least 2 years, and off medication >3 months ¹ , long standing (<5 years) seizure disorder, on medications, seizure free at least 3 months	a. 4 years
	b. Mild	b. All other seizure disorders not covered in (a), on medications and seizure free for a least 3 months ⁴	b. 2 years
	c. Moderate	c. Seizure not yet controlled or medications not adjusted	c. No driving
	d. Severe	d. 1. Uncontrollable seizure disorder 2. Chronic noncompliance 3. Medication which interferes with driving	d. No driving
4.	Condition under investigation	Newly discovered seizure disorder	As needed

¹ Seizure disorder having more than one episode not explained by chemical/metabolic phenomenon. Seizures related to chemical abuse fall under this profile.
² Any unexplained episodic alterations of consciousness including a single seizure episode, no driving is permitted for 6 months.
³ If medication is being tapered, no driving is permitted until 3 months after medications have been discontinued.
⁴ Breakthrough seizures in a known seizure disorder due to reduction in medication are not subject to the 3 month rule.

Figure E-4. Maine BMV Functional Ability Profile: Neurological Conditions Seizures¹ and Unexplained Episodic Alterations of Consciousness.²

Appeal of License Action

There was an appeal process for drivers whose licenses were suspended or restricted for medical conditions or functional impairments. Drivers could request a hearing within 10 days of the notice of the licensing action. Drivers could be represented by counsel or other representatives before the secretary of state. Drivers were required to show cause as to why

further testing should be allowed or restrictions modified. MAB members were not in attendance at departmental hearings. A driver could appeal the department's decision in superior court within 30 days of decision. In 2012, 130 drivers requested hearings, and 1 driver appealed the department's decision to superior court.

Costs of Processing Medical Referrals

Cases where a road test was not required could take from 5 minutes to several hours to perform medical review and data entry. The estimated average time for a medical review only was 1.25 hours, at an average wage of \$16.07/hour, for a cost of \$20.09.

Processing a referral that required a road test added an additional 5 hours of Examiner time (not including travel time to various sites) at an average wage of \$23.10/hour (\$115.50 for Examiner time for an average case). Therefore the total time and cost for a medical review plus road test was 6.25 hours and \$135.59.

If a case was referred to the MAB, it costs the Bureau an additional \$25, as MAB physicians were eligible for mileage reimbursement.

Maine BMV staff could not provide an estimate of additional costs for appeals.

Appendix F: Summary of Driver Medical Review in Texas

Organization of the Medical Program

Driver licensing in Texas was administered by the Texas Department of Public Safety. A Medical Advisory Board was established in 1970 under authority of Health and Safety Code §12.092 of the Department of Health to assist the Texas Department of Public Safety (DPS) in determining whether an applicant for a driver's license or a license holder was capable of safely operating a motor vehicle. At the time these data were collected, the MAB, housed within the Department of Health, had nine physicians representing the following medical specialties: ophthalmology, family practice, internal medicine, neurology, endocrinology, physiatry, general practice, and dermatology. The head of the board was an endocrinologist. Members were appointed for two-year, renewable terms by the Commissioner of the Department of Health, with recommendations from the Texas Department of Health, the Texas Medical Association, and the Texas Optometric Association. Board physicians were paid consultants to the Texas Department of State Health Services, and were employed in private practice. MAB members (other than the chair) were paid a meeting attendance fee of \$100 per meeting; there were no other payments made to the physicians for case review. Their identities were anonymous and they were immune from legal action. Records and deliberations of the board were confidential, except that they could be subpoenaed and admitted as evidence in judicial proceedings.

The activities in which the board was engaged included:

- Advising the licensing agency on medical criteria and vision standards for licensing.
- Reviewing and advising (paper and electronic document reviews) on individual cases referred by DPS.
- Assisting the DPS in developing medical forms for completion by drivers' treating physicians.
- Assisting DPS in developing forms used by law enforcement, the public, and physicians to refer drivers with suspected medical or physical impairments.
- Apprising the DPS of new research on medical/functional fitness to drive.
- Advising on medical review procedures (when department personnel call for clarification on cases).

The Texas MAB reviewed a large proportion of the licensing agency's medical review cases. Of the 10,842 drivers referred to the licensing agency for medical review or reevaluation of fitness to drive in 2012, 6,609 cases were referred to the MAB (61% of medical review cases). This included both alcohol and non-alcohol-related cases as these were not distinguished. The department's guidelines for referral to the MAB were provided in Texas Administrative Code (Title 37, Part 1, Chapter 15, Subchapter C, Rule §15.58), and were contained in the driver *License Examiner's Manual*. Conditions for referral of passenger vehicle drivers (Class C) are presented in Table F-1.

Table F-1. Criteria for Medical Advisory Board Referrals, for Passenger Vehicle Drivers.

"Under care of a physician" is defined as having been referred for treatment or having received treatment from a physician for the medical conditions indicated in the past 12 months without a release from further treatment. It does not apply to a condition diagnosed over 12 months ago and with treatment consisting only of periodic visits to a physician for checkup and maintenance.

Eye Diseases: applicants who are under the care of a physician, excluding the fitting of lenses when no eye disease is present. Applicants using telescopic lenses to pass the vision test must complete a comprehensive road test before licensure and are referred only the first time they present using telescopic lenses.

Cardiovascular Diseases: All applicants under the care of a physician for angina pectoris, arrhythmia, arterial aneurysms, coronary bypass surgery, dyspnea, myocardial infarction. Applicants who have had a heart attack during the past year. Applicants with hypertension who have had a loss of or any alteration in consciousness within the past year. Applicants with blood vessel disorders under the care of a physician and a qualifying road test has confirmed considerable interference with braking, accelerating, steering, or manipulation of controls or acceleration. All applicants with syncope with any loss of consciousness or any alteration of consciousness due to cardiovascular problems within the past year.

Metabolic Disorders: Applicants with Diabetes Mellitus under the care of a physician or with hyperglycemia or hypoglycemia severe enough to cause neurological dysfunction (confusion, motor dysfunction or loss of consciousness) or result in any type or degree of vehicle accident within the past two years.

Respiratory Conditions: applicants who are under the care of a physician and a qualifying road test has confirmed that shortness of breath or audible wheezing considerably affects driving ability.

Neurological disorders: all applicants under the care of a physician with transient cerebral ischemic attack, stroke, narcolepsy, excess daytime sleeping or sleep apnea. Applicants who have had a cerebral vascular accident (stroke), with any degree of persistent neurological deficit (applicant must take and pass a qualifying road test prior to referral) or if applicant has lost consciousness, "blacked out" or fainted within the past year. Applicants who have had seizures or epileptic or convulsive attacks within the past year. Applicants with movement disorders (conditions including but not limited to Parkinsonism, Torticollis, myoclonus and choreoathetosis), if disorder is active and progressive (the applicant must also take and pass a qualifying road test prior to referral).

Mental, nervous or emotional patients (all applicants as follows): Involuntary psychiatric patient committed for indefinite hospitalization (applicant must pass all required tests prior to referral and must present a court restoration to competency or a certificate of discharge). Involuntary psychiatric patient with a guardian appointed (applicant must pass all required tests prior to referral and must present a court restoration to competency. A certificate of discharge is not acceptable). All other psychiatric patients if under the care of a physician or if any significant behavioral problems or adverse drug therapy reactions exist (applicant must pass all required tests prior to referral).

Alcohol-induced problems (all applicants as follows): Three or more convictions for offenses involving drinking, the last offense occurring within past two years. Involvement in two or more accidents while drinking, the last incident occurring within past two years. A reliable report that applicant has had an active drinking problem within the past two years. Admits to an active drinking problem within the past two years. Under the care of a physician (exception: if there is no documented history of any episodes of alcohol abuse and applicant voluntarily enrolled in and successfully completed a recognized rehabilitation program, the applicant will not be referred).

Drug-induced problems (all applicants as follows): Addiction to any drug affecting safe driving ability. A reliable report that applicant has had an active drug problem in the past two years. Admits to an active drug problem in the past two years. Under the care of a physician.

Other conditions or disorders: All applicants, if under the care of a physician, and a qualifying road test has confirmed that safe driving ability is considerably affected by the condition. Examples of conditions that will be evaluated by testing rather than by referral include but are not limited to: amputation, back pain, cerebral palsy, congenital birth defects, fibromyalgia, hemiplegia, multiple sclerosis, osteoporosis, post-polio disabilities, scoliosis, spina bifida, spinal cord injuries, spinal meningitis, Tourette's syndrome and/or traumatic brain injuries.

A panel of three Medical Advisory Board physicians met bi-monthly to make fitness to drive determinations for cases in which information from treating physicians had been received. A quorum for any one meeting consisted of three doctors. Each panel member prepared an individual written report for the DPS that stated the member's opinion as to the ability of the applicant to operate a motor vehicle safely. The panel member could also make recommendations relating to the department's subsequent action. Thus, licensing recommendations and opinions were made by multiple board members, but not the entire board. The MAB reported its findings to the director of medical standards on Motor Vehicle Operations Division of the Texas Department of Health. The director, in turn, reported the findings to the Department of Public Safety. DPS relied heavily on their professional advice, and had the final authority for licensure.

Regarding their assistance in developing procedures and guidelines, the Medical Advisory Board published criteria with which to judge cases consistently and fairly. The criteria were provided in the *Guide for Determining Driver Limitation* (Texas Department of Health, revised 1991, reprinted 1998).

Enforcement and Compliance Service (within the Driver License Division of the DPS) had several (2+; the number varied) full-time technicians who were dedicated to reviewing limited medical information, such as Medical Evaluation Request forms (DL-76) and Supplemental Medical History(DL-45) forms to determine when cases should be referred to the MAB. The ECS technicians were not medically trained, but had been trained in departmental guidelines for licensing drivers with medical conditions and functional impairments. They corresponded with drivers to advise when a case was being referred to the MAB, but did not mail out Medical Evaluation forms or receive the completed medical forms. The DPS received very little medical information, because of the open records laws associated with its operations (The Public Information Act, Texas Government Code Chapter 552). The ECS technicians did not make licensure determinations; licensure determinations were made upon the recommendations of the MAB physicians and the driver license examiners. When a case was referred to the MAB, the MAB physicians reviewing the case sent the driver a letter explaining the requirement to undergo a physician examination and enclosed a Medical Report for the driver's physician to complete and return to the MAB at the Department of Health.

Referral source was not tracked by the DPS; data describing the sources of these initial referrals and the proportion of referrals by source could only be estimated, and were as follows: DMV staff during license renewal (30%), self-report on license renewal forms (30%), law enforcement (20%), physicians (10%), and family (10%).

Identification of Drivers with Medical Conditions and Functional Impairments

Application Form

Drivers with medical conditions and functional impairments that could affect their safe driving ability came to the attention of the licensing agency in a number of ways. First-time and renewal applicants were required to answer questions about their medical conditions when they completed the license application form (Texas Administrative Code, Title 37, Part 1, Chapter 15,

Subchapter B, Rule §15.37). The renewal application is shown in Figure G-1. The medical questions asked on the initial and renewal application were as follows:

- *Do you currently have or have you ever been diagnosed with or treated for any medical condition that may affect your ability to safely operate a motor vehicle? Examples, including but not limited to: diagnosis or treatment for heart trouble, stroke, hemorrhage or clots, high blood pressure, emphysema (within past two years); progressive eye disorder or injury (i.e., glaucoma, macular degeneration, etc.); loss of normal use of hand, arm, foot, or leg; blackouts, seizures, loss of consciousness or body control (within the past two years); difficulty turning head from side to side; loss of muscular control; stiff joints or neck; inadequate hand/eye coordination; medical condition that affects your judgment; dizziness or balance problems; missing limbs.*
- *Initial application: Please explain and identify medical condition: _____*
- *Renewal application: If you answered Yes above, has your condition () Improved or () deteriorated since your last application for an original/renewal of your driver license?*
- *Within the past two years, have you been diagnosed with, been hospitalized for, or are you now receiving treatment for a psychiatric disorder?*
- *Have you ever had an epileptic seizure, convulsion, loss of consciousness, or other seizure?*
- *Do you have diabetes requiring treatment by insulin?*
- *Do you have any alcohol or drug dependencies that may affect your ability to safely operate a motor vehicle or have you had any episodes of alcohol or drug abuse within the past two years?*
- *Within the past two years, have you been treated for any other serious medical conditions? Explain _____.*
- *Have you EVER been referred to the Texas Medical Advisory Board for Driver Licensing?*

For each question answered "Yes" or corrected to "Yes" by examining personnel, the applicant was questioned carefully to determine if he or she met criteria for referral to the Medical Advisory Board. The criteria used by the License Examiner to determine whether a referral to the MAB was warranted were outlined in DPS Administrative Rules, presented in Table F-1. The Supplemental Medical History Form (DL-45) used to gather medical information from the driver and determine whether a referral to the MAB was warranted is shown in Figure F-2. The driver completed page 1 of the Supplemental Medical History Information form, and the Examiner completed page 2 (the back side of the form, which listed the medical conditions and criteria for referral, and contained check boxes to guide the Examiner in the referral determination). Occasionally, driver license examiners referred drivers to ECS using the form shown in Figure F-3 (DL-76); this was usually when the customer refused to complete the Supplemental Medical History Form. If an applicant requiring referral to the MAB was also required to road test (as indicated on the DL-45), a driving test had to be conducted before they could be referred to the MAB, and the driving test results submitted with the referral. Some applicants had medical conditions that could be evaluated by their answers to the application questions and/or road testing (i.e., amputation, back pain, cerebral palsy, congenital birth defects, fibromyalgia, hemiplegia, multiple sclerosis, osteoporosis, poliomyelitis musculoskeletal disorder, scoliosis, spina bifida, paraplegia, quadriplegia, spinal meningitis, Tourette's syndrome,

and traumatic brain injuries). Such applicants were initially tested without referral to the Medical Advisory Board.

APPLICATION FOR RENEWAL/REPLACEMENT/CHANGE OF A TEXAS DRIVER LICENSE OR IDENTIFICATION CARD

(Replacement also called Duplicate)

DL or ID NUMBER _____

<p>APPLICANT INFORMATION</p> <p>LAST NAME: _____</p> <p>FIRST NAME: _____</p> <p>MIDDLE NAME: _____</p> <p>SUFFIX: _____</p> <p>MAIDEN NAME: _____</p> <p>DATE OF BIRTH (mm/dd/yyyy): _____ - _____ - _____</p> <p>SSN: _____ - _____ - _____</p> <p>SEX: (Circle One) MALE FEMALE</p> <p>EYE COLOR: _____ HEIGHT: ft. _____ in. _____</p>	<p>CONTACT INFORMATION</p> <p>HOME PHONE: _____</p> <p>OTHER PHONE: _____</p> <p>EMAIL: _____</p> <p>ADDRESS INFORMATION</p> <p>RESIDENCE ADDRESS: _____</p> <p>CITY: _____ STATE: _____</p> <p>ZIP CODE: _____ COUNTY: _____</p> <p>MAILING ADDRESS: _____</p> <p>CITY: _____ STATE: _____</p> <p>ZIP CODE: _____ COUNTY: _____</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

INFORMATION FORM (ALL APPLICANTS please answer questions 1 through 7)

- | | | |
|-----------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| YES | NO | |
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Are you a citizen of the United States? |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | If you are a US citizen, would you like to register to vote? If registered, would you like to update your voter information? |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | Do you wish to donate \$1.00 to the Blindness Education Screening and Treatment Program? |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | Do you wish to donate \$1.00 to the Glenda Dawson Donate Life —Texas Registry Program? |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | Would you like to register as an organ donor? |
| 6. <input type="checkbox"/> | <input type="checkbox"/> | Do you have a health condition that may impede communication with a peace officer? If yes, please list _____
_____ (Must complete form DL-101) |
| 7. <input type="checkbox"/> | <input type="checkbox"/> | a) Do you want a Veteran designator on your driver license? (proof of Honorable discharge required; acceptable documents are DD214/5, NGB22, or VA disability letter noting characterization of service) |
| <input type="checkbox"/> | <input type="checkbox"/> | b) Are you a 60% disabled Veteran receiving compensation and want to waive the application fee? (see 7a for documents required) |

For all Driver License Renewals complete MEDICAL questions 8 to 14.

Answers to the questions below are for the confidential use of the Department.

8. Do you currently have or have you ever been diagnosed with or treated for any medical condition that may affect your ability to safely operate a motor vehicle?
- Examples, including but not limited to:** Diagnosis or treatment for heart trouble, stroke, hemorrhage or clots, high blood pressure, emphysema (within past two years) • progressive eye disorder or injury (i.e., glaucoma, macular degeneration, etc.) • loss of normal use of hand, arm, foot or leg • blackouts, seizures, loss of consciousness or body control (within the past two years) • difficulty turning head from side to side • loss of muscular control • stiff joints or neck • inadequate hand/eye coordination • medical condition that affects your judgment • dizziness or balance problems • missing limbs
- If you answered **YES** above, has your condition IMPROVED or DETERIORATED since your last application for an original/renewal remake of your driver license?
9. Within the past two years have you been diagnosed with, been hospitalized for or are you now receiving treatment for a psychiatric disorder?
10. Have you ever had an epileptic seizure, convulsion, loss of consciousness, or other seizure?
11. Do you have diabetes requiring treatment by insulin?
12. Do you have any alcohol or drug dependencies that may affect your ability to safely operate a motor vehicle or have you had any episodes of alcohol or drug abuse within the past two years?
13. Within the past two years, have you been treated for any other serious medical conditions?
Explain: _____
14. Have you **EVER** been referred to the Texas Medical Advisory Board for Driver Licensing?

Any male United States citizen or immigrant who is at least 18 years of age but less than 26 years of age **submitting this application consents to registration with the United States Selective Service System.** You must be registered to qualify for federal student aid (to include Pell grant), job training, federal employment, and citizenship if an immigrant. In Texas, you must be registered to qualify for state college student aid or state employment. If convicted, failure to register with the Selective Service is a felony punishable by up to five years in prison and/or a \$250,000 fine. If not registered by age 26, you can no longer register and could permanently lose those benefits associated with registration. For alternative options for applicants who object to conventional military service for religious or other conscientious reasons information is available at: <http://www.sss.gov/FactSheets/FSaltsvc.pdf>.

I do solemnly swear, affirm, or certify that I am the person named herein and that the statements on this information form are true and correct. I further certify my residence address is a (check one): () single family dwelling, () apartment, () motel, () temporary shelter. I agree to immediately report to the Texas Department of Public Safety any changes in my medical condition which may affect my ability to safely operate a motor vehicle.

DL-43 (Rev. 3/13)

SIGNATURE OF APPLICANT

DATE

Figure F-1. Texas DPS Application for License Renewal (DL-43).

TEXAS DEPARTMENT OF PUBLIC SAFETY
SUPPLEMENTAL MEDICAL HISTORY INFORMATION

DL-45 (5/08)

Name: _____ Date of Birth: _____
(Last Name) (First Name) (Middle or Maiden)

Address: _____ DL Number: _____

The following information is supplied to the Department of Public Safety in connection with my answer to question number _____ on my _____ original, _____ renewal, or _____ duplicate application for a driver license.

1. When did this condition first occur? _____ When did it last occur? _____

2. Did you receive treatment from or were you referred to a health care provider for this condition? YES NO

Date of original diagnosis: _____ When was this condition originally referred to a physician? _____

Date of last treatment for this condition: _____

3. Were you hospitalized for this condition? YES NO If yes, when? _____

4. Has a physician released you from further treatment? YES NO

5. Does this treatment consist only of periodic visits to a health care provider for checkup and maintenance? YES NO

6. Other than the driving test administered when you first made application for a driver license, have you ever submitted to or been requested to submit to a comprehensive driving exam? YES NO If yes, Date(s): _____

The Texas Department of Public Safety or the Texas Medical Advisory Board may request additional information concerning your current medical condition, in order that a determination can be made as to the medical risk involved in the safe operation of a motor vehicle.

I do solemnly swear, affirm, or certify that I am the person named herein and that the statements on this medical history form are true and correct. I further certify my residence address is a : () single family dwelling, () apartment, () motel, () temporary shelter. (check one). I agree to report immediately to the Texas Department of Public Safety any changes in my medical condition which may affect my ability to safely operate a motor vehicle.

Signature of applicant

Signature of Parent or Guardian if under age 18

Date: _____

Date: _____

Figure F-2. Texas DPS Supplemental Medical History Information Form (DL-45),
Page 1 of 2.

FOR DEPARTMENT USE ONLY

		UNDER THE CARE OF A PHYSICIAN* REFERENCE: 03.85.07-13a	OTHER REASON REFERRAL IS REQUIRED	DRIVING TEST REQUIRED
<input type="checkbox"/> Eye Disorders		<input type="checkbox"/>		
Eye Diseases (Excludes the fitting of lenses where no eye disease is present)				
Telescopic Lenses	A driving test AND referral to the MAB are required the FIRST TIME ONLY		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Cardiovascular Diseases	(Angina, Arrhythmia, Arterial Aneurysms, Coronary Bypass Surgery, Dyspnea, Myocardial Infarction)	<input type="checkbox"/>		
Heart Attack	Any CDL, Class A or Class B - Has had a heart attack within the past 2 years		<input type="checkbox"/>	
Hypertension	Non-CDL Class C or Class M - Has had a heart attack within the past year		<input type="checkbox"/>	
	Any CDL, Class A or Class B - loss of consciousness or dizzy spells within the past 2 years		<input type="checkbox"/>	
	Non-CDL Class C or Class M - loss of consciousness or dizzy spells within the past year		<input type="checkbox"/>	
Syncope	Syncope or any alteration of consciousness due to cardiovascular problems within the past year		<input type="checkbox"/>	
Blood Vessel Disorders	REFER ONLY IF A ROAD TEST HAS CONFIRMED CONSIDERABLE INTERFERENCE	<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/> Neurological Disorders	(Transient Cerebral Ischemic Attack, Narcolepsy, "excess daytime sleeping", or sleep apnea)	<input type="checkbox"/>		
	Cerebrovascular Accident (Stroke) Any degree of persistent neurological deficit		<input type="checkbox"/>	<input type="checkbox"/>
	Has lost consciousness, "blacked out," or fainted within the past year		<input type="checkbox"/>	
Convulsive Disorders	Any cargo transport, passenger transport and emergency vehicles in Classes A, B, and C - Has a history of recurrent seizures (those requiring medication therapy or any seizure activity within the past ten years in an applicant not taking medication) epileptic or convulsive attacks		<input type="checkbox"/>	
	Private vehicles in Class C - Has had seizures, epileptic or convulsive attacks within the past year		<input type="checkbox"/>	
Movement Disorders (conditions including but not limited to Parkinsonism, torticollis, myoclonus and choreoathetosis) is active and progressive			<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Metabolic Diseases				
Diabetes Mellitus	Any Class	<input type="checkbox"/>		
	Any Class - Hyperglycemia and/or hypoglycemia severe enough to cause Neurologic Dysfunction (confusion, motor dysfunction or loss of consciousness)		<input type="checkbox"/>	
	Or result in any type or degree of vehicle accident within the past two years	<input type="checkbox"/>		
	Any cargo or passenger transport vehicles included in Classes A, B, and C - is taking insulin		<input type="checkbox"/>	
Chronic Renal Failure	Any cargo or passenger transport vehicles included in Classes A, B, and C - Uremia controlled by regular dialysis		<input type="checkbox"/>	
<input type="checkbox"/> Respiratory Conditions	REFER ONLY IF A ROAD TEST HAS CONFIRMED CONSIDERABLE INTERFERENCE	<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/> Psychiatric Disorders	(RECORD OF QUALIFYING VISION, SIGNS, RULES, AND ROAD TESTS MUST accompany the following referrals):			
	Involuntary psychiatric patient committed for indefinite hospitalization (<u>must</u> also include court restoration to competency or certificate of discharge)		<input type="checkbox"/>	<input type="checkbox"/>
	Involuntary psychiatric patient with guardian appointed (<u>must</u> also include court restoration to competency-certificate of discharge is <u>not</u> acceptable)		<input type="checkbox"/>	<input type="checkbox"/>
	All other psychiatric patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Or if any significant behavioral problem or adverse drug therapy reactions exist		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Alcohol Induced Problems	Three or more convictions for offenses involving drinking (last within past 2 years)			
	Involvement in two or more accidents while drinking (last within past 2 years)			
	A reliable report of an active drinking problem within the past 2 years (a driving record or police record is a reliable report)			
	Admits to an active drinking problem within the past 2 years		<input type="checkbox"/>	
	Or is "under the care of a physician" (exception: no documented history of any episodes of alcohol abuse and voluntarily enrolled in and successfully completed a recognized rehabilitation program)	<input type="checkbox"/>		
<input type="checkbox"/> Drug Induced Problems	Addiction to any drug affecting safe driving ability			
	A reliable report of an active drug problem in the past 2 years (a driving record or a police record is a reliable record)			
	Admits to an active drug problem in the past 2 years		<input type="checkbox"/>	
	Or is "under the care of a physician"	<input type="checkbox"/>		
<input type="checkbox"/> Other Conditions/Disorders	All others - REFER ONLY IF A ROAD TEST HAS CONFIRMED CONSIDERABLE INTERFERENCE		<input type="checkbox"/>	<input type="checkbox"/>
	Describe _____			

REMARKS: _____

<input type="checkbox"/> DO NOT REFER TO MAB	<input type="checkbox"/> REFER TO MAB (if previously referred to MAB, refer again <u>ONLY</u> if provided for by policy)
CRITERIA FOR REFERRAL	

DATE _____	Signature of DLD Employee _____
	Printed Name of DLD Employee _____
	Employee ID# _____

Figure F-2 (Cont'd). Texas DPs Supplemental Medical History Information Form (DL-45), Page 2 of 2.

Vision Screening and Vision Standards

New applicants and renewal applicants not renewing by mail or online were required to pass a vision test. The license renewal cycle was 6 years for drivers up to age 84, and 2 years for drivers 85 and older. Drivers younger than 79 renewed in-person at least every other renewal cycle (every 12 years), while drivers 79 and older renewed in-person every renewal cycle (at 6-year intervals up to age 84 and then every 2 years at 85 and older).

Visual standards for passenger car drivers (two-eyed vision) were as follows. For drivers without correction with visual acuity of the better eye of 20/40 or better, an unrestricted license was issued. Applicants without corrective lenses who scored worse than 20/40 with either eye or both together were referred to a specialist (See Figure F-4). Applicants with corrective lenses and 20/50 or better in the best eye or both together, and any score with the other eye were restricted to wearing corrective lenses. Applicants with corrected visual acuity of the better eye of 20/60 to 20/70, or both together, and any score with the other eye could drive with restrictions (i.e., corrective lenses, daytime only, max speed of 45 mi/h, any other advisable restriction). Applicants without corrective lenses whose acuity was between 20/60 and 20/70, in the best eye or both together, and with a specialist's statement that vision cannot be improved were restricted to daytime only, 45 miles per hour maximum speed limits, and any other advisable restriction. Applicants whose vision was worse than 20/70 with the best eye or both together, with or without corrective lenses and with no further improvement possible could not be licensed, except in "meritorious circumstances."

The standard for monocular drivers licensed without visual restriction was 20/25 acuity or better without corrective lenses. Applicants with vision poorer than 20/25 without correction were referred to an eye care specialist. For other case scores, the two-eyed vision standards were used.

The visual field standard was recognition of the visual field test object within an uninterrupted arc of 140 degrees, with both eyes open during the test.

Applicants requiring the use of telescopic lenses to pass vision tests had to successfully complete a comprehensive road test before licensure.

For licensing purposes, an acuity score of worse than 20/200, with corrective lenses or specialist's statement that improvement of 20/200 or better was not possible, was considered blind.

Applicants with progressive eye disease were periodically reevaluated at the discretion of the MAB.

EXPLANATION FOR EYE SPECIALIST

All applicants taking a driver's license examination in Texas are given simple vision tests. Any applicant who may need more accurate measurement; and any applicant who *fails to meet* the acuity score listed below is referred to an eye specialist.

	BEST EYE	POOREST EYE	ONE-EYED
Without Glasses		20/40	20/25
With Glasses	20/70		20/70

A report from a specialist is particularly valuable if the fitness of a driver is questioned in court, or following an accident. *In some cases examination by more than one specialist is requested.*

When wide variations occur in acuity scores, the examining officer will appreciate the opportunity of discussing same with you in order to improve the accuracy of our vision tests.

Please sign this report and list your own driver's license number. Also for proper identification please have the person examined sign the report in your presence.

If the case is an unusual one any additional comments which you may have will be appreciated. If needed, attach a separate sheet to this report. *The specialist assumes no responsibility in making this report other than that of truthfully representing the facts.*

The specialist will please check all applicable items:

1. Eye conditions present: a. Hyperopia b. Myopia c. Astigmatism d. Presbyopia e. Cataract
 f. Traumatic Condition g. Suppression h. Poor Night Vision i. Strabismus
 j. Poor Color Perception (k. Red l. Green m. Yellow) n. Other _____
2. Corrective lenses are being fitted for distant vision.
3. Corrective lenses will not improve distant vision.
4. Applicant would not accept corrective lenses.
5. Corrective lenses should not be worn for distant vision, because _____
6. Regardless of a qualifying acuity score corrective lenses should be worn for distant vision because _____
7. Applicant should drive in daylight only.
8. Other treatment to improve vision is recommended.
9. Due to permanent eye condition, applicant need not be referred for visual reexamination at next renewal of driver's license.
10. Other _____

over

Figure F-4. Texas DPS Eye Specialist Form (DL-63, Page 1 of 2).

INSTRUCTIONS TO APPLICANT

The simple vision test on the drivers license examination shows that you would probably be a safer driver if you could see better. You are being asked to have your eyes examined by an eye specialist to determine whether your sight can be improved by glasses or treatment. If glasses will make you a safer driver, your license will permit you to drive only while wearing them.

In some cases examination by more than one specialist may be requested.

If you have any questions about how well you must be able to see to be granted the privilege of driving on the streets and highways of Texas, the examining officer will be glad to answer them.

<p>TEXAS DEPARTMENT OF PUBLIC SAFETY DRIVER'S LICENSE</p> <p>FULL NAME OF EXAMINEE: _____</p> <p>ADDRESS: _____</p>	<p style="text-align: center;">REPORT OF EXAMINER</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">ACUITY</th> <th style="width: 12.5%;">RIGHT EYE</th> <th style="width: 12.5%;">LEFT EYE</th> <th style="width: 12.5%;">BOTH EYES</th> </tr> </thead> <tbody> <tr> <td>WITHOUT GLASSES</td> <td>20/</td> <td>20/</td> <td>20/</td> </tr> <tr> <td>WITH PRESENT GLASSES</td> <td>20/</td> <td>20/</td> <td>20/</td> </tr> <tr> <td>COLOR</td> <td>Normal ()</td> <td>Red ()</td> <td>Green ()</td> <td>Amber ()</td> </tr> </tbody> </table> <p>SIGNATURE OF EXAMINER _____</p>	ACUITY	RIGHT EYE	LEFT EYE	BOTH EYES	WITHOUT GLASSES	20/	20/	20/	WITH PRESENT GLASSES	20/	20/	20/	COLOR	Normal ()	Red ()	Green ()	Amber ()				
ACUITY	RIGHT EYE	LEFT EYE	BOTH EYES																			
WITHOUT GLASSES	20/	20/	20/																			
WITH PRESENT GLASSES	20/	20/	20/																			
COLOR	Normal ()	Red ()	Green ()	Amber ()																		
<p style="text-align: center;">CERTIFICATION OF SPECIALIST</p> <p>I, _____ certify that I have personally examined the eyes of the above named, that a true record of my examination appears here on and that he or she signed below in my presence.</p> <p>SIGNATURE OF SPECIALIST: _____</p> <p>BUSINESS ADDRESS: _____</p> <p>TELEPHONE NO. _____ DRIVER'S LICENSE NO. _____</p> <p>DATE OF EXAMINATION _____ EXAMINEE'S DRIVER'S LIC. NO. _____</p> <p>SIGNATURE OF EXAMINEE: _____</p>	<p style="text-align: center;">REPORT OF VISION SPECIALIST</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">ACUITY</th> <th style="width: 12.5%;">RIGHT EYE</th> <th style="width: 12.5%;">LEFT EYE</th> <th style="width: 12.5%;">BOTH EYES</th> </tr> </thead> <tbody> <tr> <td>WITHOUT GLASSES</td> <td>20/</td> <td>20/</td> <td>20/</td> </tr> <tr> <td>WITH PRESENT GLASSES</td> <td>20/</td> <td>20/</td> <td>20/</td> </tr> <tr> <td>WITH BEST CORRECTION</td> <td>20/</td> <td>20/</td> <td>20/</td> </tr> <tr> <td>COLOR</td> <td>Normal ()</td> <td>Red ()</td> <td>Green ()</td> <td>Amber ()</td> </tr> </tbody> </table> <p style="text-align: center;">FIELD OF VISION</p> <p>TO RIGHT OF POINT OF FIXATION _____</p> <p>TO LEFT OF POINT OF FIXATION _____</p> <p>TOTAL ANGLE _____</p>	ACUITY	RIGHT EYE	LEFT EYE	BOTH EYES	WITHOUT GLASSES	20/	20/	20/	WITH PRESENT GLASSES	20/	20/	20/	WITH BEST CORRECTION	20/	20/	20/	COLOR	Normal ()	Red ()	Green ()	Amber ()
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WITH PRESENT GLASSES	20/	20/	20/																			
WITH BEST CORRECTION	20/	20/	20/																			
COLOR	Normal ()	Red ()	Green ()	Amber ()																		

over

Figure F-4 (Cont'd). Texas DPS Eye Specialist Form (DL-63, Page 2 of 2).

Referral Sources

Texas did not have a mandatory physician reporting law, however the Health and Safety Code (Title 2, Chapter 12, Section §12.096) authorized physicians to voluntarily inform the DPS or MAB orally or in writing, *"the name, date of birth, and address of a patient older than 15¹⁰ years of age whom the physician has diagnosed as having a disorder or disability specified in a rule of the Department of Public Safety of the State of Texas."* Physicians who reported patients to the DPS or MAB were immune from liability for their professional opinions, recommendations, or reports under Health and Safety Statutes, and their reports were confidential (with the exception that reports could be subpoenaed and admitted as evidence in judicial review proceedings). Also, release of information was an exception to the patient-physician privilege requirements of the Medical Practices Act. Physicians could refer drivers using the DL-76 form shown in Figure F-3, or by e-mail or by letter mailed to the DPS. They also could use the form shown in Figure F-5, which was available on the Texas Department of State Health Services website.¹¹

Other sources from which the licensing agency accepted reports of unsafe drivers included: law enforcement officers; the courts; family, friends, and other citizens; hospitals; occupational and physical therapists; and crash reports indicating a medical concern could have been a contributing factor in the crash. Law enforcement officers could use the DL-76 to refer drivers; a form for law enforcement referral was also available on the Texas Department of State Health Services website (see Figure F-6). When completing a crash report, the officer could check a box on the form to indicate concern about a driver's medical condition or functional ability being a factor in the crash.

The public used form DL-76 to refer drivers, but could also refer them using a letter or e-mail. The agency accepted anonymous reports; there were no investigations conducted prior to opening a case to confirm whether a medical review was warranted.

The circumstances under which a driver could be required to undergo evaluation include referral from any of the above-mentioned sources, in addition to self-report of a medical condition and DL Examiners' observations of signs of impairment during the application/renewal process. Drivers whose record reflected 3 or more convictions for offenses involving drinking, with the last offense occurring within the past 2 years; and those with an involvement in 2 or more crashes while drinking, with the last occurring within the past 2 years were also required to undergo evaluation (Texas Administrative Code, Title 37, Part 1, Chapter 15, Subchapter C, Rule §15.58 2[b]).

¹⁰ The minimum age in Texas for a learner's license was 15, and applicants under 18 were required to complete the classroom phase of an approved driver education course to be issued a permit. The permit had to be held at least 6 months, and a minimum of 30 hours of supervised driving time was required before an individual could apply for a restricted license, at age 16. www.iihs.org/iihs/topics/laws/graduatedlicensestatelaws?stateabbr=TX

¹¹ www.dshs.state.tx.us/emstraumasystems/mabhome.shtm



MEDICAL ADVISORY BOARD FOR DRIVER LICENSING
Texas Department of State Health Services

P.O Box 149347
Austin, TX 78714-9347
(512) 834-6700
Fax (512) 834-6714

PHYSICIAN REFERRAL FORM

Health & Safety Code, Title 2- Health
Chapter 12, Powers & Duties of the Texas Department of State Health Services

§12.096. Physician Report

(a) A physician licensed to practice medicine in this state may inform the Department of Public Safety of the State of Texas or the medical advisory board, orally or in writing, of the name, date of birth, and address of a patient older than 15 years of age whom the physician has diagnosed as having a disorder or disability specified in a rule of the Department of Public Safety of the State of Texas.

(b) The release of information under this section is an exception to the patient-physician privilege requirements imposed under Section 159.002, Occupations Code.

§ 12.098. Liability

A member of the medical advisory board, a member of a panel, a person who makes an examination for or on the recommendation of the medical advisory board, or a physician who reports to the medical advisory board or a panel under Section 12.096 is not liable for a professional opinion, recommendation, or report made under this subchapter.

Patient's Last Name, First Name, M.I. _____

Patient's Address: _____

Patient's City, State & Zip: _____

Patient's Date of Birth: _____

Patient's Driver License #, if known: _____ Social Security # _____

Explain specific medical limitations to driving for this patient:

Signature of Physician

Printed Name of Physician

Texas Physician License Number
()

Address of Physician

Telephone Number of Physician

City, State, Zip

www.dshs.state.tx.us/emstraumasystems/mabhome.shtm
FOR YOUR CONVENIENCE, THIS FORM MAY BE COPIED

revised 4/07

Figure F-5. Texas Department of State Health Services Form for Referring Drivers to the MAB.



**MEDICAL ADVISORY BOARD FOR DRIVER LICENSING
Texas Department of State Health Services**

P.O. Box 149347
Austin, TX 78714-9347
(512) 834-6700
Fax (512) 834-6714

LAW ENFORCEMENT MEDICAL EVALUATION REQUEST

Print Name of Driver, Last Name, First Name, MI: _____

Driver License Number: _____ or Social Security Number: _____

Address of Driver*: _____

*List driver's current mailing address even if different from address printed on license.

Date of Birth: Month: _____ Day: _____ Year: 19 _____

Explain specific limitations to driving for this patient:

REMARKS:

Signature and Number of Officer

Print Last Name, First Name, MI

Agency

Date

www.dshs.state.tx.us/emstraumasystems/mabhome.shtm
FOR YOUR CONVENIENCE, THIS FORM MAY BE COPIED

revised 4/07

Figure F-6. Form Used by Law Enforcement to Refer Drivers to Texas MAB.

Evaluation of Referred Drivers

Procedures

When Enforcement and Compliance Service (ECS) received an Examination Request from a physician, a law enforcement officer, the courts, or a driver license examiner, the ECS technicians reviewed the information to determine whether the case should be referred to the MAB. When an examination request was received from any other source (including family members), the ECS technician sent the individual a letter informing them to contact their local driver license office to schedule an interview. The examiner asked the seven medical questions listed on the license renewal form (D-43, shown in Figure F-1), and the supplemental medical history questions if necessary (Form DL-45, shown in Figure F-2) to determine whether he or she had any medical conditions that could impair safe driving. Depending on the individual's responses and the DL examiner's observations of the person during the interview, the case could be dismissed, the DL examiner could determine that the driver should be referred to the MAB (using the criteria shown in Table F-1), or that the driver should undergo additional testing. Only drivers referred to the MAB were required to obtain a medical report from their physician, therefore, not all drivers referred to the DPS were required to obtain a statement from their physician. The form that the MAB sent to the driver to have completed by their treating physician is shown in Figure F-7. There was no triage system to expedite particularly risky cases, nor were licenses revoked immediately based on information contained in the referral.

Driver license examiners used DPS guidelines, personal observation, and judgment regarding issuance (or the withholding of issuance) of temporary driving permits when referring drivers to the MAB. If a DL examiner considered that an applicant was likely to pose an immediate hazard, that applicant was permitted to take the vision and knowledge tests, but was not able to take the road test until the MAB had ruled that he or she was physically and/or mentally safe to drive. Such drivers were not issued a temporary permit. When it was determined that an applicant's driving would not be an immediate hazard, the applicant was required to pass all required original or renewal tests before a temporary permit was issued. Enforcement and Compliance Service notified the driver of any favorable decision by the MAB. If the MAB's decision was unfavorable, Enforcement and Compliance Service notified the driver of license revocation and the opportunity to request and to appear at an administrative hearing.

A comprehensive examination could be administered to an applicant based on several circumstances, including: the suggestion of a driver license examiner when an applicant had undergone some change in his or her functional abilities; the recommendation of a driver license examiner after an interview or hearing; when the renewal process for a specific driver required such an exam; or when requested by the MAB. A comprehensive examination was of a more intensive and extensive nature than a regular examination, to more accurately determine an applicant's qualifications to be licensed. It consisted of a knowledge examination, a skills test, and a vision test. The vision test consisted of the standard vision test, plus realistic demonstrations of ability to see during the road skills test (e.g., requiring driving in a more visually complex environment with more traffic than the standard exam, and watching how the driver scanned for traffic before merging and changing lanes).

**Physician to return this original form to the Medical Advisory Board with
Authorization to Release Medical Information**

**Texas Department of State Health Services
Medical Advisory Board**

APPLICANT/LICENSEE-S MEDICAL HISTORY
To be completed by a licensed physician

The Texas Department of Public Safety has requested that the Medical Advisory Board assist them in the evaluation of the case of:

as it pertains to his/her license to operate a motor vehicle. This evaluation concerns a possible medical limitation which could adversely affect his/her ability to operate a motor vehicle.

Authority to perform this review is in accordance with the Transportation Code, Chapter 521, Section 321, the Health and Safety Code, Chapter 12, Sections 091 - 098, and the implementing rules adopted by the Texas Department of State Health Services.

**Health and Safety Code, Title 2, Subtitle A, Chapter 12, Subchapter H
Medical Advisory Board
Sec. 12.098. Liability.**
A member of the medical advisory board, a member of a panel, a person who makes an examination for or on the recommendation of the medical advisory board, or a physician who reports to the medical advisory board or a panel under Section 12.096 is not liable for a professional opinion, recommendation, or report made under this subchapter.
Added by Acts 1995, 74th Leg., ch. 165, Sec. 9, eff. Sept. 1, 1995.

Full Name of applicant/licensee: _____

Drivers License Number: _____

Provide specific information on the following medical condition: _____

PATIENT'S MEDICAL HISTORY

I. Has the patient been hospitalized within the past two years for problems related to this evaluation?

A. When? _____ Where? _____

Why? _____ Physician _____

B. When? _____ Where? _____

Why? _____ Physician _____

Figure F-7. Form Used by Texas MAB to Obtain Medical Information From Driver's Treating Physician (Page 1 of 4).

Physician to return this original form to the Medical Advisory Board with Authorization to Release Medical Information

II. Please note the presence of abnormalities in the following applicable categories.

A. Cardiovascular

Does not apply to this patient

<ol style="list-style-type: none"> 1. Blood pressure _____ Dyspnea _____ Angina _____ 2. Pacemaker _____ Date Installed _____ 3. Syncope _____ Date _____ Frequency _____ 4. Medication _____ Type/Dosage _____ Date Begun _____ 5. Functional Capacity _____ Check one: <input type="checkbox"/> Class 1 No limitation physical activity <input type="checkbox"/> Class 2 Slight limitation physical activity <input type="checkbox"/> Class 3 Marked limitation physical activity <input type="checkbox"/> Class 4 Complete limitation physical activity 	<p>Diagnosis</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------

B. Neurological

Does not apply to this patient

<ol style="list-style-type: none"> 1. If seizures: Type _____ Date of last seizure _____ 2. If other loss of consciousness or control: Cause _____ Frequency _____ Date of last occurrence _____ 3. Stroke or other residuals _____ 4. Hemianopia? _____ 5. Medication: Type/dosage _____ Date begun _____ 	<p>Diagnosis</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------

C. Mental

Does not apply to this patient

<ol style="list-style-type: none"> 1. Psychiatric Treatment _____ A. Hospitalized _____ B. When _____ C. Where _____ D. Judgment _____ E. 1. <input type="checkbox"/> Homicidal 2. <input type="checkbox"/> Assaultive 3. <input type="checkbox"/> Suicidal 4. <input type="checkbox"/> Accident prone 5. <input type="checkbox"/> Impulsive 6. <input type="checkbox"/> Significant Mental Retardation F. Medication: Type/dosage _____ Date begun _____ G. Describe medication side effects subject is experiencing: _____ 	<p>Diagnosis</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------

Figure F-7 (Cont'd). Form Used by Texas MAB to Obtain Medical Information From Driver's Treating Physician (Page 2 of 4).

Physician to return this original form to the Medical Advisory Board with Authorization to Release Medical Information

D. Substance Abuse?

Does not apply to this patient

<ol style="list-style-type: none"> 1. Number of times treated _____ 2. When treated _____ Where treated _____ 3. Drugs abused _____ 4. Length of dependency _____ 5. Last known episode of abuse _____ 6. Member of Alcoholics/Narcotics Anonymous? _____ 7. Methadone/antabuse? _____ Dispensing clinic _____ 8. Present medication: Type/dosage _____ 9. Prognosis: _____ 	<p>Comments</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------

E. Metabolic

Does not apply to this patient

<ol style="list-style-type: none"> 1. Age at onset _____ 2. Controlled by medication <input type="checkbox"/> Oral <input type="checkbox"/> Insulin Type/dosage _____ Date begun _____ 3. <input type="checkbox"/> Coma <input type="checkbox"/> Shock Date of last _____ Frequency _____ 4. Other medication: Type/dosage _____ 	<p>Diagnosis</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

F. Musculoskeletal

Does not apply to this patient

<ol style="list-style-type: none"> 1. Stiff or flail joints _____ Where _____ 2. Spastic or paralyzed muscles _____ Where _____ 3. Athetosis _____ 4. Amputation _____ Where _____ 5. Appliances or supports: _____ Where _____ 6. Medication: Type/dosage _____ Date begun _____ 	<p>Diagnosis</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

Page 6 of 7

Physician to return this original form to the Medical Advisory Board with Authorization to Release Medical Information

Figure F-7 (Cont'd). Form Used by Texas MAB to Obtain Medical Information From Driver's Treating Physician (Page 3 of 4).

G. Vision

Does not apply to this patient

<p>1. Acuity: Without correction RE 20/ LE 20/ With present correction RE 20/ LE 20/ With best correction RE 20/ LE 20/ 2. If visual acuity is less than 20/30, state cause of visual loss</p>	<p>Comments</p>
<p>3. Diplopia _____ Visual field loss _____</p>	
<p>4. Other eye abnormalities _____</p>	
<p>5. Medication: Type/dosage _____ Date begun _____</p>	

H. Any residuals, or other limiting conditions not previously noted:

A. How long treated _____ Last treated _____
B. Date of this exam _____

IV. Any recommendations or specific comments regarding driving capability?

V. Signature of Physician _____ **Date** _____

Name of Physician (print) _____

Address _____ Telephone _____

City _____ State _____ Zip _____

State License Number _____ Specialty _____

Figure F-7 (Cont'd). Form Used by Texas MAB to Obtain Medical Information From Driver's Treating Physician (Page 4 of 4).

The knowledge test consisted of one or more sheets each from the regular signs and/or rules examination sheet or one or more automated tests. The number of questions ranged from 40 to 100. A standard road test could be given, or a road test on an undetermined course sufficiently extensive to permit scoring of the categories listed on the comprehensive examination form (e.g., starting and stopping; right turns, left turns, controlled intersections, uncontrolled intersections, lanes, braking and reaction, observation and attention, speed, coordination, right-of-way, following and overtaking, parking and maneuvering, propriety, signals, and vehicle condition). The driving demonstration was conducted to determine if restrictions or limitations should be imposed. The driving performance test could be more extensive or intensive than the routine driving test so that drivers whose ability was in doubt were not deprived of a license if they could demonstrate ability to drive safely under limited conditions.

Any driver license examiners approved by the driver licensing supervisor could conduct a Departmental Comprehensive Examination; all driver licensing examiners were trained to conduct comprehensive examinations. Interviews could be conducted in connection with comprehensive examinations. Tests could be given in any order, and driver licensing examiners could waive any part of a comprehensive examination after appropriate investigation and determination that such reexamination would serve no useful purpose. Driver licensing examiners could discontinue further testing after three failures, and recommend that the ECS revoke the license.

Home area tests were administered when an individual had failed the standard driving test but displayed a need to be able to drive in their home area. The qualifications of the examiners who conducted home-area tests were the same as for those who conducted comprehensive examinations. There were no data to support how often home-area tests were conducted.

Drivers were not required to undergo evaluation by a driver rehabilitation specialist to assist the DPS in a fitness to drive determination, or recommended driving restrictions.

Medical Guidelines

The MAB used guidelines that they published to determine driver qualification (*Guide for Determining Driver Limitation*). The applicant provided current medical information (less than 6 months old) from his or her physician for MAB review within 60 days. The MAB could require a new medical examination in cases where previous medical examinations were inadequate for making a recommendation. In addition to providing detailed information about a patient's medical conditions and medications, the physician was asked to provide recommendations or specific comments regarding driving capability. However, there was no listing of potential license restrictions or periodic review cycles that the treating physician should specifically address, nor did the form specifically ask for an opinion on whether the patient was able to drive safely in their present condition. The MAB guidelines are reproduced below. Drivers of private automobiles were categorized as Class C.

Cardiovascular Diseases

The examination of the cardiovascular system in determining an applicant's driving ability should ascertain the presence or absence of cardiovascular disease. The degree of disease severity should be noted using the American Heart Association's functional and therapeutic classification, as follows.

Functional Capacities:

- Class I: no symptoms
- Class II: symptoms with strenuous activity
- Class III: symptoms with normal activity
- Class IV: symptoms at rest

Therapeutic Capacities:

- Class A: no restrictions
- Class B: restricted from strenuous activities
- Class C: slight restriction of normal activity
- Class D: severe restriction of activity
- Class E: complete bed rest

In evaluation of cardiovascular cases, it was the recommendation of the Texas Medical Advisory Board that the following applies to the various license types.

Functional Class I: no limitation to private, cargo transport, or passenger transport vehicles in classes A, B and C

Functional Class II: no limitation to private or cargo transport vehicles in classes A, B and C; precludes passenger transport vehicles in classes A, B and C

Functional Class III: consider restrictions to private vehicles in class C; precludes cargo transport and passenger transport vehicles in classes A, B and C

Functional Class IV: precludes private, cargo transport and passenger transport vehicles in classes A, B and C

Following are suggested guidelines for consideration in various disorders.

Angina: Severe angina pectoris is incapacitating, which precludes operation of any motor vehicle. Operation of a private vehicle in class C is allowable if the angina is mild, controlled by therapy, and not progressive. For consideration of cargo or passenger transport vehicles in classes A, B and C, please refer to the section dealing with Functional Classification.

Arrhythmia: Premature atrial beats do not preclude driving. Uncontrolled paroxysmal atrial tachycardia, flutter, or fibrillation may be associated with diminished cardiac output, which is a contraindication to the operation of cargo or passenger transport vehicles in classes A, B and C. However, operation of a private vehicle in class C is permissible if such attacks are controlled by therapy. Applicants subject to chronic atrial fibrillation should not operate either cargo or passenger transport vehicles in classes A, B and C because of the risk of embolism.

Applicants subject to ventricular arrhythmias other than occasional ventricular extrasystoles should not be allowed to operate any motor vehicle because of the danger of sudden cardiovascular crisis. Exceptions may be made upon the recommendation of a cardiovascular

disease specialist. Applicants with partial or complete atrioventricular block, if associated with faintness or unconsciousness, should not operate any motor vehicle unless these attacks are prevented by pacemaker implantation. A six month observation period is needed to assess control of symptoms.

Arterial Aneurysms: The presence of an arterial aneurysm of significant size is a contraindication to any driving because of the danger of its rupture. The condition, however, may be amenable to surgical treatment.

Arteriosclerotic Heart Disease: The diminution of blood flow to the myocardium due to sclerosis of the coronary vessels can result in angina pectoris. Consideration of the three license types is dependent on the severity of the angina. Please refer to the section dealing with Functional Classification.

Carotid Sinus Sensitivity: Applicants experiencing syncopal attacks secondary to carotid sinus sensitivity should not operate any motor vehicle. A six month observation period is necessary to assess control of symptoms.

Congenital Heart Disease: Many cases of congenital cardiovascular anomalies are amenable to surgical treatment. The major contraindications to operation of cargo and passenger transport vehicles in classes A, B and C would be uncontrolled arrhythmias or heart failure. Some applicants may also have pacemakers and should be evaluated as others with pacemakers.

Congestive Heart Failure: Congestive heart failure, when well controlled by therapy, does not preclude the operation of any vehicle.

Coronary Bypass Surgery: An appropriate observation period of approximately six (6) months should follow bypass surgery prior to issuance of a cargo or passenger transport license in classes A, B and C. Licensure may be considered if the applicant passes a stress test at a level of Stage III of the Bruce Treadmill Test, or its equivalent, without significant arrhythmias. An appropriate observation period should also be designated for applicants being evaluated for a private vehicle license in class C. The time interval is at the discretion of the Medical Advisory Board.

Dyspnea: Severe dyspnea is incapacitating and precludes operation of any motor vehicle. Operation of a private vehicle in Class C is allowable if the dyspnea is mild and controlled by therapy. For consideration of cargo or passenger transport vehicles in classes A, B and C, please refer to the section dealing with Functional Classification.

Hypertension: Hypertension, in itself, is not disabling for the safe operation of a motor vehicle, but driving may be contraindicated if it has progressed to the point that serious complications, i.e., damage to heart, brain, eyes, and/ or kidneys, are present. The restriction to driving should be commensurate with the degree of end organ impairment.

Hypotension: Hypotension, in itself, is not disabling for the safe operation of a motor vehicle unless it results in episodes of syncope or impairment of consciousness. A six month observation period is needed to assess control of symptoms. The degree of impairment will mandate any restrictions.

Myocardial Infarction: The same guidelines should apply here as under Coronary Artery Bypass Surgery, i.e., a six-month waiting period with acceptable stress test results for cargo and passenger transport licenses in classes A, B and C, and an appropriate waiting period for operation of a private vehicle in class C.

Pacemakers: It is important to ascertain the degree to which the applicant is dependent upon the pacemaker. Some are implanted for prophylactic purposes and the applicant is able to

function with no loss or impairment of consciousness even without the pacemaker. If the applicant is not pacemaker dependent to avoid episodes of unconsciousness or impairment of consciousness, there is no contraindication to the operation of any type vehicle. A three month period of observation is recommended after pacemaker implantation.

Syncope: Syncope or any alteration of consciousness due to cardiovascular problems should be evaluated as follows:

A. Unpredictable (without warning): Precludes all driving if within one year.

B. Predictable and clearly defined (i.e., vasovagal syncope):

Precludes licensure of cargo and passenger transport vehicles in class A, B and C if within one year. This may be modified if adequate historical data can be obtained from the examining physician which explains a definite cause not expected to recur, i.e., reflex vasovagal syncope.

Thrombophlebitis: Active thrombophlebitis with resulting edema of the extremities and impairment of their use contraindicates operation of cargo and passenger transport vehicles in classes A, B and C. If significant disability exists, the operation of a private vehicle in class C is precluded. Applicants with active phlebothrombosis should not operate any vehicle because of the danger of embolization with pulmonary infarction.

Neurological Disorders

Neurological disorders constitute dangers to drivers because there exists the risk that an alteration of consciousness may occur. This risk can be minimized by the applicant through drug therapy and other precautions. A number of varying neurological disorders exist. The conditions most likely to impair driving ability are as follows:

Transient Cerebral Ischemic Attacks: (Brief and completely reversible neurological deficit): Transient cerebral ischemic attacks may preclude the operation of passenger transport vehicles in classes A, B and C. Licensing of passenger and cargo transport vehicle operators included in classes A, B and C is dependent upon an absence of stroke prone indicators, e.g., obesity, hypertension, diabetes mellitus, significant cardiac disease and progressive neurological deficit. If the transient cerebral ischemic attack was known to be due to a special set of circumstances not likely to recur, e.g., unusual G-forces on carnival rides, cargo transport included in classes A, B and C, or private vehicle operation in class C would be permissible. A six-month observation period should follow the last known episode of transient cerebral ischemia.

Cerebrovascular Accident: (Any degree of persistent neurological deficit): Licensing for all driver categories is dependent upon the physical and neurological deficits following recovery and after rehabilitation had stabilized. Stroke-prone indicators, e.g., obesity, hypertension, diabetes mellitus, smoking, alcohol use, and significant cardiac disease should be reduced prior to licensing. Demonstration of driving ability through the Department of Public Safety's comprehensive driving test should be required in evaluation of stroke patients.

Convulsive Disorders: Convulsive disorders of all types are the most common neurological conditions impairing driving ability. Recurrent seizures are those requiring medication therapy or any seizure activity within the past ten years in an applicant not taking

medication. A history of recurrent seizures, epileptic or convulsive attacks precludes operation of cargo transport, passenger transport, and emergency vehicles in classes A, B and C. Operation of personal automobiles in class C is dependent upon the following conditions:

1. Currently under a physician's care to assess control by anticonvulsant medication, drug side effects, seizure recurrence, and any neurological or medical changes in condition.
2. No evidence of clinical seizures (including partial seizures) in a six month observation period prior to medical review.
3. Specific recommendation from applicant's physician regarding applicant's reliability in taking medications, avoiding sleep deprivation and fatigue, and avoiding alcohol abuse.
4. Applicants with seizures only during sleep (i.e., no seizures ever while awake) should be allowed to operate private vehicles in class C and be reevaluated annually:
5. If an applicant has a well-controlled seizure disorder on medications proven by time and then has a seizure when his physician makes a medication change, he should be allowed to drive when returned to his previous medication regimen.

Movement Disorders: Conditions including, but not limited to Parkinsonism, torticollis, myoclonus and choreoathetosis may impair driving if the disorder is active or progressive. A driving test is recommended for all classes. A periodic review by the examining physician for side effects of medication is recommended. A yearly Medical Advisory Board review is recommended.

Narcolepsy and Excess Daytime Sleeping: A history of narcolepsy, excess daytime sleeping or sleep apnea precludes operation of cargo and passenger transport vehicles in classes A, B and C. Private vehicle operator licensing in class C is dependent upon an absence of episodes of these disorders for a six-month observation period prior to medical review and an affirmative recommendation from the attending physician. Applicants should be reviewed annually for side effects of medications.

Peripheral Neuropathy: The driver proficiency test is recommended to determine driving impairment. The nature of the dysfunction determines the necessity of vehicle or driver adaptive devices. Periodic review is recommended.

Psychiatric Disorders

Evaluation of psychiatric disorders as they relate to the driving task is challenging because of the wide variety of disturbances, treatments and degrees of severity. Consideration also must be given to the patient's welfare and possible therapeutic benefits of driving.

Diagnoses can be misleading. The degree of symptom control and any existing side effects from prescribed medication should be considered. The patient whose license is granted should be reviewed periodically, the time interval depending on the severity of the illness. At the time of reevaluation, the driving record and reports of intervening hospitalization or psychiatric episodes should be examined closely.

Following are suggested guidelines for consideration in the various psychiatric disorder groupings:

Multiple Medical Problems: Many psychiatric problems interdigitate with other medical problems. In these cases a complete physical examination is helpful in determining and understanding the severity of the psychiatric disorder. One which is exacerbated by alcohol or drug abuse precludes operation of any vehicle.

Personality Disorders: Personality disorders are characterized by developmental defects or pathologic trends in personality structure, with minimal subjective anxiety and distress.

Included in this grouping are inadequate personality, schizoid personality, cyclothymic personality, and paranoid personality. Also included are antisocial reaction and dyssocial reaction. Applicants who show an abnormal amount of hostility, assaultiveness and other forms of aggression should not drive any type of vehicle until the examining physician gives assurance that this condition is in remission and it is safe to drive. Personality disorders are difficult to assess in terms of degree of driver ability impairment. However, if no significant behavioral problems or drug therapy side effects exist, applicants with personality disorders cannot be properly precluded from driving private vehicles in class C.

Psychoneurotic Disorders: psychoneurotic disorders are characterized by automatic substitutive reaction caused by unresolved internal conflicts, in which no observable loss of contact with reality in thinking and judgment is present. Included in this grouping are dissociative reaction, conversion reaction, phobic reaction, depressive reaction, obsessive-compulsive reaction and anxiety reaction. The anxiety disorders, particularly panic disorder, may functionally impair driving due to problems with attention, faintness and fear. Psychoneurosis represents an unknown factor with respect to driver limitation, requiring individual evaluation of alertness and social behavior. If no significant behavioral problem or adverse drug therapy reactions exist, the psychoneurotic patient cannot be properly precluded from driving a private vehicle in class C.

Psychotic Disorders: Psychotic disorders are disturbances of such magnitude that personality disintegration takes place and the mind may be distorted with accompanying difficulty in distinguishing the real from the unreal, i.e., delusions and hallucinations. Psychotic disorders are grouped into three major categories: schizophrenic reaction, paranoid reaction, and affective reaction. The psychoses may cause severe disability resulting in hospitalization. Obviously, the hospitalized psychotic may not operate any motor vehicle. Although affective disorders may involve psychotic features, many persons with affective disorders are not psychotically disturbed. These persons still require careful assessment in regard to alertness, concentration and suicidal risk. The driving privilege may be reinstated when the condition is in re- mission, but frequent evaluations should monitor the applicant's progress.

Organic Brain Syndrome: These disorders are characterized by impaired memory, judgment, orientation, diminished intellectual functions and emotional lability, all symptoms which can directly interfere with safe driving capability. If the disorder can be reversed and corrected through treatment, driving privileges are appropriate. Though the causes are often undetermined, many medical conditions, such as cardiovascular diseases, can cause or worsen an organic brain syndrome and should be assessed concurrently. As reaction time and the ability to recognize signs may be impaired, driving tests may be useful in establishing functional ability. Organic brain syndrome precludes passenger transport vehicles in classes A, B and C.

Psychotropic Drugs: The use of psychotropic drugs in therapy for psychiatric disorders warrants special consideration in driver ability evaluations. Psychotropic drugs may have dangerous side effects such as impaired reaction time and drowsiness. There is also the danger of sudden hypotension and syncope with some antipsychotic and antidepressant drugs. Because drug side effects usually occur sporadically and are not predictable, specific recommendations from the attending physician are helpful.

Homicidal and Suicidal Manifestations: Assurance from the examining physician that these are in remission is necessary. Strong homicidal and suicidal manifestations would contraindicate the operation of any motor vehicle.

Mental Retardation: Mentally deficient people with intelligence quotients less than 50 should not drive any vehicle because of possible judgment impairment. Selected individuals, i.e., those with I.Q.'s in the range of 50 to 85, may operate private vehicles in class C if they have been well trained and there is documentation of adequate driving judgment. However, some driving restrictions for I.Q. ranges 50 to 70 should be considered.

(Note: The Committee on Nomenclature of the American Psychiatric Association has classified mental deficiency according to intellectual capacity: mild, I.Q. 70-85; moderate, I.Q. 50-70; severe, I.Q. 0-50.)

Alcohol Induced Problems

The applicant who is known for alcohol abuse should not be allowed any type of license. Proof of abuse may be a physician's statement, hospital record, driving record, law enforcement record or statement from Alcoholics Anonymous. There should be no evidence of alcohol abuse in a one year observation period prior to medical review for people being evaluated for private vehicle licenses in class C. Applicants being evaluated for cargo or passenger transport vehicle licenses included in classes A, B and C should demonstrate a two year alcohol free period prior to medical review.

Close scrutiny should be given to applicants whose prior history contains multiple episodes of alcohol abuse, yet none recent enough upon which to base a recommendation for denial using the abuse free periods mentioned above. If the available evidence indicates a substantial risk of relapse into chronic abuse, a denial on those grounds may be issued regardless of the date of most recent abuse.

Conversely, any applicant being evaluated because he/ she voluntarily admitted to some degree of substance abuse problem presents another set of circumstances to be weighed. If the applicant has had no documented history of any episodes of substance abuse and has voluntarily enrolled in and successfully completed a recognized rehabilitation program, an approval for the license may be granted. This approval should be contingent upon the applicant showing a continuing desire to remain free of substance abuse. Compliance should be monitored by periodic reevaluation at the discretion of the board.

Close attention should be given to the use of alcohol in relation to other disorders, such as psychiatric or metabolic disturbances, and the concurrent use of medications such as tranquilizers. Psychiatric evaluation may be a useful tool in the assessment of the applicant who is questionable in regard to the excessive use of alcohol.

Alcohol abuse associated with driving a motor vehicle has proven to be one of the greatest hazards to the motoring public. Stringent measures, therefore, can easily be justified.

Drug Induced Problems

In addition to considering the effects of prescription drugs, attention must also be focused upon abuse of non-prescription drugs. Applicants who are known to be abusing any type of drug should not be allowed any type of license. Proof of an episode of drug abuse may be a physician's statement, hospital record, driving record or law enforcement record. There should be no evidence of drug abuse in a one year observation period prior to medical review for applicants being evaluated for private vehicle licenses in class C. Applicants being evaluated for cargo or

passenger transport vehicle licenses included in classes A, B and C should demonstrate a two year drug abuse free period prior to medical review.

If an applicant has a history of multiple episodes of drug abuse and the available evidence indicates a substantial risk of relapse into chronic abuse, a denial on those grounds may be issued, regardless of the date of most recent abuse. Applicants being evaluated after voluntarily admitting to some degree of substance abuse and receiving rehabilitative treatment for it are to be considered on the same criteria presented for that group in the Alcohol Induced Problems section of this guide.

An applicant being treated under a recognized methadone maintenance program may drive any vehicle provided it is established by the applicant's physician that he is free of drug abuse and not functionally impaired by methadone side effects. Applicants should be stabilized for three (3) months before being issued a license for operating a private vehicle in class C; for six (6) months for a commercial or cargo transport license included in classes A, B and C; and for twelve (12) months for a chauffeur or passenger transport vehicle license included in classes A, B and C.

Particular attention should be given to cases in which drug abuse is associated with psychiatric problems; moreover, it has been shown that various visual disturbances result from some types of drug abuse.

Metabolic Diseases

Metabolic disease resulting from glandular dysfunction may cause a large range of symptoms. The severity of the disease and accompanying symptoms may dictate the advisability of restriction of the driving privilege. The more serious conditions likely to impair driving ability are discussed in this section.

Metabolic diseases not discussed in this section may be evaluated by assessing symptoms such as muscular weakness, muscular pain, visual disturbances, dizziness, intractable headaches, and/ or fatigue propensity.

Chronic Renal Failure: Uremia when controlled by regular dialysis is no contraindication to the operation of a private vehicle in class C. These applicants should not operate cargo or passenger transport vehicles included in classes A, B and C. Each applicant must be evaluated for the presence of associated diseases and symptoms such as muscular weakness, visual disturbances, dizziness and seizure disorders. They should be monitored at yearly intervals for the development of related problems such as neuropathy.

Diabetes Mellitus: Diabetes mellitus, when controlled by diet alone, or diet and oral hypoglycemic agents, is not a contraindication to operation of vehicles in classes A, B and C. Diabetes, when well controlled by insulin, is not a contraindication to the operation of a private vehicle in class C. The applicant with diabetes mellitus requiring insulin should be individually evaluated as to his or her ability to safely operate cargo transport vehicles and passenger transport vehicles in classes A, B and C. Primary factors in this evaluation should include: previous driving history, degree of control achieved, emergency knowledge and preparedness. For a one year period prior to the issuing of any type of license, the applicant should be free of hyperglycemia and/ or hypoglycemia severe enough to:

- A. Cause neurologic dysfunction: confusion, motor dysfunction or loss of consciousness.
- B. Result in any type or degree of vehicle accident.
- C. Require active assistance in treatment.

The exception to this clause would be the existence of extenuating circumstances such as a physician-initiated change in medication or a severe illness. The license should be issued once the applicant's physician submits a statement that the condition has been stabilized and control has again been achieved.

Newly diagnosed patients or those who have recently changed physicians should be reevaluated in six months.

Applicants with diabetes should be monitored periodically to determine degree of control and development of complications such as retinopathy or neuropathy.

Musculoskeletal Defects

Skeletal integrity joint mobility and muscle strength and coordination are prerequisites for competent management of motor vehicles. Greater demands are logically placed on certain extremities and the functional capability of these is of greater importance; yet, there is such a wide variable in standards and special vehicle devices that no simple chart may be advanced to establish minimal standards.

Operators of private automobiles in class C should have fair to good function in both upper extremities or in one upper and one lower. The nature of the dysfunction determines the necessity of vehicle or driver adaptive devices. With a driver proficiency test the functional capacity of impaired musculoskeletal performance can be determined.

Operators of cargo and passenger transport vehicles included in classes A, B and C should have normal use of both upper extremities and both lower extremities. It is conceivable that in some instances dysfunction (weakness, paralysis, amputation with or without prosthesis) of the left lower extremity would not significantly impair control of the vehicle and would be allowable. In rare instances would dysfunction of an upper extremity be acceptable.

Following are suggested guidelines for consideration in various disorders:

Arthritis: Arthritis of any type may be of little consequence or may progress to a point that performance is inhibited by pain and lack of agility or by actual impaired motion of the joints. The location and extent of involvement must be investigated in each individual case and reevaluated periodically:

Back Pain: Back pain generally results in self-imposed restriction of driving, but, in the absence of associated neurological disturbance, there is rarely a contraindication to driving.

Cerebral Palsy: Choreoathetoid cerebral palsy of a mild degree is no contraindication to driving. Once the condition is stabilized and the minimum standards are satisfied, there need not be regular reviews.

Cervical Spine Disorders: Cervical spine disorders requiring external bracing contraindicate driving of cargo and passenger transport vehicles in classes A, B and C. Demonstrated driving proficiency will reveal if there need be restrictions placed on the applicant for a private vehicle license in class C.

Demyelinating Disorders: Progressive demyelinating disorders with muscle atrophy preclude cargo and passenger transport vehicle operation in each license classification, but operation of a private vehicle in class C is permissible with regular reevaluation intervals.

Hemiplegia: Hemiplegia resulting from a cerebrovascular accident should not preclude driving. However, a driving test and peripheral visual field testing should be indicated. Residual paralysis from traumatic paraplegia or polio may not prevent safe driving. These conditions are relatively static and, once minimum standards are satisfied, need not be reviewed regularly.

Muscle Dystrophies: Progressive muscle dystrophies preclude operation of cargo and passenger transport vehicles included in license classifications A, B and C. Private vehicle operation in class C is permissible with regular reevaluation intervals and driving tests.

Disposition

License Restrictions, Periodic Evaluation, and Remediation

In making licensing decisions, the DPS generally adhered to the recommendations provided by the MAB. In their review of medical information provided by the driver's treating physician, the MAB physicians took the following into consideration:¹² newly diagnosed conditions as well as conditions that a driver had had for some time; medications, medication interactions, and their effect on function; conformance with departmental guidelines for licensing; and any comments provided by the treating physician regarding driving capability. Psychiatric and cardiovascular issues were the most difficult to judge. The MAB could recommend the following licensing restrictions: daytime only; power steering; automatic transmission; applicable vehicle devices; and no driving of taxis, buses, or emergency vehicles. The MAB could also recommend that a driver should not drive, and this would result in the DPS revoking the license. The MAB could approve a driver on the condition that he or she was retested by taking a comprehensive driving exam. This recommendation for further testing would be carried out by DPS DL employees.

The MAB could recommend periodic testing for a driver once medically approved, at 6-month or 12-month intervals. Examples of conditions for which periodic review was recommended included narcolepsy, peripheral neuropathy, chronic renal failure, diabetes, arthritis, and demyelinating disorders.

MAB physicians did not recommend any types of remediation of functional impairments or medical conditions. The only type of professionals to whom drivers were referred by the agency for remediation of impairing conditions, were eye care specialists, when drivers were not able to pass the DPS eye exam. An eye specialist could recommend restriction to daytime driving.

DPS DL employees could apply the following restrictions based on road test performance: daytime only, radius of home, specific destinations, specific routes, specific geographic areas (e.g., city, town), speed (max speed 45 mph), no expressway, prosthetic devices (artificial legs, arms, braces, or other equipment), and adaptive equipment.

Licensing outcomes of medical referrals were not tracked, so statistics were not available indicating in what proportions drivers undergoing medical review were suspended for failure to

¹² The ECS technicians in the Driver License Division of the Department of Public Safety reviewed limited medical information, such as the Medical Evaluation Request Forms (DL-76) and the Supplemental Medical History Forms (DL-45). They did not receive the completed medical forms requested by the MAB; these forms went directly to the MAB physicians at the Department of Health who made the licensing recommendation.

comply with DPS requests for reports or tests, suspended for unacceptable medical reports, or receive various driving restrictions or periodic reporting requirements.

Appeal of License Actions

There was an appeal process for drivers whose licenses were revoked or restricted for medical conditions or functional impairments. A notice of the department's determination of revocation or disqualification was mailed to the licensee's mailing address, and included information about how and when to request a hearing. If the licensee did not request a hearing or the judge affirmed the department's action, the department mailed the licensee the order of revocation, or disqualification. If a person desired a hearing, they could submit a written request within 15 days of receipt of the DPS letter of intent. Upon receipt of a timely and correctly submitted hearing request, the department scheduled a hearing in the county of the person's residence, and mailed the licensee written notification of the hearing date and time. The presiding officer made a determination on the evidence provided at the hearing. The license could be revoked or disqualified, but revocations and disqualifications could not be probated. A licensee could appeal an affirmative finding by the presiding officer, by filing an appeal within 30 days from the date of the department's revocation or disqualification. If a hearing was not requested, the license was revoked or disqualified 45 days from the date of the notice.

The DPS did not track appeals by type (e.g., administrative license revocation, DWI, habitual offender, medical review), so the number of appealed medical review cases was unknown.

Costs of Processing Medical Referrals

The cost—in staff time and financially—to process a referral for cases where a DPS-administered on-road test was not conducted, and the case was not referred to the MAB was approximately 2 hours at a cost of \$24. This represented the time for a DL examiner to conduct the standard medical interview (approximately 20 minutes), and to close out the interview (1 hour and 30 minutes). The average salary for a DL examiner was \$13.09 per hour. If the full comprehensive examination was required (vision, written, and driving exam), this added an additional hour, bringing the total time for the medical interview, testing, and processing of the case to 3 hours at a total cost of \$37.09.

If the case was referred to the MAB, the ECS technician spent 15 minutes preparing the information to refer the driver to the MAB, and once the MAB made a determination, the ECS technician spent 15 minutes applying the information to the driver record. Thus, an MAB referral added another 30 minutes to processing the case, at a cost of \$6.54 (based on the average salary for an ECS technician of \$13.09 per hour). The DSHS expense for MAB physicians was approximately \$1.09 per case. This was calculated based on the meeting fee of \$100 paid to each of three physicians, for bi-monthly meetings over a 1-year period (\$7,200) divided by the number of drivers reviewed by the MAB in 2012 (6,609). Adding the DPS costs to the MAB costs resulted in a total cost of \$7.54 per driver, for MAB review.

If a driver requested a hearing to contest a revocation, another ECS technician spent 30 minutes submitting and scheduling the hearing as well as preparing all the accompanying

documentation. The hearing officer representing DPS at the hearing spent 30 minutes at the court hearing. Once the judge rendered a finding, another 15 minutes was spent entering the finding on the driver record. A driver who did not agree with the outcome of the hearing could appeal to a higher court. An ECS technician spent 15 minutes preparing and submitting the appeal documents for the court representative. Once the judge rendered a finding for the appeal hearing, the ECS technician spent 15 minutes entering information to the driver record and closing out the case. The total time and costs to the DPS for such an appeal was 1 hour and 45 minutes of time (\$22.91).

Appendix G: Summary of Driver Medical Review in Wisconsin

Organization of the Medical Program

Driver licensing in Wisconsin was administered by the Division of Motor Vehicles within the Department of Transportation. Wisconsin had a Medical Review Board comprised of physicians who were volunteer consultants to the department, and whose sole function was as an appeals panel. At the time these data were collected, the database of volunteers included approximately 150 members, but only a fraction volunteered consistently (about 20 physicians). The board had been active in varying forms for decades, and although *in the past* it provided advice on content of law and code, its role at the time of data collection was limited to the review of individual cases when drivers appealed the DMV's decision to cancel or deny a license due to medical ineligibility. The medical specialties represented by board members included: optometry, ophthalmology, cardiology, family practice, internal medicine, neurology, psychiatry, endocrinology, and psychiatry. Board physicians were either retired physicians, or worked in private practice, in hospital or clinic settings, or in Government agencies.

Members were neither nominated nor appointed; they were volunteers who served terms at their discretion. There was no head of the board.

Board members met as a group on a monthly basis for disposition of fitness to drive cases, and correspond by mail as needed on a case-by-case basis. In-person review boards were scheduled monthly at three locations around the State. Each review board consisted of at least two but usually three physicians and a DOT representative. By-mail reviews were also provided if requested by the individual appealing the decision. The three physicians reviewed the case and submitted a recommendation to the Medical Review Unit. The department considered the board physicians' recommendations, but the final licensing action was the responsibility of DOT personnel. The Division of Motor Vehicles did not begin tracking requests for appeal until October 2012. For the period between October 1, 2012, and June 15, 2013, the Medical Review Unit (MRU) processed 164 requests for a Medical Review Board. This included appeals for initial as well as periodic review cases, and alcohol as well as non-alcohol-related cases, as these were not distinguished, although only a small percentage of appeals typically involved alcohol use.

At the time of data collection, the DMV had an internal Medical Review Section staffed by six full-time Transportation Customer Service Representatives (4 who were fully trained and 2 who were in training) and one unit lead worker. All seven MRU employees were non-medical administrative staff dedicated to medical review activities. Four of the seven MRU staff received training in medical terminology from a nurse who was previously employed with the MRU. Their length of employment with the unit was 33 years, 19 years, 13 years, and 6 years. A fifth, fully trained MRU staff member had been employed with the unit for 22 months, and received medical terminology training at an area technical college. The two MRU employees who had not had medical terminology training had been on the job for 4 months (since March 2013).

In 2012, the MRU processed 4,587 *Driver Condition or Behavior Reports*. This count included both alcohol and non-alcohol cases (these were not distinguished in the licensing

database), and cases that may have already been under periodic review, as the agency did not track separately those already being monitored from newly opened cases. The MRU estimated that of the 4,587 cases, 3,655 were initial referrals (3,440 non-alcohol and 215 alcohol), and 932 were already under periodic review.¹³ The MRU reviewed 28,350 medical reports in 2012 (included initial and periodic review cases, both alcohol and non-alcohol related cases, and all operator classes).¹⁴ As a result, 1,634 drivers received license cancellation or denial of licensure due to a medical condition (6%) and 601 (2%) were cancelled for not taking the re-examination tests when requested. Another 1,482 drivers (5%) voluntarily surrendered their license when asked for a medical report or to take the knowledge, sign and highway tests. Out of 2,213 special examinations conducted in 2012, only 219 (10%) were cancelled for not being able to pass a portion of the tests.

The agency did not track referral source in the license database, so it was unknown in what proportions different reporting sources referred these drivers. However, based on the MRU's manual review of referrals received during the 5-day period from October 1, 2012 to October 5, 2012 (65 cases), 80% were first-time referrals, and 75% were non-alcohol-related cases. Within the set of 65 referrals, 72% were received from law enforcement, 23% from medical professionals, and 5% from private citizens. The licensing outcomes (e.g., no change in license status, suspension, restriction, periodic review) were also not tracked in the licensing database, but could be obtained by researching individual driver files. Drivers required by license examiners to have a Medical Examination Report completed by their physician, were not included among the count of 4,587 drivers for whom a *Driver Condition or Behavior Report* was submitted to MRU; they were among the 28,350 medical reports reviewed by MRU in 2012, however.

Identification of Drivers with Medical Conditions and Functional Impairments

Drivers with medical conditions and functional impairments that could affect safe driving ability came to the attention of the licensing agency in a variety of ways. Section 235 of the *Driver Licensing Manual* "Evaluating Medical Conditions or Disabilities" stated that DMV staff had four sources of information to alert them to a potential medical problem or disability. These were: (1) information provided on the license application form; (2) information obtained during conversation with the customer; (3) information from the customer's driving record; and (4) determination of a customer's functional ability. These are discussed in greater detail in the following subsections.

¹³ Based on a sample of Driver Condition or Behavior reports pulled during a 1-week period in October 2012.

¹⁴ Facts and Figures 2012 - Medical Evaluation for Drivers. Accessed July 16, 2013, at www.dot.wisconsin.gov/drivers/docs/medical.pdf

Application Form

First-time and renewal applicants responded to the following question as they completed the licensing application form (MV3001):

In the past year, have you had a loss of consciousness or muscle control, caused by any of the following conditions? If Yes, check condition(s) and give date _____.

*() Traumatic Brain or Head Injury; () Diabetes; () Heart; () Lung;
() Mental; () Muscle or Nerve; () Seizure Disorder; () Stroke.*

Drivers who provided an affirmative response were required to have their physician complete a Medical Examination Report based on an exam not more than 90 days old, and return the report to the department within 30 days. A 60-day driving receipt was issued when medical reports were required, except when the customer did not meet the vision standard or when the neurological section needed to be completed by a physician for a driver who had an episode or seizure within the past 3-month period. Physicians were required to provide a diagnosis, medications used and dosages; provide detailed responses to questions regarding specific medical conditions the driver may have had (e.g., mental/emotional, neurological, endocrine, and cardiovascular/pulmonary), and provide “Yes” or “No” responses to the following questions:

- Is the person’s condition currently stable? If no, explain below.
- Is the person reliable in following the treatment program? If not, explain below.
- Does this person experience side effects of medication which are likely to impair driving ability? If yes, explain below.
- Has this person experienced an episode of altered consciousness or loss of body control during the past 12 months? If yes, explain below and give date.
- Does current alcohol/drug abuse/use interfere with medical condition? If yes, an alcohol/drug evaluation will be required.
 - Did the person have a seizures related to withdrawal? If yes, explain below and give date.
- Does this person experience uncontrolled sleepiness associated with sleep apnea, narcolepsy, or other disorder? If yes, explain below.
- Is driving ability likely to be impaired by limitations in any of the following?
 - Judgment and insight.
 - Problem solving and decision-making
 - Emotional or behavioral stability.
 - Cognitive function or memory loss.
- Is driving ability likely to be impaired by limitations in any of the following?
 - Reaction time.
 - Sensorimotor function.
 - Strength and endurance.
 - Range of motion.
 - Maneuvering skills.
 - Use of arms and/or legs.

In addition, the physician is required to provide a recommendation regarding driving ability (Yes or No), as follows:

- In your opinion, is this person medically safe to operate a motor vehicle?
 - If yes, do you recommend a complete re-examination of this patient's driving ability (knowledge, signs, and skills test)?
- In your opinion, is this person medically safe to operate a commercial motor vehicle?
- In your opinion, is this person medically safe to operate a bus and/or school bus?
- If applicable, I reviewed the attached *Driver Condition or Behavior Report*
- Recommended Restrictions: Continuous Oxygen Use Required; Daylight Driving Only; Drive Only ___ Miles from Home; Other
- Do you recommend any additional medical evaluation?

The Medical Examination Report (MV3644) is shown in Figure G-1.

Vision Screening and Vision Standards

Drivers with vision limitations were identified when they renewed their licenses every 8 years, and were required to undergo a vision test. The vision standard for drivers of passenger vehicles was 20/40 acuity in each eye, corrected or uncorrected, and a horizontal temporal field of vision of 70 degrees or more from center in each eye. Applicants could not use a bioptic telescopic lens to meet the visual acuity standards if the lens reduced the field of vision below the standard. Applicants who could not meet the acuity or visual field standards were referred to a vision specialist for a recommendation, and could be required to take a complete Driving Evaluation, if recommended by the vision specialist. Drivers had to have 20/100 visual acuity or better in at least one eye, and 20 degrees field of vision from center in at least one eye. Drivers could be restricted to driving with corrective lenses, during daylight hours only, or driving a vehicle with outside mirrors, depending on recommendations made by the vision specialist and the results of a Driving Evaluation demonstrating compensation for the loss of vision. The eye care specialist provided an opinion regarding whether the person was able to drive safely, whether a WisDOT reexamination (knowledge, highway signs, and road test) should be conducted, and to indicate restrictions (corrective lenses, daylight driving only, ___ miles from home, or other). Drivers with a progressive eye disease (e.g., cataracts, macular degeneration, retinitis pigmentosa, diabetic retinopathy, or glaucoma) could be required to file periodic vision reports with the department, at 6-month, 12-month, or 24-month intervals. Persons applying for or holding a special restricted operator's license with visual acuity between 20/100 and 20/200, but not including 20/200 in the better corrected eye, as certified by a vision specialist, were restricted to daylight hours of operation only. Figure G-2 presents the Certificate of Vision Examination (MV3030V).

MEDICAL EXAMINATION REPORT

MV3644 1/2013 Ch. 343 Wis. Stats. & Trans. 112 Admin. Code

Clear Form

Wisconsin Department of Transportation
Medical Review
PO Box 7918, Madison, WI 53707-7918
Telephone: (608) 266-2327
FAX: (608) 267-0518
Email: dmvmedical@dot.wi.gov

APPLICANT: After this medical report has been reviewed, you may be required to file medical reports on a regular basis. We will send you the forms at the time they are required.

Applicant Name		Operator License Number	
Street Address		Birth Date (m/d/yy)	
City, State ZIP Code		(Area Code) Telephone Number	
Date Report Issued (m/d/yy)	WisDOT Examiner Badge Number	License Type	<input type="checkbox"/> CDLI <input type="checkbox"/> Passenger Bus <input type="checkbox"/> Instruction Permit <input type="checkbox"/> Operator <input type="checkbox"/> CDL <input type="checkbox"/> School Bus
Reason for Referral			

HEALTH CARE PROFESSIONAL: Please complete all pertinent sections relative to this person's health to assist the Department in making a licensing decision.

- Driver Condition or Behavior Report** Attached. Driving Incident/Accident Date(s): _____.
- General Medical:** complete sections **A** and **G** (others if appropriate)
- Mental / Emotional:** complete sections **A, B,** and **G**
- Neurological:** complete sections **A, C,** and **G**
- Endocrine (Diabetes):** complete sections **A, D,** and **G**
- Cardiovascular:** complete sections **A, E,** and **G**
- Pulmonary:** complete sections **A, F,** and **G**

SECTION A HEALTH CARE PROFESSIONAL - To Complete for ALL Applicants

Provide Diagnoses, Medications Used, and Dosages:	Height
	Weight

YES NO

- 1. Is the person's condition currently stable? **If not, explain below.**
- 2. Is the person reliable in following the treatment program? **If not, explain below.**
- 3. Does this person experience side effects of medication which are likely to impair driving ability? **If yes, explain below.**
- 4. Has this person experienced an episode of altered consciousness or loss of bodily control during the past 12 months? **If yes, explain below and give date.**
- 5. Does current alcohol/drug abuse/use interfere with medical condition? **If yes, a substance evaluation will be required.**
 - a. Did the person have a seizure(s) related to withdrawal? **If yes, explain below and give date.**
- 6. Does this person experience uncontrolled sleepiness associated with sleep apnea, narcolepsy, or other disorder? **If yes, explain below.**
- 7. Is driving ability likely to be impaired by limitations in any of the following?
 - a. Judgment and insight
 - b. Problem-solving and decision-making
 - c. Emotional or behavioral stability
 - d. Cognitive function or memory loss
- 8. Is driving ability likely to be impaired by limitations in any of the following?
 - a. Reaction time
 - b. Sensorimotor function
 - c. Strength and endurance
 - d. Range of motion
 - e. Maneuvering skills
 - f. Use of arm(s) and/or leg(s)

Details and Elaboration

Figure G-1. Wisconsin DMV Medical Examination Report (Page 1 of 4).

SECTION B MENTAL / EMOTIONAL

YES NO

1. Has the person been hospitalized in the past year for a mental/emotional condition? If yes, give admission date(s), reason(s) for admission and date(s) of discharge: _____

2. Identify current treatment program(s), counseling, etc. _____

-

SECTION C NEUROLOGICAL

Medical Examiner: To be considered for a license, the medical examination must be **at least 60 days after the episode**. If last episode occurred within the past 90 days, the patient is not eligible to hold a license.

YES NO

1. Give date of last episode of altered consciousness or loss of bodily control. Date: _____ (m/d/yy)
2. Does this person have a seizure disorder? If not, explain cause and/or diagnosis related to episode(s). _____
3. List anticonvulsant medication: _____ . If discontinued, give date: _____
4. Was the last medication blood serum level within acceptable range?
5. Does this person's neurological condition involve movement disorder? If yes, please explain: _____
6. If this person holds or is applying for a commercial driver license, and has had an episode of altered consciousness or loss of bodily control since the last report was filed with WisDOT, the following is required:
- a. A narrative summary, including the history of the episode(s);
 - b. An indication of risk for further episodes;
 - c. Current blood levels of anticonvulsant medication;
 - d. Results of the most recent EEG.
-

SECTION D ENDOCRINE

1. Please provide a hemoglobin A_{1c} reading: _____ (Reading) _____ (Date)

YES NO

2. Does this person have hypoglycemic reactions requiring assistance? If yes, please explain frequency and provide date of last reaction: _____
3. Does this person demonstrate how to counter these reactions?
4. Has this person been hospitalized for treatment of diabetes or complications in the past year? If yes, explain below. _____
5. Indicate type of medication and dosage for current treatment. _____
6. Is this person experiencing renal failure? If yes, what is their current treatment regimen? _____
7. Does this person monitor his/her blood sugar?
8. Provide the last 3 fasting blood sugar readings and dates recorded. (Home monitoring results ARE acceptable.)

(Reading) (Date) (Reading) (Date) (Reading) (Date)

9. If this person holds or is applying for a commercial driver license, and is taking insulin in the past 2 years, please provide the following information:
- a. When was this person diagnosed with diabetes? _____
 - b. When was insulin first prescribed? _____
- c. Do any complications or associated conditions exist? If yes, please explain: _____
-

Figure G-1 (Cont'd). Wisconsin DMV Medical Examination Report (Page 2 of 4).

SECTION E CARDIOVASCULAR

1. Functional Class
 I II III IV

YES NO

2. Does the person have an implantable cardioverter defibrillator? If yes, give implant date: _____
 3. Has the unit discharged since the implant? If yes, describe the person's condition at the time and date of discharge.

Has this person had any of the following? Please explain any yes answers.

YES NO

4. Cardiovascular surgery and/or other procedures. Describe and give date(s) _____

5. List all current cardiac symptoms _____

6. Syncope due to cardiovascular condition: _____

7. Dyspnea at rest: _____

8. Fatigue at rest: _____

9. Have any cardiac tests been conducted (exercise stress test, etc.)? If yes, give procedure(s), date(s), results.

SECTION F PULMONARY

YES NO

1. Pulmonary Disease? If so, what? _____

2. Continuous Oxygen Use Required? If so, describe treatment regimen and provide number of liters.

3. Dyspnea at rest?

4. Fatigue at rest?

5. Syncope from cough? Please explain cause and resolution: _____

6. Provide Pulse Oximetry: Room Air _____ Oxygen _____

7. List Pulmonary Function Test Results

8. Does the pulmonary disease prevent activities of daily living? If yes, please identify _____

Figure G-1 (Cont'd). Wisconsin DMV Medical Examination Report (Page 3 of 4).

SECTION G HEALTH CARE PROFESSIONAL Recommendations for ALL Applicants

Medical Examiner:

This report must be based on an examination conducted **WITHIN THE PAST 90 DAYS** or since _____.

The Secretary of the Department of Transportation is, by statute, responsible for the driver licensing decision. Your report will be advisory in determining eligibility. **Health Care Professional's signature AND ALL recommendations (Section G) are required for ALL applicants.**

YES NO

- 1. In your opinion, is this person medically safe to operate a motor vehicle?
- 2. In your opinion, is this person medically safe to operate a commercial motor vehicle?
- 3. In your opinion, is this person medically safe to operate a bus and/or school bus?
- 4. If YES to Question #1 above:
Do you recommend a complete re-examination of this patient's driving ability (knowledge, signs and skills test)?
- 5. If applicable, I reviewed the attached Driver Condition or Behavior Report..
- 6. Recommended Restrictions:
 - Continuous Oxygen Use Required
 - Daylight Driving Only
 - Drive only _____ miles from home
 - Other: _____
- 7. Do you recommend any additional medical evaluation?

I certify that I have examined this patient. My speciality is: _____

Print Name of Reporting Health Care Professional	Check One: <input type="checkbox"/> MD <input type="checkbox"/> PA-C <input type="checkbox"/> DO <input type="checkbox"/> APNP	Patient Examination Date
X		Professional License Number
(Signature of Reporting Health Care Professional)		(Area Code) Office Telephone Number

Pursuant to Chapter 448.01, Wis. Statutes and Trans Ch. 112.02, Wis. Admin. Code, this form must be signed by an MD, DO, PA-C or APNP.

[Clear Form](#) [Print](#)

Figure G-1 (Cont'd). Wisconsin DMV Medical Examination Report (Page 4 of 4).

CERTIFICATE OF VISION EXAMINATION BY COMPETENT AUTHORITY

MV3030V 1/2013 Ch. 343 Wis. Stats. and Trans. 112 Admin. Code

Wisconsin Department of Transportation
 Medical Review
 PO Box 7918, Madison, WI 53707-7918
 Telephone: (608) 266-2327
 FAX: (608) 267-0518
 Email: dmvmedical@dot.wi.gov

APPLICANT: You may be required to file vision reports on a regular basis.
 We will send you the forms at the time they are required.

Clear Form

Incomplete forms will be returned for completion.

Applicant Name		Operator License Number	
Street Address		Birth Date (m/d/yy)	
City, State ZIP Code		(Area Code) Telephone Number	
Date Issued (m/d/yy)	Examiner Badge Number	License Type	<input type="checkbox"/> CDLI <input type="checkbox"/> School Bus <input type="checkbox"/> Instruction Permit <input type="checkbox"/> Operator <input type="checkbox"/> CDL <input type="checkbox"/> Passenger Bus

Minimum standards for non-commercial drivers - 20/100 vision or better in at least **(1) one** eye and 20° field of vision from center of at least **(1) one** eye. **Minimum Wisconsin standards for commercial drivers** (*applies to drivers grand-fathered or exempted by federal or state law*) - 20/60 vision or better in at least **(1) one** eye and 70° field of vision from center of at least **(1) one** eye. **Minimum federal and school and/or passenger endorsement standards** - 20/40 vision or better in **each** eye, 70° field of vision from center in **each** eye and ability to distinguish traffic signal colors. **Bioptic lenses may not be used to meet standards.** All standards refer to the best vision with or without corrective lenses.

Report must be completed based on an examination conducted within the past 90 days or since: _____

VISION SPECIALIST: The Secretary of the Department of Transportation is, by statute, responsible for the decision of driver licensing. Your report will be advisory in determining eligibility.

Indicate Snellen Chart Figures

Visual Acuity	Without RX	With RX	Temporal Field of Vision In Degrees
Right Eye	20/	20/	
Left Eye	20/	20/	

YES NO

- 1. Does applicant have progressive eye condition(s)? If yes, what? _____
- 2. Is applicant able to distinguish traffic signal colors of red, amber and green?
- 3. Is applicant safe to operate a non-commercial motor vehicle?
- 4. Is applicant safe to operate a commercial motor vehicle?
- 5. Is applicant safe to operate a passenger and/or school bus?
- 6. Re-examination by WisDOT (knowledge, highway signs & road test)
- 7. Recommended restrictions: Corrective lenses Miles from home: _____
 Daylight Driving Only Other: _____

Comments: _____

Specialist - Print Name	Check One: <input type="checkbox"/> MD <input type="checkbox"/> DO <input type="checkbox"/> OD <input type="checkbox"/> PA-C <input type="checkbox"/> APNP	Medical License Number
Office Address, City, State ZIP Code		(Area Code) Office Telephone Number
X (Specialist - Signature)		Patient Examination Date (m/d/yy)

Pursuant to s.448.01 and s.449.01 Wis. Statutes and Trans Ch. 112.02 Wis. Admin. Code, this form must be signed by an MD, DO, OD, PA-C or APNP.

Print

Figure G-2. Wisconsin DMV Certificate of Vision Examination.

Referral Sources

During the initial driver licensing or renewal process with a license examiner, customers could indicate in conversation that they have a medical problem, check “YES” to the medical question on the application form, or exhibit signs of functional impairment.

Section 235 of the *Driver Licensing Manual* provided standards that licensing personnel employed when observing customers to determine whether they had the functional ability to perform normal tasks required to exercise ordinary and reasonable control in the safe operation of a motor vehicle. A customer who did not meet the standards and whose license was not properly restricted, could be required to undergo a special exam of their driving ability (knowledge, highway signs, and skills tests), file a medical report, or both. The functional abilities that needed to be observed, and the functional standards that needed to be applied, are provided in Table G-1.

Table G-1. Wisconsin DMV Standards Used to Determine Functional Ability for Driving.

Ability	Standard
Lower body strength, range of motion, mobility and coordination to use foot-operated vehicle controls.	Person is able to walk to a DMV service counter unaided physically by another person or significant support device (i.e., walker, wheel chair, breathing apparatus, or artificial limb). There is no loss (full or partial) of a leg or foot. No excessive shaking, tremor, weakness, rigidity, or paralysis.
Upper body strength, range of motion, mobility and coordination to use hand-operated vehicle controls and to turn the head and body to the left, right, and rear to observe for other traffic and pedestrians.	Person is able to turn the head and upper body to the left and right, and has full use of the arms and hands. There is no loss (full or partial) of an arm. There is no loss of a hand or finger which interferes with proper grasping. No excessive shaking, tremor, weakness, rigidity or paralysis.
To hear other traffic and vehicle-warning devices (i.e., horn or emergency siren).	Person is able to hear the normal spoken voice during the licensing process, with or without a hearing aid.
To see other traffic, road conditions, pedestrians, traffic signs, and signals.	Person is able to meet applicable vision requirements by passing a DMV vision screening or presenting evidence of similar testing by a vision specialist.
Cognitive skills (i.e., to think, understand, perceive, and remember).	Person exhibits cognitive skills. Responds to questions and instructions (i.e., is able to complete an application, knowledge test, or vision screening). No obvious disorientation.
To maintain normal consciousness and bodily control (i.e., ability to respond to stimuli).	Person exhibits normal consciousness and bodily control (i.e., no self-disclosed or obvious incident or segment of time involving altered consciousness. No loss of body control involving involuntary movements of the body characterized by muscle spasms or muscle rigidity, or loss of muscle tone or muscle movement). No obvious disorientation (i.e., responds to questions and instructions. Is able to complete an application, knowledge test, or vision screening).
To maintain a normal social, mental, or emotional state of mind.	Person does not exhibit an extremely hostile and/or disruptive, aggressive behavior, or being out of control. No obvious disorientation.

When there was good reason to believe a functional impairment or medical condition might impair driving, licensing personnel were instructed to take the customer aside whenever possible to discuss personal information such as the status of a medical condition. When it was not possible to talk to customers privately, examiners were instructed to talk quietly and explain that they needed to ask a few questions to determine how the condition could affect driving ability.

Questions that a license examiner could ask to determine whether a Medical Evaluation was required are listed below:

- It appears you have a medical or physical condition, is it progressive or temporary?
- It appears you have a medical or physical condition, are you receiving treatment for it? If yes, explain to me what kind of treatment (i.e., medication, counseling)?
- I see you need assistance and/or use a wheelchair, walker, etc. Do you have a medical condition that is progressive (multiple sclerosis/MS, Parkinson's disease, etc.) or is it a permanent disability (i.e., amputations, arthritis, etc.)? Are you receiving any treatment for it?
- You indicated you had an episode of altered consciousness or loss of body control. What was the date of the last episode? Was it a single episode? What caused the episode? Was it due to a head or brain injury (playing football, fell and hit your head, motor vehicle accident) or due to a medical condition (stroke, epilepsy, etc.)? Did your physician indicate that no treatment is needed?

Other mechanisms for bringing drivers with medical conditions or functional impairments to the attention of the department included reports from physicians; law enforcement officers; the courts; family members, concerned citizens; and other healthcare professionals. These are described in more detail below.

Wisconsin did not have a mandatory physician reporting law, but physicians could report drivers to the department by writing a letter that included the driver's name, date of birth, diagnosis, and the behaviors that led the physician to believe the driver was unsafe (as diagnosis alone was not enough); they could also refer a driver using the *Driver Condition or Behavior Report* (see Figure G-3). Reports from physicians and eye care specialists were not subject to the Open Record Law (i.e., they were confidential); however, they were available to the driver upon request. Physicians who reported drivers in good faith were immune from legal action by their patients. Only *Driver Condition or Behavior Reports* signed by a doctor of medicine (MD), doctor of osteopath (DO), physician assistant (PA-C), or advanced practice nurse practitioner (APNP) could result in immediate cancellation of a license. Such medical providers filled out the second page of the report, and were asked to answer whether the patient was able to safely operate a motor vehicle. A "No" response resulted in immediate cancellation of all license classes and endorsements. Medical providers who responded "Yes," were asked to indicate whether they recommended a complete reexamination of the patient's driving ability.

Other people who volunteered information about unsafe drivers (e.g., family, law enforcement, concerned citizens) completed a *Driver Condition or Behavior Report* (the first page). The department did not accept anonymous referrals, and information contained in reports was available to the driver under Wisconsin's Open Records law. *Driver Condition or Behavior Reports* provided positive driver identification and included information describing incidents or

conditions that brought the driver to the attention of the reporting source. Neither advanced age nor diagnosis alone was considered as “good cause.”

Law enforcement officers could submit *Driver Condition or Behavior Reports* by mail, fax, or through Badger TraCS.¹⁵ The DMV did not have authority to cancel a driver's license based on a report from law enforcement, or any referral source other than the medical providers listed earlier. If the driver was medically cleared by their physician, DMV normally required passing the DMV reexamination tests to remain licensed. The DMV encouraged law enforcement officers to issue citations to drivers for whom such reports were submitted to MRU, and not withhold the issuance to older drivers who exhibited dangerous behavior that would otherwise result in a citation.¹⁶

The agency investigated all *Driver Condition or Behavior Reports* other than those submitted by law enforcement or physicians to ensure a witness name, phone number, and address were provided for verification of the report. Reports from private citizens had to include the signature of a second individual indicating that they were able to verify that the information included in the report was true and correct. The department investigated reports if there was concern regarding malicious intent; however, the occurrence of malicious reporting had essentially been zero over the 5+ years before date of data collection. Therefore, the department had [not?] investigated any such incident. There was no formal investigation procedure; any potential investigation would be influenced by the specific details of the incident.

If a person had important information related to public safety but would not provide the information without a pledge of confidentiality (and the information was not available from other sources), a pledge of confidentiality form could be completed (see Figure G-4). A pledge of confidentiality had to be signed by a Wisconsin DOT representative to be valid, and could not be given after the individual had provided information to the department. The reason that the information would not be shared without the pledge must be provided. Pledges of confidentiality were not given routinely. Pledges of confidentiality had to be attached to a Driver Condition Report.

While the agency had not conducted any training relevant to referring drivers for medical review during the past year for law enforcement officers, physicians, or judges, WisDot's website contained information about driving with medical conditions, the medical review process, and links to brochures for the public, law enforcement, and medical professionals for reporting drivers to the DMV in the "Be Safe, Not Sorry Series."¹⁷ Presentations to medical professionals had been an ongoing component of the Medical Review Unit's outreach program since at least 1999. Copies of the brochure were made available to law enforcement agencies throughout the State, and were also distributed by Medical Review Unit staff when assisting with training of new law enforcement recruits and other in-service opportunities.¹⁸ This may explain

¹⁵ Traffic and Criminal Software (TraCS), an application developed by the state of Iowa in partnership with the Federal Highway Administration, served as a national model for the development of automated reporting systems for law enforcement. TraCS was designed with modular architecture capable of sharing common data among forms and providing capability of incorporating crash, citation, OWI, commercial motor vehicle inspection and incident forms. Automated reporting improves the accuracy, timeliness and ease with which incident data is collected and made available for analysis. Wisconsin's version of TraCS is Badger TraCS.

¹⁶ www.dot.wisconsin.gov/drivers/drivers/medical/law-enforcement.htm

¹⁷ www.dot.wisconsin.gov/drivers/drivers/medical/index.htm

¹⁸ <http://lpp.seniordrivers.org/lpp/index.cfm?selection=ni&state=Wisconsin>

their high percentages of reporting from physicians and law enforcement. Also included in this link was a workbook for older drivers with a self-assessment guide, a description of the license renewal process, and the medical review process. In the mature driver section of the WisDOT website was a description of how changes in the body, driving laws, and new car technology affect driving ability, and links to other resources published by AAA, AMA, and NHTSA.¹⁹



PLEDGE OF CONFIDENTIALITY
MV3454 1/2013 343.16(5)(d) Wis. Stats.

Wisconsin Department of Transportation • Medical Review
PO Box 7918, Madison, WI 53707-7918
Telephone: (608) 266-2327
FAX: (608) 267-0518
Email: dmvmedical@dot.wi.gov

Completion of this Pledge of Confidentiality indicates that you have information which questions a person's ability to safely operate a motor vehicle. It also indicates that you will not disclose the information to the Wisconsin Department of Transportation (WisDOT), including the driver's name, without a Pledge of Confidentiality. This pledge will remain confidential to the extent permitted by law. A court of competent jurisdiction could order the release of information otherwise held in confidence as a result of this pledge.

To be valid, this Pledge must be signed by a Wisconsin Department of Transportation representative prior to receiving the personally identifiable information about the driver. **Information provided prior to completion of this Pledge, or not listed in this Pledge, or any subsequent information that is not identified in a Pledge of Confidentiality Agreement will not be considered confidential.**

SECTION 1 – To be completed by the Information Source

Name of Information Source (First, Middle Initial, Last)	Address		
(Area Code) Telephone Number	City	State	ZIP Code

Please give the reason the information will not be provided without a *Pledge of Confidentiality*:

X

(Information Source Signature) (Date – m/d/yy)

SECTION 2 – To be completed by a WisDOT Representative

I have determined that a *Pledge of Confidentiality* is necessary to obtain potentially important information related to public safety. I extend the Department's Pledge to the above-named information source.

X

(WisDOT Representative Signature) (Date – m/d/yy)

SECTION 3 – To be completed after the pledge is signed by a WisDOT Representative

Name of Driver (First, Middle Initial, Last)			
Address			
City	State	ZIP Code	Driver Identification Number

SECTION 4 – Form MV3141, *Driver Condition or Behavior Report* MUST be attached.
See: www.dot.wisconsin.gov/drivers/drivers/driver-forms.htm

Figure G-4. Wisconsin DMV Pledge of Confidentiality.

Evaluation of Referred Drivers

Procedures

The circumstances under which a driver could be required to undergo evaluation included referral by any of the above-referenced sources, including self-report of a medical condition and observation by licensing personnel of functional impairments. In addition, drivers who applied for handicapped parking plates were required to provide a statement from their physician that indicated whether their disability impaired their ability to drive safely. They could also be required to demonstrate to the department that the disability did not impair their ability to driver safely, by taking and passing a special exam.

When applying for a license, if a driver indicated that he or she had had a loss of consciousness or loss of bodily control within the past 12 months, caused by any of the listed medical conditions, the examiner provided the driver with a Medical Examination Report form, and continued with the licensing process by issuing a 60-day driving receipt, unless the loss of consciousness occurred within the past 3 months. If the driver had such an episode caused by a neurological condition within the past 3 months, the driver was not eligible for a license and was encouraged to surrender it. Regardless of whether a driver surrendered the license, the examiner issued a medical report.

The use of prescription medication or hospitalization alone was not cause for issuing a medical report or requiring a special exam. Also, the customer was only to answer “Yes” to any of the medical conditions listed on the application form if they had experienced an episode of altered consciousness or loss of body control during the last 12 months.

If an examiner believed a medical report was necessary and the driver should undergo a departmental special exam, only the Medical Examination Report was issued. Drivers were not permitted to test until the MRU had reviewed the completed physician report. Medical reports were to be completed by the driver’s physician, physician assistant, or APNP based on an exam not over 3 months old, and returned to the MRU within 30 days to avoid suspension. Licenses were not denied in the field for medical reasons. Medical denials were the responsibility of the MRU. Field licensing staff could evaluate a form for completeness; they required a customer to return an incomplete form to their physician, or issued a new form if the exam was not within 3 months, or 60 days from the last episode of loss of consciousness.

If a customer held a valid license and had a physical disability that was not progressive, the examiner did not issue a medical report, but instead assessed driving ability with a special exam. Examples of disabilities that could be assessed using a special exam were arthritic conditions, immobile joints, missing or deformed limbs (caused by an accident or birth defect), walking with a cane or walker, or using a wheelchair. A special exam was required if a customer did not meet DMV Standards for Determination of Functional Ability and the license was not restricted appropriately for the disability. Temporary physical/functional impairments such as broken limbs did not require a special exam.

When the department was advised via a *Driver Condition or Behavior Report* (i.e., referrals from law enforcement, physicians, concerned citizens, etc.) that a driver was unsafe, the MRU mailed a Medical Examination Report to the driver to be completed by his or her physician, if the concerns were medical in nature. *Driver Condition or Behavior Reports* were prioritized in the MRU's work queue so that they were processed before routine medical follow-ups; they were usually processed within one week of receipt—often sooner. If a report from law enforcement or concerned private citizen did not cause the MRU to question the driver's medical condition (e.g., the condition was strictly physical in nature, such as an amputated limb, deformity, congenital condition, and it was not a progressive condition), the department just evaluated the driver with reexamination tests.

If the physician, APNP, or PA-C indicated that the applicant was not able to drive safely, the driving license was suspended or denied immediately. If the medical provider indicated that the condition was not well controlled, not stable, or that the applicant was unreliable in following the treatment plan, licensing was deferred. If the medical provider indicated that alcohol/drug use /abuse interfered with a driver's medical condition, the driver was required to undergo a substance examination by a competent authority. Most alcohol/drug cases were handled by WisDOT's Alcohol & Drug Review Unit (ADRU). MRU only became interested in substance use/abuse when it actively interfered with the management of a person's medical condition. For example, a person with a seizure disorder who was perfectly compliant with their medication may still be a safety risk if s/he was actively using alcohol in quantities that could increase his/her risk for seizure activity.

If the medical provider indicated that a person was safe to drive but should have a department reexamination, then the applicant was required to pass the knowledge, signs, and road tests. A Driving Evaluation was also conducted if the medical provider indicated that the person was medically acceptable to drive, but driving ability could be impaired due to impairments in reaction time, strength of endurance, range of motion, etc.

When the department determined that a reexamination of driving ability was needed, the customer was notified by letter from the MRU, and an attempt made to schedule the appointment within 15 days. A special exam and subsequent discussion took up to one hour. If a special exam was required, the driver was required to undergo a vision test, knowledge test, sign test, and a road test. There were certain circumstances where the knowledge and sign tests could be waived. The entire process was to be completed within 60 days of the date the letter was mailed, or the license was cancelled. If a customer could not pass the special exam on the second attempt, the driver could voluntarily temporarily surrender the license, or the department cancelled the license. A second attempt was not given if a driver presented a safety hazard to him/herself or others; a limited area test could be given, however, if the examiner felt the driver might be able to operate safely in a familiar, limited area.

A special exam was an examiner-directed test of driving skills for a person already licensed in Wisconsin during which the DLE judged how safely a person with a physical or mental impairment operated a vehicle, with or without adaptive vehicle equipment. The test was generally given on the same or similar course that other class D driving tests were given with the addition of some form of high-speed driving (usually highway or freeway). After a driver completed a special exam, appropriate restrictions were applied to the license and/or were

removed. A “skills test,” in contrast, was a driving examination consisting of a standard number of driving skills or traffic situations, designed to examine the ability of a person who had not been previously licensed in any jurisdiction to safely operate a representative motor vehicle.

Wisconsin’s Administrative Code §Trans 104.08 provided that special exams could be conducted on either a pre-established route or in an area and at a time that demonstrated the person’s ability to compensate for a medical condition or functional impairment. It also provided that any of the driving skills specified for the “skills test” could be tested, but a complete skills test would be administered only if the applicant “demonstrated an inability to exercise ordinary and reasonable control in the operation of the vehicle, and the inability was not related to the medical condition or functional impairment.” A special exam included maneuvers/situations necessary to determine if the person adequately compensated for a condition or impairment. The basic maneuvers that were required for all special examinations were as follows: minimum of two left turns; minimum of two right turns; minimum of two intersections (stopped, through, controlled or uncontrolled); urban and rural area; lane change; driveway turn around; curb stop on hill; hazard recognition; quick stop; and high speed driving. The maneuvers listed were minimum maneuver requirements. When conducting re-exams or limited area special exams, there could be more than two left and two right turns or intersections. The examiner was to pay particular attention to the customer’s range of motion, reaction time, endurance, coordination, speed in operating/moving controls, strength to operate controls, ability to cope with traffic, alertness and ability to turn head/body and ability to maintain a constant speed and lane control.

DLEs who conducted special exams had conducted at least 100 regular skills tests. They completed a one-day training course (classroom and mock tests) in conducting special exams. DLEs ride along with a team leader or supervisor to ensure uniform testing standards were being followed. Scoring criteria for consistency was part of the training.

A Limited Area Test was a test given to a customer who was unable to cope with high volume traffic areas or complex traffic situations, but might be able to safely operate a vehicle in his or her home area. The test was conducted on routes near the customer’s home that he or she used to go to the doctor, grocery store, etc. A customer did not need to fail a test on a standard route first to qualify for a Limited Area Test. A Limited Area Test always resulted in a restricted license that restricted them to a certain radius around their home and could include a speed limit zone restriction. Circumstances for providing a limited area test varied. Limited area exams could be done at the recommendation of a medical professional or due to the results of a first special exam not in a limited area. A driver could request a Limited Area Test before or after the first test was given. An examiner could offer this option if the examiner felt the driver might improve from the first exam by being in a more familiar area. Limited Area Tests were conducted by experienced examiners who had received training for special exams, a team leader or a supervisor. The total number of Limited Area Tests given statewide in each of the last 3 years was between 100 and 120.

An examination by a driving rehabilitation specialist was only required if it was recommended/advised by the examining health care professional. The department did not maintain a list of approved rehabilitation specialists. If the license was valid at the time of referral, it could remain valid for a reasonable amount of time to provide the driver the opportunity to demonstrate his or her driving fitness. However, if the driver was deemed not to

meet medical standards prior to the evaluation, the license was cancelled. However, being referred to a rehabilitation specialist in and of itself was not grounds for cancellation. The driver could still be required to pass tests with the DMV following the evaluation. That decision would depend on whether there was a report of unsafe vehicle operation, evidence of functional impairment or a recommendation by a health care professional to test the driver. The license could be cancelled based on the recommendation of a DRS if the recommendation was supported by the physician, APNP, PA-C, or the driver did not meet medical standards.

MRU staff had expert knowledge of the licensing requirements of Chapter Trans 112 (Medical Standards for Driver Licensing) and Chapter 343 (Operator's Licenses). They were also familiar with the ways that driving ability can be impacted by a number of medical conditions. Combining this knowledge with the recommendations of the medical providers enabled them to make sound licensing decisions.

The most difficult types of cases to judge were those where there was no clear medical consensus (i.e., multiple opinions on file). Also, cases where a driver was inadvertently allowed to test (and passed) before medical eligibility was established were difficult to resolve if the driver did not meet licensing standards. Concerns from field offices were sometimes difficult to handle, as well, if the nature of the concerns had already been addressed recently by medical professionals and the individual had been deemed to meet medical standards.

It was the goal of the MRU to process referrals within 60 days of the date the referral was received. This provided 30 days for filing any requested medical records and 30 days to complete any required testing. Licensing action could be taken immediately upon receipt of a report from a healthcare provider; the average time for processing referrals not requiring immediate suspension averaged less than 60 days, but had not been tracked.

Medical Guidelines

The department had administrative rules detailing the medical standards for driver licensing. These were published in Wisconsin Administrative Code, Chapter Trans 112. The medical and vision standards were developed based on research and advice from physicians and vision specialists on a past Medical Review Board.

For all medical conditions, no person could be issued, renew, or hold any classification of operator's license or endorsement if a medical report showed any of the following:

- Effects or side effects of medication interfered with safe driving, unless the physician or APNP indicated the situation was temporary and not likely to recur.
- Complications of a condition interfered with safe driving as assessed by a physician or APNP or as determined by a driving evaluation.
- The person was not reliable in following a prescribed treatment program to the extent that noncompliance could affect the person's ability to drive safely.
- There was medical evidence that the person used alcohol or other drugs to an extent that it had an adverse effect on a medical condition or interfered with treatment for the condition.

- There was medical evidence of a condition that was likely to be accompanied by a syncope or collapse or which otherwise could interfere with safe driving.

Licensing standards for passenger vehicle drivers with specific medical conditions that the review board and the department took into consideration when taking licensing action are provided below.

Alcohol or Other Drug Use

- No person may hold any classification of operator's license if the person is diagnosed as suffering from uncontrolled chemical abuse or dependency, as assessed by a physician, APNP or approved public treatment facility.

Conditions affecting cardiovascular function

- There are no current symptoms of coronary artery disease, such as unstable angina, dyspnea, or pain at rest, which interfere with safe driving, as assessed by a physician, APNP, or PA-C.
- There is no cause of cardiac syncope present, including ventricular tachycardia or fibrillation, which is not successfully controlled.
- There is no congestive heart failure that limits functional ability and is assessed by a physician, APNP, or PA-C as interfering with safe driving.
- Any cardiac rhythm disturbances are successfully controlled.
- There is no automatic implantable cardioverter defibrillator, unless the device is assessed by an electro physiologist as not interfering with safe driving.
- There is no valvular heart disease or malfunction of prosthetic valves that is assessed by a physician, APNP, or PA-C as interfering with safe driving.

Conditions affecting cerebrovascular function

- There is no motor deficit preventing safe driving.
- There is no impairment of reasoning or judgment preventing safe operation of a vehicle, as assessed by a physician, APNP, or PA-C.
- There are no medications interfering with the person's ability to operate a motor vehicle safely.

Conditions affecting endocrine function

- A person who applies for, renews, or holds any classification of operator's license may not evidence any frequent or functionally impairing hypoglycemic reactions.

Conditions affecting neurological or neuromuscular function

- The person may not have had an episode of altered consciousness or loss of bodily control caused by a neurological condition for the 3-month period preceding medical review by the department under this chapter.
- The person adequately compensates for any paralysis or sensory deficit when operating a vehicle.
- Fatigue, weakness, muscle spasm, pain or tremor at rest does not impair safe driving, as assessed by a physician, APNP, or PA-C or determined through a driving evaluation.
- There is no decline in cognition to an extent that interferes with safe driving.

Conditions affecting psychosocial, mental, or emotional function

- There is no dementia that is unresponsive to treatment.
- There is no behavior disorder with threatening or assaultive behavior at the time of application.
- Any delusional system does not interfere with safe driving, as assessed by a physician, APNP, or PA-C.
- There is no impairment of judgment that interferes with safe driving as assessed by a physician, APNP, or PA-C.
- There is no active psychosis that interferes with safe driving, as assessed by a physician, APNP, or PA-C.

Conditions affecting respiratory function

- The person does not require medication or treatment that interferes with safe driving.
- There is no dyspnea that interferes with safe driving, as assessed by a physician, APNP, or PA-C or determined through a Driving Evaluation.

Disposition

License Restrictions and Periodic Evaluations

The overall standard that the licensing agency used to make licensing determinations was functional status, rather than the type of condition or diagnosis. The DOT made the final decision, taking recommendations from physicians (and the Medical Review Board, upon appeal) into account. In determining licensing actions, the department could consider the following information:

- Any medical condition affecting the person including:
 - History of illness.
 - Severity of symptoms, complications and prognosis.
 - Treatment and medications, including effects and side effects, and the person's knowledge and use of medications.
 - Results of medical tests and reports of laboratory findings.
 - Physician's, PA-C's, or APNP's medical report.
 - Physician's, PA-C's, or APNP's recommendations with regard to functional impairment.
 - Physician's, PA-C's, or APNP's identification of risk factors.
- Reports of driver condition or behavior.
- The results of a department screening of a person's vision or hearing.
- The results of any examinations of the person to test.
- Knowledge of traffic laws, road signs, rules of the road, vehicle equipment and safe driving practices, and driving ability.
- Group dynamics or traffic safety school reports.
- Alcohol or drug assessment reports by an agency.
- Traffic crashes that may have been caused in whole or in part by a medical condition.

- Vision specialist's reports.
- A person's failure to provide requested information to the department.

A driver's license could be suspended during the medical review process for the following reasons:

- Referral information indicated loss of consciousness or other severe risk to safe driving.
- Failure to submit medical or vision reports.
- Unfavorable medical or vision report (physician or eye care specialist indicates the severity of the condition did not permit safe operation of a motor vehicle).
- Failure to take required DMV tests.
- Failure on DMV tests.
- Unfavorable DRS evaluation.
- Disqualification based on DMV medical or visual criteria for licensing.

The department could restrict a person's license based on a recommendation of a physician, PA-C, APNP, or vision specialist and the results of a driving examination or evaluation. License restrictions could require a person to wear corrective lenses, use specially equipped vehicles, wear a hearing aid, operate only during daylight hours, restrict a person's driving area, restrict a person from freeway or interstate driving, or restrict a person's operating privilege in any other manner which the department deemed necessary for safety purposes. Unenforceable or unreasonable restrictions could not be applied (e.g., low volume traffic, only when accompanied by a licensed driver, local driving only, no driving on National holidays, cities less than 10,000 population). A time of day restriction had to be specific, for example, no driving between midnight and 5 a.m.; a restriction to "no rush hour" would not be implemented. Restrictions to a specific destination included a designated route; otherwise, a person might drive 100 miles out of their way to get to allowed destination. License restrictions could only be removed upon notice of the medical professional who recommended them, or by the department following an evaluation of the person's ability to drive. The department could require a person who had a progressive, recurring or debilitating condition to submit to follow-up examinations and reports by a physician, APNP or vision specialist (at intervals of 6 months, 12 months, or 24 months) as a condition of licensure.

Outcomes of medical referrals were not tracked, but the outcomes and proportions shown below are based on the 61 cases received by the MRU for the 5-day period October 1, 2012 to October 5, 2012:

- No change in license status (5/61, or 8%, including 1 driver who passed away prior to the medical form filing deadline, 2 drivers whose licenses were already invalid, and 1 left unprocessed due to an error).
- Suspension (34/61, or 56%, with just over half of these due to drivers disregarding MRU requests for medical information or testing).
- Daytime only restrictions (2/61, or 3%).
- Restrictions to a specific radius of home (1/61, or 2%).
- Speed restrictions: may only drive on roads with posted limits of 45 mph or less (1/61, or 2%).
- No freeway or interstate highways (1/61, or 2%).

- Corrective lenses (1/61, or 2%).
- Periodic review (16/61, or 26%).

Medical review outcomes were not reported back to the referral source. Licensing decisions were communicated to the driver through a letter sent through the mail.

Appeal of License Actions

There was an appeal process for drivers aggrieved by the department's decision. Due process included a three-step appeal process: a review (by the Medical Review Unit) of any new medical reports; an in-person or by-mail evaluation of the case by physicians on the Medical Review Board; and the judicial review system.

Costs of Processing Medical Referrals

The cost—in staff time and financially—to process a referral for cases where a DMV-administered on-road test was not conducted was 1 hour on average, at a cost of \$30/hour (representing the cost of one employee hour including benefits). This estimate included the time spent receiving, filing, reviewing and responding to initial follow-up information received from a referral. When reexamination testing was required, the knowledge (written test) and road test, plus time counseling the driver averaged 1 hour and 20 minutes. This brought the total time to process such a referral to 2 hours and 20 minutes, at a cost of \$70 (wages and benefits).

Additional time and costs for cases appealed included 160 staff minutes for preparing each case for the review (pulling all relevant data, making copies, etc.), time for the case during the review (15 minutes each), and closing the case with additional notes at the end (preparing narratives, etc.). This cost the DMV \$80 in staff time. Additionally, each medical professional (usually 3 physicians) was paid \$25 + mileage.

Administrative Issues

Training of Licensing Employees

The licensing agency provided specialized training for its personnel in how to observe applicants for conditions that could impair their ability to operate a motor vehicle safely. Field station examiners completed 4 weeks of off-site classroom training for all licensing functions, in addition to on-the-job training, where they were on probation for the first year of service. Five hours of classroom training was comprised of medical conditions and physical functionality, based on Wisconsin's *Driver Licensing Manual*, Section 235, "Evaluating Medical Conditions or Disabilities." This section was based on WisDOT Chapter Trans 112: "Medical Standards for Driver Licensing and General Standards for School Bus Endorsements."

Medical Program Tracking System

The agency used an automated medical record system and automated work-flow systems (for letter generation, only). The specialized database contained information about customers with medical conditions and the software had rules for tracking when periodic reports were required. Medical review staff indicated when a report should be sent (and what sections should be completed), and the system generated the notice and report at the same time for mailing. In terms of reviewing records, documents were stored by document type, and queued by date received and document priority for processing. A more detailed description of this system is provided below.

All incoming documents (mail, faxes, etc.) were sorted by document type and assigned to the correct driver. They were housed in an application that had workflow routing ability called Image. Documents with higher priority routing codes were typically processed first. Priority was determined by when the document was received (older documents were processed first—first come, first serve) and by the document type. For example, reports of a driver driving erratically (i.e., Behavior Reports) were more important than a routine vision examination. Figure G-5 shows two MV3644 documents (Medical Examination Reports) waiting to be reviewed in the work queue.

```
WORK WITH QUEUED ITEM                                PD FWD
FOLDER ID: [REDACTED]
RLOB: MED      TRAN TYPE: G      RT CODE: G      RUNIT: 0007  PRIORITY: 950
OPT C=COPY    M=MOVE      P=PRINT    V=VIEW    A=MODIFY    H=HISTORY  R=REROUTE
  N=HOLD      X=DROP      O=HOST PRT
DOCUMENT LIST:
O  DT RECVD  DESCRIPTION                                SENDER
-  [REDACTED] MV3644                                DOTG2H
-  [REDACTED] MV3644                                DOTG2H

SEND WORK (Y/N): Y  (PRESS ENTER TO PROCESS)
ROUTE TO:  RLOB: MED  TRAN TYPE: G      RT CODE: G      RUNIT: 0007
HOLD DATE: [REDACTED] HOLD TIME: _____  USERID: _____  PRTY IND: N
COMMENTS: _____

PF 2=COMMENTS 3=EXIT 4=HOLD 6=SEND WORK 7=BCKWRD 8=FRWRD 9=RETURN 24=MORE KEYS
```

Figure G-5. Two Files Actively Waiting for Processing in the Driver's File in Image

From Image, Medical Review Unit (MRU) staff could access the driver's entire folder to see a list of documents in the driver's file (see Figure G-6). The documents included all types of driving related medical records, e.g., those necessary to receive a school bus endorsement, endorsement cancelations, medical review outcomes, approved waivers, etc. The name of each document could be modified to describe what it specifically was, and there was a small amount of room for the processor to summarize what action was taken so that the next MRU employee could quickly get a sense of the current status of the driver and the driver's documents. The most current documents were listed at the top.

DOCUMENT LIST PD EDL

FOLDER ID.: [REDACTED] TAB: _____ NOTES: 0

FORM NAME.: _____ START DATE: [REDACTED] END DATE...: [REDACTED]
 PRINTER ID.: _____ RLOB.....: _____ TRAN TYPE..: _____
 RT CODE....: _____ RUNIT.....: _____ LIST ALL (Y/N): N SORT: Y

OPT A=MODIFY C=COPY D=DELETE H=HISTORY M=MOVE P=PRINT R=ROUTE
 S=SND WRK V=VIEW E=MRG SRC I=MRG DST U=UNDELET O=HST PRT Q=QUERY

OPT	DESCRIPTION	DATE RECVD	DATE FILED	VERS	PGS	TAB
-	MV3644	[REDACTED]	[REDACTED]	1	7	MED
-	MV3644	[REDACTED]	[REDACTED]	1	4	MED
-	DIABETES RPT - CONT FU FOR WAIVER	[REDACTED]	[REDACTED]	1	7	MED
-	DIABETES REPT 3M FUP S & P ENDORSEMENTS	[REDACTED]	[REDACTED]	1	4	MED
-	BLOOD SUGAR RDGS - STILL NEED MV3644 FOR DIABETES S/P ENDS	[REDACTED]	[REDACTED]	2	18	MED
-	DIABETES RPT-3 MTH FU S+P	[REDACTED]	[REDACTED]	1	4	MED
-	BLOOD SUGAR RDGS - STILL NEED MV3644 FOR DIABETES S/P ENDS	[REDACTED]	[REDACTED]	1	7	MED
-	CORR SENT-REMINDER TO SEND BS READINGS ALONG W/MV3644	[REDACTED]	[REDACTED]	1	1	MED
-	DIABETES WAIVER - APPROVED EXP. [REDACTED]	[REDACTED]	[REDACTED]	1	1	MED
-	CORR - SENT; S & P RELEASED, NEED BS READINGS IN 3 MTHS	[REDACTED]	[REDACTED]	1	1	MED
-	BOARD RESULTS - S & P APPROVED 3 MTH FUP X 1 YR + BS READINGS	[REDACTED]	[REDACTED]	1	2	MED
-	BLOOD SUGAR READINGS FOR BOARD	[REDACTED]	[REDACTED]	1	4	MED

PF 3=PREVSCR 7=BCKWRD 8=FRWRD 9=REFRESH 19=1ST PG 20=LAST PG

Figure G-6. An Example of Documents in a Driver's File

An application called Inquiry provided access to drivers' records to verify license type, status, etc. The information provided could be limited to just general driver information and relevant medical entries (see Figure G-7).



Inquiry System - Medical Report

Tuesday Apr 15, 2014
 DITMCB 1:15:38 PM

Search criteria: NSD ID: [redacted] Customer Number: [redacted] 04-15-2014 01:15 PM, DITMCB

[Print](#) [Summary](#) [Refresh](#) [Expand All](#) [Collapse All](#)

Customer Details

Identifiers	NSD ID Customer:	SSN
Name	First: Middle: Last	
Primary Address	County:	
Card Name	[redacted] (RGLR)	
Details	DOB:	Age: Gender:
Descriptors	Race: Weight:	Hair: Height: Eyes:
eNotify		

Product Notations

Date	Code	Notation Description
[redacted]	153	MC FOLLOW-UP ON FILE
	MED	CMV INTRASTATE OPERATION ALLOWED ONLY IF EXCEPTED

Product Details

Regular License (LEGACY)	Card Name:	Application Type: REISSUE
	Product#: [redacted]	Next Bus F.U. [redacted]
	Issued: [redacted]	
	Expires: [redacted]	
	Class: B C D	
	Status: VAL VAL VAL	
	Endorsement(s): P S	Prior Batch: [redacted]
	Status: VAL VAL	Batch: [redacted]
Restrictions: Special Restriction: Valid Wisconsin Intrastate Waiver On File. CDL Intrastate Only; No CMV Operation In Intrastate Commerce Unless Exempted By Federal Or State Law, P-Endorsement On Classes B & C. No CMV Operation With Airbrakes		

Commercial Driver License Instruction Permit (LEGACY)	Product#: [redacted]	Application Type: ORIGINAL
	Issued: [redacted]	
	Expires: [redacted]	
	Class: B C	
	Status: EXP EXP	
	Endorsement(s): P	Batch: 7191256
	Status: EXP	
Restrictions: Accompanied By A Qualified Instructor Or Licensed Person Age 21 Or More Holding A License Authorizing Operation Of Such Vehicle With Proper Classes And Endorsements. No Passengers Allowed Unless With Qualified Instructor (Wis Stats 343.07); CDL Intrastate Only; No CMV Operation In Intrastate Commerce Unless Exempted By Federal Or State Law, No CMV Operation With Airbrakes		

Driver Events

	Effective Date	File#
Cancelled Released	[redacted]	[redacted]
	Release Date: [redacted]	Duration: 44 DAYS
	Reason: LIP - LICENSE ISSUANCE PROHIBITED	Endorsement(s): P, S
	Affected Product: RGLR	DMV Work Area: MRU
Original	MAILED ON [redacted] TO [redacted]	
Denied	Effective Date: [redacted]	File#: [redacted]
	Reinstatement Date: [redacted]	Reinstatement Elig: [redacted]
	Reason: LIP - LICENSE ISSUANCE PROHIBITED	Endorsement(s): P, S
	Affected Product: RGLR	Duration: 28 DAYS
		DMV Work Area: MRU
Original	MAILED ON [redacted] TO [redacted]	
Medical	First Med Report Date: [redacted]	Last Med Report Date: [redacted]
	Duration: 24 - MONTHS	
	Affected Code: RGLR	
	Affected Class: B C	
	Endorsement(s): P S	
	Group: WAIVER Medical Waiver	
	Type: Diabetes	

Navigation Links

- Query
- Driver Detail History
- Driver Detail No History
- Vehicle Summary
- Vehicle Abs List
- Search Criteria
- Log Off

Quick Links

- Top of page
- Customer Details
- Notations
- Product Details
- Driver Events
- Bottom of page

Navigation Links

- Query
- Driver Detail History
- Driver Detail No History
- Vehicle Summary
- Vehicle Abs List
- Search Criteria
- Log Off

Quick Links

- Top of page
- Customer Details
- Notations
- Product Details
- Driver Events
- Bottom of page

Figure G-7. An Example of the Inquiry Search Result

When a document was accessed from the work queue, it automatically loaded into a viewing pane with the relevant medical information. MRU staff could, for example, determine whether a driver continued to qualify for a waiver. To ensure that the record was reviewed again at the end of the waiver period, they placed a follow-up entry on the driver's record filed in the Driver Condition Information System (DCIS) main menu, part of a larger application known as DMV suite by driver's ID#. Other licensing relevant items, e.g., license endorsement renewal dates, were stored on the same system. The MRU employee specified the duration until follow up, e.g., number of months, and the system calculated the follow-up date (see Figure G-8). Follow-up letters and medical report forms were printed automatically and mailed to the driver at the specified time. At that time the driver had a 30-day deadline to respond (plus 10 days for the report generation time and mailing). Failure to meet that deadline resulted in the cancellation of the waiver. After granting a waiver, the MRU staff member updated the description of the medical reports processed and included any new relevant documentation (e.g., a restriction/revocation waiver) in Image and notified Image that the workflow was complete. Most of the follow-ups were for continuing licensure for drivers required to file periodic reports to verify continued eligibility for their license) The premise was the same, however. The system prompted the MRU employee to select the follow-up type (i.e., medical condition) and the class of license affected (this information affected the information in the generated letter). It also asked for the exam date and the follow-up duration so the system knew when to request an updated report.

The screenshot displays the 'Medical Follow-up Detail' window. At the top, it shows customer information: NSD ID, DOB, and Name, each with a text input field. Below this is the 'Follow Up' section, which includes 'Create Date/Time' (03-21-2012 01:06 PM), a status indicator 'CURRENT', and buttons for 'Lic to Post Notn...', 'RGLR', and 'Afftd DL types...'. It also lists 'Current Due Date' (04-13-2016), 'Original Due Date' (04-03-2014), and 'Original Exam Date' (02-22-2012). The 'Medical Conditions' section features a scrollable list containing 'WAIVER Diabetes' and a 'Medical Report...' button. To the right, the 'Calculate Due Date' section has input fields for 'Exam Date' (03-04-2014), 'Duration' (MONTHS), a numeric input '24', and a 'Calculate' button. Below these are 'CRPD Due' (03-04-2016) and 'Pending Date' (04-13-2016). The 'Disposition' section has 'Date:' and 'Reason:' labels and a 'Disposition...' button. The 'Due Date Adjustments' section has a large empty text area and an 'Adjustments...' button. At the bottom left is a large red 'UPDATE' button, and at the bottom right are 'Save' and 'Cancel' buttons. The processor 'DITMCB' is noted at the bottom.

Figure G-8. An Example Waiver Follow-Up Screen in DCIS.

In summary, the specialized database and software contained information about customers with medical conditions and the software had rules for tracking when periodic medical reports and road testing were required. MRU staff indicated when a report should be sent (and what sections should be completed), and the system generated the notice and report at the same time for mailing. In terms of reviewing records, documents were stored by document type, and queued by date received and document priority for processing.

Appendix H: Summary of Driver Medical Review in Ohio

Organization of the Medical Program

Driver licensing in Ohio was administered by the Bureau of Motor Vehicles within the Ohio Department of Public Safety. At the time these data were collected, Ohio did not have a Medical Advisory Board. Licensing decisions for fitness to drive were based on the recommendations provided by the driver's treating physician, and the driver's ability to meet the BMV vision standards and pass the BMV knowledge and driving tests, if such testing was recommended by the driver's treating physician.

At the time of data collection, Ohio's medical program was administered by non-medical administrative staff members who had other responsibilities in addition to medical evaluation. The Special Case Unit consisted of a supervisor (with 4 years of experience in this position) and five customer service assistants (CSAs) who were trained to evaluate medical information and examination forms with respect to Ohio law and BMV procedures and policies. The five CSAs had been in their positions for 2.5 years, 9 years (2 CSAs), 10 years, and 22 years.

In 2012, there were 5,971 new cases referred to the licensing agency for medical review of fitness to drive. This count included both alcohol and non-alcohol cases (these were not distinguished in the licensing database). The BMV did not track referral source in the database, so it was unknown in what proportions different reporting sources referred these drivers. Reporting source could be obtained from the scanned medical files, however. The licensing outcomes (e.g., no change in license status, suspension, restriction, periodic review) were also not tracked in the licensing database, but could be obtained by researching individual driver files. Of these 5,971 new cases, 19 underwent driver appeal of the licensing decision. In addition to these new cases, there were 18,996 cases already under periodic review that were reviewed in 2012; again, this included both alcohol- and non-alcohol-related cases. These counts included both passenger vehicle and commercial vehicle cases.

Identification of Drivers with Medical Conditions and Functional Impairments

Application Form

Drivers with medical conditions or functional impairments that could affect their ability to operate a motor vehicle were brought to the attention of the BMV in a number of ways. First-time and renewal applicants were required to respond to the following three questions as they completed their license application:

- *Do you have a condition that results in episodic impairment of consciousness or loss of muscular control?*
- *Do you have a physical or mental condition that prevents you from exercising reasonable and ordinary control of a motor vehicle? If Yes,*

- _____ (nature and extent);
_____ (name of treating physician).
- Are you chemically dependent on alcohol or a drug of abuse and currently using alcohol or a drug of abuse?

Applicants who responded in the affirmative were given a medical form to take to their physicians for completion and return to the BMV. Similarly, if a driver license examiner had reason to believe that the applicant had a physical or mental condition that could impair safe driving ability, as observed during the course of a routine driver license examination, the applicant was required to obtain a signed medical report from a licensed physician. The form had to be returned to the BMV within 30 days, or the applicant's license was suspended for failure to submit the required medical statement.

Vision Screening and Vision Standards

Original and renewal applicants were required to pass a vision examination prior to being licensed. The BMV's vision standards (Ohio Administrative Code 4501:1-1-20) were as follows: people with binocular acuity of at least 20/40 (both eyes together) without corrective lenses were issued a license without visual restrictions. Persons with binocular acuity poorer than 20/40 but not worse than 20/70 were restricted to daylight driving only. Persons with binocular vision worse than 20/70 were denied a license. Persons with monocular vision whose visual acuity was 20/30 or better without corrective lenses were issued a license without visual restriction. Those with monocular vision poorer than 20/30 but not worse than 20/60 were issued a license restricted to daylight driving. Those with monocular vision who were unable to attain acuity of at least 20/60 were denied a license. Visual field requirements for a non-restricted license consisted of 70 degrees of visual field on both sides of the fixation point. If the visual field on one side of fixation was less than 70 degrees, the applicant was required to demonstrate a visual field of at least 70 degrees on one side of fixation and 45 degrees on the other side of fixation. Such an applicant was restricted to driving a vehicle with an outside mirror mounted on the side of the more limited visual field.

Those who could not meet the BMV's standards were referred to their eye care specialist (an ophthalmologist or licensed optometrist) for visual correction, and/or more sensitive testing. Applicants' licenses were held at the examination station for 30 days, and applicants were advised that they could not drive until vision correction had been made and upon their return to the examination station for the remainder of the examination. Licenses were cancelled after 30 days if the driver did not return to the station and pass the retest. Unless applicants went to an eye care specialist affiliated with the Ohio State University School of Optometry (OSU), which provided an independent vision evaluation at the patient's cost, they were retested with the BMV's equipment. They were not licensed unless they could attain acuity of at least 20/70, and a peripheral visual field of at least 70 degrees on one side and 45 degrees on the other. The BMV accepted a reading provided by one of the OSU-contracted eye care specialists. Drivers with progressive eye diseases were subject to periodic vision exam requirements, as recommended by their physician/eye care specialist. The BMV Vision Screening Referral form is presented in Figure H-1.



OHIO DEPARTMENT OF PUBLIC SAFETY
BUREAU OF MOTOR VEHICLES

VISION SCREENING REFERRAL

Preliminary vision screening indicates that you may not meet Ohio's vision standards to renew your driver license (Ohio Revised Code (R.C.) 4507.12 and 4506.09). If you wish to renew your driver license, you **must**:

1. Proceed to a driver license exam station for additional testing. – or –
2. Proceed to a vision specialist for testing and **return this form to a driver license exam station for final screening and approval for license issuance**. If corrective lenses or a change in prescription is needed, obtain the new correction prior to your visit to the exam station.

If vision screening conducted at the driver license exam station indicates that you do not meet the vision requirements, your driver license will be retained by an examiner. You will not be able to legally drive a motor vehicle if you do not pass this vision screening until your vision is corrected and you have been retested at the exam station. Therefore, a licensed driver must accompany you when reporting to the exam station.

NAME (LAST)	FIRST	MIDDLE
LICENSE NUMBER	CLASS	DX CUSTOMER KEY NUMBER

I hereby authorize and request information regarding my visual condition be released to the Special Case Unit, Bureau of Motor Vehicles.

APPLICANT SIGNATURE
X

DEPUTY REGISTRAR VISION SCREENING RESULTS							DRIVER EXAM STATION VISION SCREENING RESULTS						
ACUITY				HORIZONTAL FIELD			ACUITY				HORIZONTAL FIELD		
WITHOUT LENSES	Right	Left	Both	TEMP	Right	Left	WITHOUT LENSES	Right	Left	Both	TEMP	Right	Left
	20/	20/	20/	TEMP			20/	20/	20/	20/	TEMP		
WITH	20/	20/	20/	NAS			20/	20/	20/	20/	NAS		
Date _____ Unit _____							Date _____ Unit _____						

VISION SPECIALIST: R.C. 4507.12 requires that driver license applicants pass a vision screening before obtaining a driver license. When unable to pass, they are asked to visit an optometrist or ophthalmologist of their choice for an examination to determine if their vision can be improved sufficiently to qualify for a license. **APPLICANT MUST RETURN THIS FORM TO A driver license exam station**

1. **VISUAL ACUITY**

	PRESENT ACUITY			ACUITY WITH NEW CORRECTION		
	Right	Left	Both	Right	Left	Both
WITHOUT LENSES	20/	20/	20/	20/	20/	20/
WITH	20/	20/	20/			

2. **VISUAL FIELD** Does the applicant have a normal visual field in each eye as screened by standardized techniques? Yes No, If "No" please provide the peripheral extent of the visual field measured by using a 10 mm white target.

Visual Field	Right Eye	Left Eye
Temporal	Degrees	Degrees
Nasal	Degrees	Degrees

3. Except for normal deterioration due to aging, does the applicant have a progressive visual deficiency?
 Yes No, If "YES", please describe condition _____

3a. Due to this condition, is it necessary for the Bureau of Motor Vehicles to require yearly vision exams conducted by the driver license exam station? Yes No

4. **COLOR VISION** Did the applicant (commercial drivers only) pass the color vision test (Farnworth D-15)? Yes No

CERTIFICATION The information that I have provided is based upon my examination of the person named hereon.

SIGNATURE X			DATE	
BUSINESS ADDRESS (STREET)		CITY	STATE	ZIP CODE
CERTIFICATION / LICENSE NUMBER			TELEPHONE NUMBER ()	

BMV 6317 12/12 [760-0310]

Figure H-1. Ohio Bureau of Motor Vehicles Vision Screening Referral.

Ohio allowed an applicant to be licensed if he or she passed the Ohio vision standard with a bioptic telescopic device, and demonstrated the visual, mental, and physical skills necessary for safe driving. Bioptic telescopic drivers were required to successfully complete an initial vision exam at one of two centers (OSU College of Optometry or Vision Rehabilitation of Akron) and a training and evaluation session with a mobility instructor from one of two approved vision centers (Vision Center of Central Ohio or Vision Rehabilitation of Akron). Bioptic drivers were restricted to daylight driving for the initial year. They could apply for approval of nighttime licensure if, after the first year of driving with the bioptic lenses, they had no at-fault crashes or driving convictions, they satisfactorily completed a nighttime driver training program, and they passed a nighttime driving test. A vision consultant provided past guidance in developing the ODPS bioptic program and in assembling eye care specialists to contract with the Ohio State University School of Optometry to provide independent vision examinations, when drivers failed to meet the BMV's vision standards. The BMV no longer had a vision consultant.

Referral Sources

Another mechanism that served to bring an at-risk driver to the attention of the BMV was receipt of a letter "giving good cause to believe" that a driver was incompetent or otherwise incapable of driving safely. The law stated that "good cause" was considered to be a request for recertification received from a physician, law enforcement agency, or the courts. To take action on a request received from a law enforcement agency or court, the BMV required personal observation of the subject's driving or personal contact with the driver; action was not taken based solely on the driver's age, or on hearsay. Law enforcement officers reported drivers using the BMV form 2308 "Request for Driver License Examination or Recertification/Report of a Violation of a Restriction," shown in Figure H-2. An accumulation of crashes or violations alone (apart from a referral by a law enforcement officer at the scene of a crash or during a traffic stop) did not trigger medical review.

Ohio did not have a mandatory physician reporting law, but physicians could voluntarily report drivers by writing a letter to the BMV. Such physician reports were confidential; the driver was not advised of the source of this type of referral. Physicians who chose to report drivers in good faith were not immune from legal action by their patients. Any changes in the BMV policy and procedures for reporting and recertifying unsafe drivers would necessitate the enactment of new laws by the Ohio legislature.

The BMV also took action on a written and signed request submitted by a relative, friend, neighbor, concerned citizen, etc. The BMV was required to conduct an investigation to determine if there was sufficient cause to require a medical statement and/or driver license examination; age could not be the only basis for the request. The investigation consisted of a BMV investigator interviewing the letter writer, the driver, neighbors, other family members, and the driver's physician whenever possible. Investigators also visually inspected the reported driver's vehicle. The investigator then made a recommendation to the BMV as to the course of action to be taken. The BMV was required by law to inform the subject driver of the source of the information, so reports had to be signed before an investigation could commence, and the letter writer had to give permission to the BMV to use his or her name as the source of information.



OHIO DEPARTMENT OF PUBLIC SAFETY
BUREAU OF MOTOR VEHICLES

**REQUEST FOR DRIVER LICENSE EXAMINATION OR
RECERTIFICATION / REPORT OF VIOLATION OF
A RESTRICTION OHIO REVISED CODE (R.C.) 4507.20, 4507.14**

DRIVER

NAME (LAST)		FIRST		MI	
ADDRESS (NUMBER & STREET)		CITY		STATE	ZIP CODE
DRIVER LICENSE #	CDL LICENSE #	STATE OF ISSUANCE IF NOT OHIO			

VEHICLE

YEAR & MAKE OF VEHICLE	LICENSE PLATE #
------------------------	-----------------

DRIVER CONDITION

CHECK APPROPRIATE BLOCK(S) AND DESCRIBE EXISTING CONDITION.

<input type="checkbox"/> PHYSICAL _____	<input type="checkbox"/> OPERATOR DRIVING EXAM _____
<input type="checkbox"/> MENTAL _____	<input type="checkbox"/> COMMERCIAL DRIVING EXAM _____
<input type="checkbox"/> OTHER _____	<input type="checkbox"/> VISION _____
<input type="checkbox"/> DRIVING IN VIOLATION OF A RESTRICTION, R.C. 4507.14 (THIS IS NOT A TRAFFIC OFFENSE)	
LIST RESTRICTION VIOLATED	

INCIDENT

DATE OF INCIDENT	CRASH #	DATE OF CRASH
REPORT OF INCIDENT / COMPLAINT		
DATE DRIVER NOTIFIED OF THIS REQUEST		

COMPLAINANT / OFFICER

NAME OF COMPLAINANT / OFFICER (LAST)	FIRST	MIDDLE	PHONE #		
ADDRESS (NUMBER & STREET)	CITY	STATE	COUNTY	ZIP CODE	

By my signature, I agree to be the official source of information for this re-examination report.

SIGNATURE X	DATE
-----------------------	------

(MUST BE REVIEWED AND SIGNED BY HEAD OF AGENCY)

SIGNATURE OF OFFICER X	
APPROVED BY	
TITLE	DEPARTMENT
CITY	DATE SUBMITTED
CONTACT PHONE #	

Individual should be advised this request is being submitted to:
**OHIO BUREAU OF MOTOR VEHICLES
ATTN: DRIVER LICENSE SUSPENSIONS /
SPECIAL CASE UNIT
P.O. BOX 16784
COLUMBUS, OH 43216-6784**

(OSP-202.02)
BMV 2308 8/12 [1760-0310]

RESTRICTED

Figure H-2. Ohio Bureau of Motor Vehicles Request for Driver License Examination or Recertification.

No training for law enforcement, licensing agency staff, physicians or judges relevant to referring drivers for medical review had been conducted by the BMV within the year preceding data collection (2012-2013).

Evaluation of Referred Drivers

Procedures

When the BMV became aware of a driver with medical conditions or functional impairments, the Special Case Unit CSAs mailed the driver a “Request for Statement of Physician” form (BMV Form 2310, see Figure H-3), and a letter advising the driver of the requirement to have the form completed and returned within 30 days. All drivers undergoing initial medical review were required to have this form completed and returned to the BMV. Physicians were asked whether their patient had any of the following 10 medical conditions: vision abnormalities or eye disease; musculoskeletal disorder; cardiovascular disease; respiratory disease; diabetes or other endocrine disorders; neurological disease; impairment due to alcohol or drugs; psychiatric disorders; cognitive impairment; or other medical disorders that could interfere with driving ability. For any identified medical condition, the physician provided information describing the length of time the patient had had the condition; the date of the last episode or how long the condition had been under effective medical control; medications prescribed for the condition; whether the patient was compliant with the medication regime; and termination dates if medications had been discontinued. Then, the physician indicated whether the patient’s medical condition was sufficiently under effective medical control to allow the patient to drive safely, and if “Yes,” whether the driver should be required to take and pass a BMV vision, knowledge, and/or road test before the licensing determination was made. The physician was also asked to indicate whether the patient should be reevaluated in the future for continued licensure and, if so, what the re-evaluation interval should be (6 months, 1 year, or 4 years at the time of license renewal). The form requesting a statement from the driver’s treating physician is shown in Figure H-3.

Returned medical statements were evaluated by the Special Case Unit CSAs. Licensing decisions, including further BMV testing requirements, were based solely on the physician’s professional opinion as recorded on the medical form. Case review staff did not make licensing decisions based on rules or checklists. There was no uncertainty about how to handle specific cases; there were no “borderline cases” or judgment calls regarding medical fitness to drive that were made by the case review staff or their supervisor.

BMV staff did not conduct in-person screening of physical or cognitive abilities as a part of medical re-examination. There was no “triage” system to expedite particularly risky cases, and there were no situations where a high-risk driver’s license was suspended or revoked immediately upon receipt of a referral, pending the outcome of the medical review process.



OHIO DEPARTMENT PUBLIC SAFETY
BUREAU OF MOTOR VEHICLES

REQUEST FOR STATEMENT OF PHYSICIAN

DX / FILE NUMBER
PATIENT DRIVER LICENSE NUMBER

PATIENT INFORMATION (Type or print in ink)

PATIENT FIRST NAME	LAST NAME	MI	DATE OF BIRTH
ADDRESS	CITY	STATE	ZIP CODE
		PATIENT PHONE NUMBER	

Check here if this is a name or address change.

RELEASE OF INFORMATION

I hereby authorize and request information regarding my physical and mental condition be released to the Driver License Division, Bureau of Motor Vehicles.

PATIENT SIGNATURE X	DATE
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PHYSICIAN'S STATEMENT

If new patient, are records of previous physician available? Yes No

PREVIOUS PHYSICIAN NAME			
ADDRESS	CITY	STATE	ZIP CODE

Is this patient being treated by another physician for any condition not being treated by you? Yes No

OTHER TREATING PHYSICIAN NAME			
ADDRESS	CITY	STATE	ZIP CODE

If yes, should the BMV contact the physician referenced above regarding driving privileges of this patient?

Yes No

Patient history and / or physical reveal the following:

- Yes No Vision abnormalities or eye disease (not correctable by eyeglasses)
- Yes No Musculoskeletal disorder (including loss of limb)
- Yes No Cardiovascular disease (e.g., Stroke, Angina, Heart failure, Hypertension)
- Yes No Respiratory disease (e.g., Emphysema, Asthma)
- Yes No Diabetes Mellitus and/or other Endocrine disorders
Insulin Dependent Yes No
- Yes No Neurological disease (e.g., Epilepsy, Multiple Sclerosis, Parkinson's disease)
- Yes No Impairment due to alcohol or drugs
- Yes No Psychiatric disorders
- Yes No Cognitive Impairment
- Yes No Other medical disorders which could interfere with driving ability

EXPLANATION REQUIRED FOR ALL ANSWERS ABOVE.

IMPLEMENTATION OF SECTIONS 4507.20; 4507.08 AND 4507.081 OHIO REVISED CODE, REQUIRES THE FOLLOWING INFORMATION BE PROVIDED:

1. How long has the condition(s) existed?

CONDITION	NO. OF YEARS	NO. OF MONTHS
CONDITION	NO. OF YEARS	NO. OF MONTHS

2. Give date of last episode or exacerbation.

CONDITION	YEAR	MONTH
CONDITION	YEAR	MONTH

2A. If #2 is not applicable, how long has the condition been under effective medical control?

CONDITION	NO. OF YEARS	NO. OF MONTHS
CONDITION	NO. OF YEARS	NO. OF MONTHS

Figure H-3. Ohio BMV Request for Statement of Physician (Page 1 of 2).

DX / FILE NUMBER
PATIENT DRIVER LICENSE NUMBER

3. Is medication prescribed? Yes No If yes, please list medications.

1.	3.	5.
2.	4.	6.

4. If medication is prescribed, has your experience with this patient indicated that he / she can be depended upon to take the medication regularly and as instructed? Yes No

5. If you have discontinued patient's medication, give date of termination.

YEAR	MONTH
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6. In your professional opinion, is this patient's condition(s), on this date, sufficiently under effective medical control to operate a motor vehicle?

PLEASE NOTE: IF YOU ANSWER "YES" TO PARTS B, C, or D BELOW, THE EXAM WILL BE CONDUCTED NOW. THE EXAM(S) WILL BE CONDUCTED AT A DRIVER LICENSE EXAM STATION.

- A. Yes. This patient **should be permitted to** retain driving privileges.
- B. Yes. This patient **should be permitted to** retain driving privileges **only if** they can pass a partial driver license exam which consists of a vision screening and a road test for driving and maneuverability.
- C. Yes. This patient **should be permitted to** retain driving privileges **only if** they can pass a vision exam.
- D. Yes. This patient **should be permitted to** retain driving privileges **only if** they can pass a complete driver license exam which consists of a vision screening, written test of Ohio's laws and signs, and a road test for driving and maneuverability.
- E. No. This patient **should not be permitted to** retain driving privileges.

7. In your professional opinion, should this patient be reevaluated in the future for continued driving privileges.

Yes No

If yes, reevaluation is required:

Once every six (6) months

Once every year

At time of driver license renewal (4 years or less depending on expiration date of current driver license or temporary permit)

(Print or type)

PHYSICIAN'S NAME	PHONE NUMBER	DATE
ADDRESS	CITY	STATE
PHYSICIAN'S SIGNATURE	PHYSICIAN'S LICENSE NUMBER	
X		

NOTE TO PHYSICIAN: PLEASE MAKE A COPY FOR YOUR RECORDS.

OHIO BUREAU OF MOTOR VEHICLES, ATTN: SPECIAL CASE / MEDICAL UNIT, P.O. BOX 16784, COLUMBUS, OH 43216-6784

Figure H-3 (Cont'd). Ohio BMV Request for Statement of Physician (Page 2 of 2).

A complete BMV examination consisted of a vision test, a written test of Ohio's laws and signs, and a road test for driving and maneuverability. If a BMV on-road test was required as a result of medical review, it was conducted by the same driver license examiners who conducted all other road tests, and consisted of the standard 15-minute on-road driving and maneuverability tests given to original/novice applicants. Home area road tests were not conducted in Ohio. The BMV road test had two parts: a driving test and a maneuverability test. The driving test assessed the following tasks: stopping and starting, turning around and backing up, making proper left and right turns, use of turn signals, driving in the proper lane, and maintaining a safe following distance. The maneuverability test required driving forward through a 9 x 20 foot box formed by four markers, and then steering to the right or left of a "point" marker that was 20 feet ahead of the box in the center of the course. Drivers were advised to stop when the rear bumper of their car was even with the "point" marker and they were parallel to the course. Then, drivers were required to drive in reverse past the marker and through the box, stopping with the front bumper even with the two rear markers. Points were deducted for stopping to check progress, bumping markers, misjudging stopping distance, or vehicle position not parallel to course; running over a marker or other dangerous action resulted in immediate failure.

Applicants had four opportunities to pass the complete examination, but had to wait at least 7 days between attempts. The license was suspended after the first failed attempt, so applicants had to be accompanied to the reexamination by a licensed driver. Applicants who did not pass the complete examination in four attempts were not eligible for reexamination for 6 months.

Medical Guidelines

The BMV evaluation guidelines for licensing were once established through recommendations of an ODPS medical consultant. The medical consultant was a private-practice physician and former president of the Ohio Medical Association, and provided guidance to the ODPS regarding policy and medical form development. A vision consultant provided past guidance in developing the ODPS bioptic program and in assembling eye care specialists to contract with the Ohio State University School of Optometry to provide independent vision examinations when drivers failed to meet the BMV's vision standards. At the time of data collection, the BMV no longer had a medical or vision consultant.

Licensing decisions were based on the treating physician's evaluations and recommendations regarding fitness to drive, and the driver's ability to meet the BMV vision standards and pass the driver license examinations. There were no other medical guidelines for driver licensing, beyond those established for vision. The loss of consciousness guidelines (periodic review for drivers whose conditions have been controlled for less than 5 years) were removed by the Ohio Legislature in 2009.

Ohio's Motor Vehicle Laws (4507.08, 4507.081, and 4507.14 Ohio Revised Code) granted the Registrar of Motor Vehicles the authority to place a medical restriction on the driver license of persons who had a condition that could cause them to suffer a loss of consciousness or otherwise impair their ability to safely operate a motor vehicle. This restriction required the driver to submit periodic satisfactory medical statements to maintain licensure. The medical

statements could be required every six months, once a year, or every four years at license renewal, based the physician's recommendation. The BMV's procedures and policies for placing and removing medical restrictions on licenses were administrative. In accordance with guidelines, the BMV allowed the driver's treating physician to determine if their condition was under sufficient medical control to allow safe operation of a motor vehicle. Based on the physician's recommendations, licensure were granted or suspended.

Disposition

License Restrictions, Periodic Evaluations, and Remediation

In making licensing decisions, the BMV relied on both the physician's evaluations and recommendations regarding fitness to drive, and the driver's ability to meet the vision standards and pass any of the physician-recommended BMV driver license tests. The BMV could issue suspensions for failure to submit medical or vision reports, unfavorable medical or vision reports (where the physician or eye care specialist indicated the severity of the condition did not permit safe operation of a motor vehicle), failure to take the required BMV tests, or failure on any of the BMV tests (vision, knowledge, or road).

The potential outcomes of medical referrals included: no change in license status, suspension, daytime only restrictions, corrective lenses required, adaptive equipment required, or periodic review. Drivers licensed with bioptic lenses could be restricted from driving on freeways. Ohio did not issue licenses with the following restriction types: time of day, geographic area, specific destinations (other than to-from work for those convicted through the court system for other offenses, such as operating under the influence or roadway speed.

The BMV could require further testing upon receipt of a medical statement where the doctor recommended BMV driver license testing or visual evaluation by an optometrist or ophthalmologist if the driver could not meet the BMV vision standard. The BMV could require periodic reexaminations or medical statements for persons with conditions that could impair their ability to safely operate a motor vehicle (as recommended by the treating physician). The only kinds of professionals to whom the agency referred drivers for remediation of impairing conditions were eye care specialists. Persons with problems meeting the vision standards to qualify for a license could be referred to one of several eye doctors throughout Ohio contracted through the Ohio State University School of Optometry. The driver paid for services provided.

The average time between a case being opened and a licensing decision was 45 days, if the physician returned the medical form to the BMV before the due date. The licensing decision was communicated to the driver via mail; no feedback regarding the licensing outcome was provided to the referral source.

Appeal of License Actions

There was an appeal process for drivers whose licenses were suspended because of medical conditions or functional impairments. People were entitled to an administrative hearing if so requested in writing within 30 days of failure on the exams or within 30 days of a medical

suspension. Drivers could appear in person at the hearing, or be represented by an attorney to present evidence and examine witnesses appearing for or against the driver.

Costs of Processing Medical Referrals

The approximate staff time needed to process a medical referral, when no BMV-administered tests were required, was 15 minutes, at a cost of \$4.50. If the complete battery of BMV tests was required (vision, knowledge, and road), then the resulting staff time was 75 minutes (1 hour for testing and 15 minutes to process the case), which cost \$22.50. If only the road test was required, the time to process the case was 30 minutes (15 minutes for the test and 15 minutes to process the case), which cost \$9.00.

Administrative Issues

Training of Licensing Employees

The BMV did not provide specialized training for its personnel in how to observe applicants for conditions that could impair their ability to operate a motor vehicle safely. No specialized training was provided relating to older drivers.

Medical Program Tracking System

The BMV used an automated workflow system. The Custom Processing Imaging Client (CPIC) was used to scan all documents received in the mailroom (e.g., Requests for driver license examination forms from law enforcement and the courts, Medical Statements from physicians, letters of concern from friends, family, etc.). The mail section routed the medically related scanned images to the “medical work basket” in the Special Case Unit. Driver license applications were electronically sent to the Special Case Unit. The Special Case Unit processed the electronic documents by updating customers’ files in the BMV’s internal systems. For example, if a medical report was received for a driver with an annual report requirement, the file was updated to indicate that the driver had complied with the medical reporting requirement. The imaged documents were then filed in the customer’s folder in CPIC.

The BMV’s internal systems tracked suspensions and restrictions. The program was developed in house, and interacted with the Law Enforcement Automated Data System (LEADS). The internal systems were used by the Special Case Unit to update LEADS, so officers in the field knew when a driver was in compliance with restrictions and suspensions. CSAs in the Special Case Unit used the internal system to record dates and restriction codes. The system automatically generated a suspension letter to a driver if he or she had not complied with a reexamination or reporting requirement or if no action was taken by the driver within a specified time. When the Special Case Unit updated information based on the medical form in the system, it automatically recalculated the date for the next periodic reporting requirement.

Appendix I: Summary of Driver Medical Review in Washington

Organization of the Medical Program

The Washington Department of Licensing (DOL) administered driver licensing in the State of Washington. At the time of data collection, Washington did not have a Medical Advisory Board. Drivers with medical conditions and functional impairments were evaluated by their own physicians, by license service representatives (LSRs) in driver licensing field offices, and by staff in the Medical Section of Driver Records.

There were 343 LSRs in 56 field offices across the State who evaluated medical and vision certificates and conducted driver interviews, knowledge tests, vision tests, and original and reexamination drive tests.

At the time of data collection, the Medical Section of Driver Records in Olympia was staffed by five full-time, non-medically trained customer service specialists. They evaluated medical and vision certificates; referrals from law enforcement and the public; took appropriate licensing actions based on LSR and physician recommendations; and maintained records and files pertaining to restrictions, periodic examinations, and medical recertification. Based on the evaluation of physician-completed certificates, they referred drivers to field offices for testing.

In 2012, 3,179 cases were referred to the licensing agency for medical review of fitness to drive (Driver Evaluation Requests). This count included both alcohol and non-alcohol cases (these were not distinguished in the licensing database), and cases that may have already been under periodic review, as the agency did not track separately those already being monitored from newly opened cases. The agency did not track referral source in the license database, so it was unknown in what proportions different reporting sources referred these drivers. Reporting source could be obtained from the scanned medical files, however. In addition, in 2012, 24,496 medical evaluations (physician or vision examination reports were reviewed) and 1,734 driving reexaminations were conducted.

Identification of Drivers With Medical Conditions and Functional Impairments

Application Form

Drivers with medical conditions and functional impairments that could affect their ability to drive safely came to the attention of the DOL in numerous ways. Drivers were required to visit a licensing services office every other renewal cycle to renew their licenses, unless they were age 70 or older, and were required to renew in-person at each license renewal. At the time data were collected, license renewal cycles had been 5 years for all ages, but were soon to be increased to 6. When drivers renewed in person, the LSR read the following question from the license application screen of the Driver Field System (DFS): “*Do you have any mental or physical condition or are you taking any medications, which could impair your ability to operate a motor vehicle?*” If the driver answered, “Yes,” the LSR issued a Physical Examination Report (see Figure I-1, also referred to as a “medical certificate”) to the driver in an envelope addressed to the issuing License Service Office. The LSR advised the driver that the form was to be returned in 30 days to avoid suspension of licensure. LSRs did not inquire further into a customer’s

medical condition, and no license or instruction permit was issued at that time. A pending cycle was entered into the computer to begin monitoring of the customer, and the Medical Section was notified if there had been no action within the 30-day period. If an LSR witnessed a customer in the licensing office experiencing a loss of consciousness or control for a condition that would normally be referred to a medical authority (for instance, a customer had a seizure), a Physical Examination Report was issued. An LSR observing confusion, disorientation or incomprehension consulted with their supervisor or district manager to determine whether a medical form should be issued.

When drivers renewed online or by mail, the only medical question they answered was: *“In the last six months, have you had a loss of consciousness or control which could impair your ability to operate a motor vehicle?”* They signed a statement of perjury that the information entered was true and correct.

Vision Screening and Vision Standards

A complete vision screening was given to *all* drivers at each in-person renewal. This consisted of testing both eyes together, left eye, and right eye for visual acuity, phorias, horizontal field, and color vision. Vision requirements included horizontal field of vision of at least 110 degrees with both eyes, or 55 degrees with one eye and acuity of at least 20/40 with or without correction, with both eyes combined. Drivers who renewed online or by mail certified on the application that their visual acuity was no worse than 20/40, either corrected or uncorrected, and that they had no other vision problems.

Washington’s vision standards were approved by the Academy of Ophthalmology Traffic Safety Committee; the Washington State Medical Association Committee on Vehicle Safety; and the Washington Optometric Association Motorist’s Vision Committee. The vision and medical requirements were established by Washington State Revised Codes and Administrative Codes, and were as follows. If acuity was 20/40 or better with correction, a license was issued with a corrective lenses restriction. If acuity was 20/70 to 20/100, the driver was restricted to daylight driving only. Acuity of 20/100 or worse prohibited a person from driving in Washington. If the total field of vision was less than 110 degrees, or acuity was between 20/50 and 20/80, a reexamination (road test) was required. If the vision specialist indicated that the driver should be required to submit periodic vision certificates, the Medical Section coordinated all periodic review cycles that could be required.

Customers who failed the vision-screening test (except color) were issued a Visual Examination Report (also referred to as a “vision certificate”) that they were to take to an ophthalmologist or optometrist for completion, based on an examination performed within the previous three months (although there were plans to increase this to 1 year). The report was to be returned within 30 days to the Medical Unit in Olympia (see Figure I-2). A pending cycle was entered into the computer to begin monitoring of the customer.

When a Visual Examination Report was returned, the medical unit ensured that the examination was current and the form was complete, and then determined whether the driver should be cleared for an unrestricted license, issued a restricted license, be reexamined, or whether licensure should be denied. If a Physical Examination Report was also issued, the forms were processed together. Restrictions and any required examinations were entered into the computer record. Customers were notified by mail of the review outcome.

Referral Sources

LSRs were trained to observe customers in the lobby and approaching their counter for obvious physical impairments such as limited mobility or strength, tremors, paralysis, use of a wheelchair or assistive device, or loss of a limb. LSRs also looked for signs of visual or mental impairments as they interviewed drivers during the application and renewal process, conducted the vision screening, and asked the medical question. The DOL had guidelines that all LSRs used to identify drivers who should undergo reexamination and to determine what evaluation or testing was required. The guidelines were grouped by: physical impairments, temporary physical impairments, mental impairments, and vision impairments. Within each area, several impairments were described and classified as:

- mild (requiring no additional screening),
- moderate (requiring an In-Vehicle Assessment for physical impairments, and reexamination testing plus issuance of Physical or Visual Examination Reports for mental and visual impairments), or
- severe (requiring a reexamination test and the issuance of Physical or Visual Examination Reports).

Customers who demonstrated signs of confusion, memory loss, or difficulty responding to routine questions were selected for reexamination testing and were issued a Physical Examination Report. Customers who used a walker, crutches, wheelchair, had other limited motor function or loss of limbs, severe tremors resulting in an inability to grip an object, and who had no license restrictions or had not been tested since their original license, were selected for reexamination (on-road test). Customers who demonstrated some difficulty gripping an object due to tremors or hand deformity, or demonstrated limited range of motion and/or strength in limbs, torso, head, or neck were required to undergo an In-Vehicle Assessment (which differed from the reexamination/on-road test). The LSR Reexamination Selection Process Guidelines are shown in Tables I1-I4.

Table I-1. Washington Department of Licensing Selection Guidelines for Physical Impairments.

PHYSICAL IMPAIRMENT		
Mild	If	Then
Some difficulty getting up from chair; slow walking up to the counter; slight limp.	The customer is able to get up from chair and walk unassisted.	No additional screening is required.
Slight tremors. Loss of one or more digits or deformity in one or both hands.	Able to grip and manipulate an object. (None or little tremors)	
Partial paralysis of facial features; slurred speech.	The customer passes all physical and vision screening.	
Moderate	If	Then
Tremors of hands and/or head.	Some difficulty gripping an object (eye machine or pen to sign name) at the counter during the assessment. Some difficulty using eye machine due to tremors.	Conduct an In Vehicle assessment.
Deformity of hands	Unable to grip an object (eye machine or pen to sign name) at the counter during the assessment.	
Limited mobility and/or strength in limbs, torso, head, neck, etc.	Limited range of motion while turning head, neck or torso; lack of strength in limbs; unable to lift arms to counter; unable to grip an object (eye machine or pen to sign name); severe limp or awkward gait.	
Severe	If	Then
Paralysis affecting one or more limbs; use of wheelchair or motorized scooter for mobility. Walking to counter with assistance of person or device.	Unable to walk and/or stand without device or assistance. Unable to use one or more limbs.	Select for reexamination testing.
Severe tremors (partial or entire body).	Unable to grip an object or use the eye machine.	
Missing limb; partial or whole limb amputee or prosthetic limb.	Missing or prosthetic limb.	

Table I-2. Washington Department of Licensing Selection Guidelines for Temporary Physical Impairments.

TEMPORARY PHYSICAL IMPAIRMENT		
Mild	If	Then
Sprain or injury to finger, hand, foot, ankle, neck, arm, back, etc. Partial cast or device not limiting mobility.	No significant loss of mobility or strength. Able to walk without assistance (person or device).	No additional screening required.
Moderate	If	Then
Sprain, surgery or injury to finger, hand, foot, ankle, neck, arm, back, etc. Partial cast or device that may limit range of motion.	Moderate loss of mobility or strength. Unable to walk without assistance (person or device).	Conduct an In Vehicle assessment.
Severe	If	Then
Surgery, injury or broken limb, neck, torso, etc. Cast, brace, sling or orthopedic device limiting mobility. Using device for mobility (wheelchair, motorized scooter, crutches, etc.).	Unable to walk and/or stand. Unable or limited use of one or more limb. Unable to turn head.	Select for reexamination testing. Allow customer to return when healed or conduct testing.

Table I-3. Washington Department of Licensing Selection Guidelines for Mental Impairments.

MENTAL IMPAIRMENT		
Mild	If	Then
Some hesitation answering routine questions.	Able to provide information without assistance.	No additional screening required.
Moderate	If	Then
Demonstrates signs of confusion; difficulty responding to routine questions.	Needs some assistance to provide information or answer questions.	Select for reexamination testing and issue a Physical Examination Report (PER) (DR-500-035). Evaluate PER to determine if customer will be tested (knowledge and drive tests) or submit to Medical for cancellation.
Severe	If	Then
Demonstrates extreme confusion, memory loss, cannot answer routine questions or provide information.	Customer is not able to answer routine questions or provide information or requires assistance from a third party to answer questions or provide information.	Select for reexamination testing and issue a Physical Examination Report (PER) (DR-500-035). Evaluate PER to determine if customer will be tested (knowledge and drive tests) or submit to Medical for cancellation.
<p>Things to remember:</p> <ul style="list-style-type: none"> • Make sure to look at and speak clearly to someone who is hearing impaired or wears hearing aids. They may answer inappropriately or hesitate because they did not hear or understand your question. • Someone who recently moved or changed phone number may not remember their new information. So ask questions to determine if this applies. • Language barrier – when using a translator, is translator asking your questions and the customer responding and the translator relaying the information to you? This would be appropriate. The translator answering the questions without asking your customer is inappropriate. • Refer to LSR Manual Section 8.1 for more information and requirements. 		

Table I-4. Washington Department of Licensing Selection Guidelines for Vision Impairments.

VISION IMPAIRMENT		
Mild	If	Then
Visual acuity: is not worse than 20/40 both eyes together with/without corrective lenses.	Acuity not worse than 20/40 both eyes together with/without corrective lenses and no other condition exist.	<p>No additional screening required.</p> <p>Note: Original license or new condition, see guidelines under Moderate.</p>
Fusion: fails to see the dot inside the box.	<p>Not an original license or not a new condition since the last renewal and acuity not worse than 20/40 both eyes together and no other condition exists.</p>	
Monocular: visual acuity is not worse than 20/40 with/without corrective lenses.		
Peripheral Vision, Decreased: partial loss of peripheral (side) vision. Field of vision less than 110 degrees or less than 55 degrees on either side.		
Moderate	If	Then
Visual acuity: fails vision screening, vision 20/50 or worse.	<p>If not on a vision cycle, issue Visual Examination Report (VER; DR-500-033).</p> <p align="center">-OR-</p> <p>Original license or new condition and is not correctable with/without corrective lenses.</p> <p>Issue a VER except to customer with a prosthetic eye or missing eye.</p>	<p>Evaluate VER to determine if customer meets all standards and no additional screening required or needs reexamination testing.</p> <p>Note: customer with prosthetic eye or missing eye needs a reexamination drive test.</p>
Fusion: fails to see the dot inside the box.		
Monocular: no attainable acuity reading in one eye and fails Fusion and/or Peripheral tests.		
Peripheral Vision, Decreased: reduced or partial loss of peripheral (side) vision. Field of vision less than 110 degrees or less than 55 degrees on either side.		

Table I-4 (Cont'd). Washington Department of Licensing Selection Guidelines for Vision Impairments.

VISUAL IMPAIRMENT		
Severe	If	Then
Acuity: minimal central and peripheral vision; visual acuity is 20/50-20/100 with/without corrective lenses.	If not on a vision cycle, issue a Visual Examination Report (VER; DR-500-033).	<p>Evaluate VER to determine if customer meets all standards and no additional screening required or needs reexamination testing.</p> <p>Notes: Customer with prosthetic eye or missing eye needs a reexamination drive test.</p> <p>Customer with best possible vision worse than 20/100 with/without corrective lenses. Send VER to medical for cancellation of driving privilege.</p>
Fusion: fails to see the dot inside the box.	Original license or new condition and is not correctable with/without corrective lenses.	
Monocular: visual acuity in the sighted eye is worse than 20/100 with/without corrective lenses.	Issue a VER except to customer with a prosthetic eye or missing eye.	
Peripheral Vision, Decreased: very small field of view; will be unable to compensate even with head movements.		
<p>Things to remember:</p> <ul style="list-style-type: none"> • “Daylight Driving Only” restriction will be added when the best visual acuity if 20/80 – 20/100 both eyes or the doctor recommends the restriction on the VER. • Use of “Bi-optic Lens or Bi-optic Telescopic Lens” on a VER requires a reexamination drive test using the special lenses. 		

Drivers with medical conditions and functional impairments also came to the attention of the DOL and could be required to undergo reexamination as a result of reports by physicians; law enforcement officers; the courts; family, friends, and other citizens; hospitals; and occupational and physical therapists. The Driver Evaluation Request form is shown in Figure I-3. Physicians in Washington were not required by law to report drivers to the DOL, but could voluntarily report drivers using the Driver Evaluation Request form or by writing a letter. A driver received a copy upon written request, and reports could be admitted in judicial review proceedings of drivers determined to be incompetent. Physicians who reported drivers in good faith were not granted immunity from civil action by their patients. Law enforcement officers encountered drivers with impairments or questionable qualifications in the normal pursuit of their duties of patrol, enforcement, and crash investigation.

Reporting sources were required to provide their names, sign the perjury statement on the form, and provide first-hand information that was directly related to the driver's ability to operate a motor vehicle safely. Law enforcement officers provided their badge number. The Medical Section investigated all reports to ensure that enough information had been provided to clearly indicate a potential medical or physical problem, and that the referral was not simply based on age, or discrimination of any other type, or based on a disagreement between neighbors, spouses, etc.

A mandatory reexamination was required if a driver had caused a fatality or serious-injury collision and was considered by law enforcement to be incompetent. Washington law required law enforcement officers to report such drivers to the DOL using the Driver Evaluation Request form. Such drivers were subjected to a complete reexamination (knowledge testing and the reexamination road test) to be passed within 120 days after the department received the police report of the collision.

The Administrator of Driver Records estimated the proportion of referrals (Driver Evaluation Requests) by referral source, for the 3,179 cases referred in 2012, as follows: law enforcement (35%), medical professionals (33%), public (20%), DOL (9%), self-reporting (2%), and other States (1%).

Evaluation of Referred Drivers

Procedures

If a Physical or Visual Examination Report (PER or VER) was issued and not returned within the allotted timeframe, the medical section sent the driver a letter cancelling licensure. When a PER or VER was returned to a field office, it was evaluated by an LSR for accuracy and completion, and to ensure that the examination date was within 3 months of the department's receipt of the form. If incomplete, or the medical expert did not provide comments for a "Yes" response to the first two questions, the LSR contacted the physician's office by telephone to complete or clarify the information. If the driver had experienced a loss of consciousness within the past 6-month period, the LSR notified the medical section to cancel the any license that may have been issued. If the driver had had a loss of consciousness but it was more than 6 months ago, the LSR determined whether a reexamination was needed (i.e., if a doctor had indicated that the driver had a medical condition that could interfere with driving). If the answer to question 3 was "Yes," the medical expert indicated a six month, one-year, or two-year medical reexamination requirement.

The LSR updated the computer file if a driver was medically cleared and no longer needed to be monitored, or established a medical re-certification period as a restriction on the driver's record if a physician indicated a necessity for ongoing monitoring. PERs and VERs were forwarded to the medical section on a daily basis, unless a reexamination was conducted, in which case the reports were held until the reexamination had been completed and results were then attached to the Report and forwarded together.

If the medical section received a referral (Driver Evaluation Request) from a medical professional or from law enforcement, the five customer service specialists evaluated the information on the form and determine the action to be taken. Referrals from physicians and law enforcement did not always result in the requirement for a driver to have a PER or VER completed. Outcomes included:

- no action taken;
- the driver placed on a periodic cycle for ongoing medical or vision updates from their physician (a PER or VER was issued);
- a knowledge and/or skill test was required; or
- immediate cancellation of their driving license.

If a referral from a physician indicated the person should not drive, the department immediately took cancellation action by mailing a notice of immediate cancellation (within 5 days, rather than the customary 45 days), with notice of an opportunity to contest the action. If the referral was from the public, the driver was asked to submit documentation from their health or vision care provider (PER or VER was issued) to verify or deny the referral before any further of the above mentioned action was taken. If such a referral indicated that the driver had an alcohol or drug addiction, the driver could be required to undergo an assessment by an approved agency to determine whether a true addiction problem existed, and what treatment, if any, was required.

A reexamination differed from an original examination in that it was aimed at identifying shortcomings and finding correction or compensation. A knowledge test was given first if an individual demonstrated confusion, unstable behavior patterns, lack of attention, noticeably uncommon and/or erratic behavior patterns, or other extreme emotional responses (e.g., anger, hysteria). Disqualification on the knowledge test could result in refusal to conduct the skill test. Then, either an In-Vehicle Assessment, a Reexamination Drive Test, or both were conducted.

The In-Vehicle Assessment was selected when there was a moderate degree of a physical or temporary physical impairment, with no other impairments requiring the full Reexamination Drive Test. The LSR explained to the customer that there was a concern related to the impairment and their ability to safely operate a vehicle, that this required an in-vehicle assessment of their ability to operate the vehicle equipment, which would be conducted inside the customer's vehicle. The assessment was performed with the vehicle parked; there was no driving component. The in-vehicle assessment was conducted by a reexamination certified LSR—a subset comprised of more experienced examiners who received additional training specific to the reexamination process. The customer was asked if they had any questions before beginning the assessment. The LSR did not answer questions regarding how to operate any vehicle equipment or how to perform during the assessment. The assessment consisted of the following:

- **Brake Reaction Test:** , To determine if the customer had the strength and mobility to quickly stop the vehicle with the right or left foot. Customers who could move the foot from the accelerator to the brake pedal, with adequate strength, mobility and speed to stop the vehicle met the requirement.

- Foot Operated Parking Brake Test (if applicable): To determine if the customer had the strength and mobility to set the foot operated parking brake using the left or right foot. Customers able to depress the parking brake with the left or right foot or other device (for example: a cane) far enough to adequately set the brake met the requirement. If unable to set the parking brake they were referred for the reexamination drive test.
- Standard Transmission/Brake/Clutch Test: To determine if the customer had the strength and mobility to operate the brake and clutch pedal in unison using both feet. Customers able to depress the clutch pedal with the left foot and the brake pedal with the right foot in unison met the requirements. The customer could also perform this test in an automatic transmission vehicle (with the vehicle turned off and in park) using the left foot on the brake pedal (simulating clutch) and right on the gas pedal (simulating brake) in unison as described above. The LSR used this simulation when they assessed a customer with a questionable impairment of left leg/foot and/or the vehicle was not equipped with a foot operated parking brake.
- Vision Check Test: To determine if the customer had adequate mobility in their back and neck to check best possible vision to the left, right and rear. Prior to conducting the vision check test the LSR asked the customer if they had any difficulty turning their head to look over their shoulders or to the rear. If the customer indicated they were not able to turn far enough to check over their shoulder or to the rear of the vehicle the LSR determined if a reexamination drive test must be conducted or if restrictions could be added with no additional testing. Customers able to check the blind spot to the left, right and rear of the vehicle met the requirements.
- Hand Operated Parking Brake Test (if applicable): To determine if the customer had the strength and mobility to set the hand operated parking brake using the right/left hand. Customers able to set the parking brake with the right/left hand met the requirement. If unable to do so, they were referred for the reexamination drive test.
- Steering Wheel Manipulation Test: To determine if the customer had the strength to manipulate the steering wheel to the right and left. Customers able to turn the steering wheel in both directions without any strength or mobility issues met the requirement.
- Hand/Arm Mobility Test: To determine if the customer had the strength and mobility to use their automatic turn signals. Customers able to operate the automatic turn signals met the requirement.
- Hand/Arm Signals: To determine if the customer had the strength and mobility to use their left hand/arm and could demonstrate hand signals. Customers able to perform the hand signals with their left hand met the requirement.
- Gear Selector: To determine if the customer could operate the gear selector on an automatic or standard transmission. Customers able to manipulate the gear selector through the identified gears met the requirement.

Reexamination Tests were conducted for customers with severe physical impairments, for customers who did not qualify during an in-vehicle assessment, for customers with mental and/or vision impairments, or who were directed by the Medical Section to take a reexamination

test. Reexamination tests included the knowledge and drive tests unless the customer qualified to have the knowledge test waived. Reexamination drive tests were conducted by a reexamination-certified LSR. The Reexamination Drive Test was similar to the Standard Drive Test (was conducted on an approved standard test course), except that the LSR could communicate with the customer as needed. On the reexamination road test, the LSR observed physically impaired customers to determine whether they required a vehicle equipment restriction. If special equipment was required, the customer was to be tested with the equipment installed on his or her vehicle. The LSR evaluated and determined how the customer compensated for their impairment. For example when testing a driver with monocular vision, they observed extent to which the loss of one eye limited the driver's field of vision. They determined how far the customer's head turned to compensate for the lack of vision on the affected side. If an outside mirror had been installed, they determined whether the driver used it enough. During the drive test, the LSR brought any repeated errors to the customer's attention. The LSR questioned the driver when errors were made: why the driver failed to use turn signals or check blind spots, why the driver committed violations.

The test was scored the same as a standard drive test: the customer had to qualify with a score of 80 or better. The test was stopped as soon as a crash, dangerous action, violation of law, or failure to perform occurred. The test was not stopped because of an accumulation of errors. All errors were explained to the customer at the conclusion of the test. The customer could attempt three reexamination drive tests, and a fourth if the customer had shown considerable improvement in physical ability.

At the time of data collection, the DOL no longer conducted home-area reexamination tests, and as a consequence did not issue restrictions to a specific geographic area, specific routes or destinations, or radius of home.

Drivers were not required to undergo evaluation by driver license specialists outside of the DOL for a fitness-to-drive decision before a DOL licensing decision was made.

Medical Guidelines

Conditions such as diabetes, heart disease, epilepsy, stroke, etc., only required certification by a physician if there had been a loss of consciousness or control within the past 6 months, unless otherwise requested by the physician. Consequently, customers with stable medical conditions did not require monitoring. The 6-month period was based on input received from physicians and Washington State medical associations. Washington law (RCW 46.20.041) provided for evaluation of persons whom the DOL believed could suffer from a physical or mental disability or disease that might affect their ability to drive safely. The evaluation could require demonstration of driving ability as well as a physician's statement certifying the driver's condition. DOL policy was to cancel licensure if a medical professional indicated that a driver had a condition not under control which could interfere with safe driving.

Disposition

License Restrictions, Periodic Evaluations, and Remediation

The five non-medically trained customer services specialists based licensing actions on the information provided by the treating physician, and any restrictions indicated by the LSRs as a result of the reexamination road test (if one was required). If a physician indicated that a loss of consciousness had occurred within the previous 6 months, an LSR observed a LOC, or a law enforcement officer indicated a driver suffered a LOC, the license was cancelled. A license was also cancelled if a physician indicated that a medical condition that could affect driving safety was not under control. If a physician indicated that the driver should be required to submit periodic medical examination reports, the DOL required recertification at the doctor-recommended cycle (6 months, 1 year, or 2 years).

Agency personnel who did not have medical credentials relied on and took action based on recommendations submitted by medical and vision professionals and law enforcement officials. The cases that were most difficult to judge were those where the PER contained a substantial amount of technical medical narrative, as well as those with inadequate detail. According to the respondent, it was sometimes challenging for the staff with no medical background to interpret narrative medical descriptions on physician reports. In addition, physicians were sometimes hesitant to provide the detail needed or failed to report due to concerns about liability.

Because some drivers “doctor shop” to obtain a satisfactory medical certificate, the DOL had a guideline stating that when a customer provided multiple Physical Examination Reports with conflicting information, the first PER was the primary source of information, and the Office Supervisor reviewed all subsequent PERs. If a customer’s medical condition had not changed (i.e., due to surgery or recovery from injury) but the information on the second PER contradicted the first, the LSR Office Supervisor called the first medical expert.

A driver’s license could be cancelled during the review process for the following reasons: referral information indicated a loss of consciousness or other severe risk to safe driving, an unfavorable medical or vision report, disqualification based on DMV medical or visual criteria for licensing, or failure on a DMV test. A driver’s license could be suspended during the review process for failure to submit medical or vision reports, or failure to take required DMV tests.

Restrictions were based on the driver’s performance on the reexamination road test and on vision guidelines, and were justified and explained in the reexamination report. Restrictions included: daytime only, corrective lenses required, adaptive equipment required, and prosthetic aid required.

Outcomes (and estimated proportions) for the non-alcohol referrals in 2012 were as follows:

- no change in license status (55%),
- suspension (5.5%),
- daytime only restrictions (2%),

- corrective lenses required (10%),
- adaptive equipment required (8%),
- prosthetic aid required (3%), and
- periodic review (16.5%).

Licensing decisions were provided to the driver verbally at the conclusion/de-briefing of the drive test, or by mail if no drive test was required. Referral outcomes were not reported back to the referral source.

When only a medical certification was required (i.e., no road test), the medical review process—from the time a driver was referred until a licensing decision was communicated to the driver—averaged 33 days, and ranged from 17 to 96 days. When a road test was required, it took an average of 25 days to schedule the test, with a range of 10 to 45+ days. The customer was notified of the results of the reexamination at the end of the drive test. Each additional road test attempt averaged 10 days to schedule (range 7 to 30 days). If a hearing was requested, the process averaged 35 days, and ranged from 20 to 60 days.

Appeal of License Actions

An individual could contest the cancellation of their driver's license due to medical conditions and/or failing the skill test. The form for requesting a hearing was sent along with their notification of cancellation letter. They were given a limited time frame (15 days) to notify the department in writing of their desire to contest. The hearings were normally conducted by phone with a hearing examiner ("medical interview"). Drivers who contested the decision made by the hearing officer during the medical interview could request a formal hearing by submitting a letter within 10 days. Drivers who contested the decision made during the formal hearing could appeal to the superior court of the county which they resided.

In 2012, there were approximately 50 non-alcohol-related medical hearings and 200 non-alcohol-related medical interviews for drivers wishing to appeal licensing actions. In addition, approximately 30 interviews were conducted for people who contested a suspension for failing to submit proof of treatment for substance abuse disorders, or who contested the assessment of an alcohol or drug problem.

Costs of Processing Medical Referrals

The approximate time required to process a referral for cases where a reexamination road test was not required was 1.5 staff hours, at an average cost of \$20/hour (total of \$30). When both a medical certification and a road test were required, it took approximately 3 hours, at a cost of \$20/hour (\$60 total).

Additional staff time and costs to the department if a driver appealed the licensing decision included 1 staff hour to schedule the hearing and send out discovery and process continuance requests, at an average cost of \$20 per hour. In addition 1 hour of hearing examiner time was required to conduct the hearing and draft the order, at an average cost of \$35 per hour.

Administrative Issues

Training of Licensing Employees

The licensing agency provided specialized training for its personnel in how to observe applicants for conditions that could impair their ability to operate a motor vehicle safely. Basic training was conducted during a 4-hour period using the LSR Training Manual, in addition to annual in-service training. Each Thursday morning, one hour was spent on training material. Training was on-going through supervisor review of reexamination Reports, ensuring careful observation of each driver and complete documentation of the driver's performance. reexamination procedures indicated that "careful screening of all people was required of LSRs; reexaminations were be based on the LSRs judgment." The section of the LSR Training Module relating to selecting applicants for reexaminations and Conducting reexaminations contained guidelines for questions which helped to determine what conditions existed and whether they were temporary, observing for physical impairments, determining how the impairment affected the customer's ability to drive, observing how a driver compensated, and determining appropriate restrictions.

The reexamination score sheets required the LSR to mark all areas of the physical assessment that related to the customer. Some of the categories were checked off by interviewing the driver, while others were based on observation during the "mobility check phase" before the driver began the driving portion of the exam, or during the actual road test. For example, if the LSR observed partial paralysis of the left arm, the customer would be asked to demonstrate his or her ability to use turn signals, roll a window up and down, or use hand signals. A customer who has suffered a neck injury would be asked to demonstrate range of motion. LSRs were trained to make clear, concise remarks on the reexamination report, such as "the driver has difficulty turning his head to the right to observe for traffic; the driver should install and practice making use of an outside right mirror." Guidance was also included in the training modules regarding the driver's attitude and how it affected driving performance.

Medical Program Tracking System

The agency used an automated medical record system and automated work-flow systems. The Drivers Field System (DFS) application supported business operations in the Licensing Services Offices (LSOs), providing the front-end counter application which interfaced with DOL's back-end services and data. DFS supported the driver license and identification card issuance processes including the Enhanced Drivers Licenses and Identcards, tracked revenue associated with the transactions, and supported workload reporting. DFS also interfaced with multiple applications within the American Association of Motor Vehicle Administrators (AAMVA), i.e., Federal Motor Carrier Safety Administration (FMCSA), Commercial Driver's License Information System (CDLIS), Problem Driver Pointer System (PDPS), and Social Security Online Verification (SSOLV). It provided the capability for the evaluation of driver histories and eligibility; determination of restrictions and requirements; evaluation of the driver examination results, and authorization or denial of driver licenses. This system also provided "off-line" processing that allowed the continuation of selected licensing transactions even when the backend services were inaccessible. However offline processing was continuously being

reduced as more features and requirements were implemented in the system. The DFS application was a Windows-based, rich client application that ran on a PC system. It was a Visual Basic 6.0/.net application running in a MS Windows 7 operating system and relied on web services to access DOL's data.

The DFS, in real-time, retrieved and transmitted licensing transaction data from/to the drivers database through web services. The application was developed and implemented in 2000 and 2001 and replaced a DOS-based application written in Turbo Pascal that had been functioning since 1984. Two DFS screens are presented on the following page: the first shows the basic license application screen (Figure I-4), and the second the reexamination screen (Figure I-5).

Drivers Field System Version 5.11.99

EDL App Stat Port Stat DFS 132

Create a License Application

Application # 13177 0924 9A Rcpt # [] App Fee [] [] [] Exam Fee [] [] []

Type 31 EDL App Exam Fee [] [] [] SSN 000 00 0000 Military ALT 0

Name [] PIC []

Res Addr []

Res City [] State [] Zip [] [] County []

Gender [] Birthdate [] [] 19 Hgt [] Wgt [] Eyes [] CDL Surrender

Birth City [] St/Prov [] Country []

Twin/Triplet Mother's Maiden [] Phone []

Int Lic Drv School [] M/C Train 0 SC/TR Train 0 Endrse 0000 CDL Class []

Susp Where [] When [] Why []

Prev Iss [] Prev St [] Prev # [] Valid Prev Name []

Perm/ID Ver [] Doc [] Insuff ID

Do you want to apply for an enhanced card? Old PIC []

Birth Cert/INS/Passport # []

Remarks []

Screen - F3 CDLIS/PDPS - F4 Image-F5 License - F6 Quit - ESC Transmit - F10

Addr - F9 Forms - F13 Response - F14 CDL - F16 SSN - F17 SSA - F18 EDL - Ctrl D

Screen 1 [] Stored Records 0 [] Online [] Station 9A

Figure I-4. Washington DOL Driver Field System: Basic Application Screen.

Drivers Field System DFS 165

PIC _____ Name _____ Birthdate //19

Vision

Acuity With Correction L 20/ [] B 20/ [] R 20/ []

Color Unsatisfactory Fusion Unsatisfactory Field Unsatisfactory

Medical/Disabilities

Loss of Cons/Control Reason []

Disabilities Detail []

Restrictions

Restr [000000] R1 [] R2 []

Knowledge

Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]

Driving

Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]
Test []	Score []	Date [] [] []	Time []	[Edit]	[Del]

Drive Test Scheduled

Badge # [] Date [] [] [] Location []

Schedule Appt - Ctrl S Test - F20 Test Results - F21 Quit - ESC Save - F12

Figure I-5. Washington DOL Driver Field System: Reexamination Screen.

Appendix J: Summary of Driver Medical Review in Oregon

Organization of the Medical Program

Driver licensing in Oregon was administered by the Driver and Motor Vehicle Services Division of the Oregon Department of Transportation (ODOT). At the time of data collection, Oregon did not have a Medical Advisory Board, but until 2007 had a formal liaison with three medical doctors in the State Health Office that functioned as such. In 2007, medical review responsibility transferred from the State Health Office of the Department of Human Services to ODOT. Beginning in 2008, ODOT hired these three physicians to work part-time, serving as medical determination officers—the same role they previously filled for the State Health Office. ODOT hired a fourth DHS physician in January 2014 to function as a MDO. The four MDOs shared one full-time permanent position within the DMV reviewing case files as needed (collectively, approximately 20 hours and 280 cases per month). Two of the physicians were employed by DHS and two retired from DHS at the end of 2013. The DMV paid the MDOs \$71.24 per hour for case review. Two of the physicians were internists, one was a physiatrist, and one was an osteopath. Three had an informal specialty in disability determinations, and one was the lead medical consultant for Oregon DHS Disability Determination Services. The MDOs performed their DMV work on-site at the DMV headquarters (scheduled one at a time), and were available to assist Driver Safety Unit staff with questions.

The medical review responsibilities of the MDOs at the time these data were collected, as outlined in Oregon Revised Statutes (ORS) and summarized in an internal document prepared by the ODOT/DMV Medical Program Coordinator in 2012, of which 20 are listed below.

- DMV may require MDO review for a determination of medical eligibility in situations where DMV has determined that testing cannot be used to establish eligibility. The driver will receive a determination of medical eligibility if the MDO determines that the condition or impairment does not affect the person's ability to safely operate a motor vehicle. ORS 807.090 (1) (2) and 807.710 (4).
- Determine frequency for reestablishing eligibility (recertification) as requested by DMV. These requests generally occur only in situations where the MDO previously determined the person's medical eligibility. The frequency is established after reviewing recommendations from the physician, nurse practitioner, or physician assistant of the person required to reestablish eligibility (recertify). ORS 807.090 (3).
- Determine if an applicant for a probationary driver permit is physically and mentally competent to operate a motor vehicle. By statute, this is the responsibility of the department. ORS 807.270 (6)(b).

Other medical review services that could be requested by DMV that did not have direct Oregon statutory authority included:

- Determine medical qualifications to retain a commercial driver license under FMCSA's 49 CFR 391.41 (b).

²⁰ *Medical Reporting and Evaluation Program*, Driver Programs Section, Driver & Motor Vehicle Services, Oregon Department of Transportation. Effective January 15, 2006, Revised August 29, 2012.

- Recommend the granting or denial of an Oregon Waiver of Physical Disqualification for a commercial driver.
- Assist DMV in developing medical criteria, procedures, and guidelines used in the medical review process.

The MDOs performed case reviews and made recommendations for driver licensing. MDO review occurred in approximately 75% of cases. DMV could request MDO medical review and determination of medical eligibility when:

The reported condition or impairment was severe and uncontrollable;
 Testing did not establish the effect of the person’s condition or impairment on their ability to safely operate a motor vehicle;
 The reported condition could impact eligibility for a commercial driver license; or
 The driver had requested an Oregon Waiver of Physical Disqualification.

In August 2012, the DMV hired a gerontologist as the medical programs coordinator. The gerontologist performed case review, served as a medical program expert and consultant on complex medical issues, and coordinated the medical programs. There were no other medical professionals within the DMV.

Non-medical administrative DMV staff had other responsibilities in addition to processing medical evaluations. This staff included one driver safety manager, two technicians in the Driver Safety Unit, and approximately 300 transportation service representatives who were driver examiners in the 60 field offices across the State. Transportation service representatives completed initial and refresher training for the “Medically At-Risk Driver Program.”

In 2012 the Driver Safety Unit processed 4,660 initial referrals for medical review (At-Risk Driver Program) and 1,817 periodic review cases. This included both alcohol and non-alcohol-related cases. The proportion by source for the initial referrals (based on actual data) was: medical professionals (59%), law enforcement (25%), citizens (7% and included family, friends, social service workers), and DMV field office employees and others including the courts (9%).

Identification of Drivers with Medical Conditions and Functional Impairments

As part of Oregon DMV's Medically At-Risk Driver Program, the DMV screened drivers and received reports from medical professionals and others about people who had a limitation or medical condition that interfered with or diminished their ability to drive safely. The program consisted of (1) applicant screening (answering medical questions on the license application and renewal form, and vision testing at each renewal at 50 and older); (2) mandatory reporting by certain physicians and health care providers of persons with severe functional or cognitive impairments that could not be corrected or controlled by surgery, medication, therapy, a device or technique; and (3) voluntary reporting by concerned people who had observed or had knowledge of conditions or impairments that interfered with a person's ability to drive.

DMV Examiners During Initial License Application and Renewal

Drivers with medical conditions or functional impairments came to the attention of the Licensing agency through a number of mechanisms. Initial and renewal license applicants answered the following three questions on the application form (Oregon Administrative Rules OAR-062-0000[2]):

- 1) Do you have a vision condition or impairment that has not been corrected by glasses, contacts or surgery that affects your ability to drive safely?
- 2) Do you have any physical or mental conditions or impairments that affect your ability to drive safely?
If Yes: a) What is the condition or impairment?
b) Describe how this affects your ability to drive safely.
- 3) Do you use alcohol, inhalants, or controlled substances to a degree that affects your ability to drive safely?
If Yes: a) Describe how your use affects your ability to drive safely.

The applicant was only required to report ongoing medical conditions, impairments and use of alcohol, inhalants or controlled substances that made them unable to safely operate a motor vehicle. The applicant was not required to report a temporary medical issue such as a broken arm, a condition that occurred only once and no longer affected their driving, or a medical issue that increased their ability to drive safely such as a new pair of glasses. DMV reviewed all “Yes” answers with the applicant; the applicant was permitted to change a “Yes” answer to “No” at any point in the process; however, the license application included a perjury statement that any false statement would result in cancellation or suspension of the license, and if convicted, a fine and/or jail sentencing. A DMV vision screening was required if, after DMV review and clarification, the answer remained “Yes” to the vision question. Applicants who failed the vision screening were referred to a licensed vision specialist for a professional examination.

If, after DMV review and clarification, the answer remained “Yes” to questions addressing the applicant’s medical conditions/impairments or use of alcohol inhalants or controlled substances, the driver was denied licensure and a medical referral was made to the Driver Safety Unit.

The Driver Safety Unit used established criteria (see Figures J-3, J-7, and J-8) to determine what actions the applicant must take to meet the qualification requirements. They could require DMV testing only, a medical statement from the driver’s physician, or both.

In addition, if a DMV employee witnessed questionable driving ability or signs of a medical condition that could impact the customer’s ability to safely operate a motor vehicle, the employee could submit a Driver Evaluation Request (Form 735-6066, see Figure J-1). The At-Risk Driver Training for DMV employees included examples of when it was appropriate to submit a Driver Evaluation Request, including:



DEPARTMENT OF TRANSPORTATION
DRIVER AND MOTOR VEHICLE SERVICES
1905 LANA AVE. NE, SALEM OR 97314

DRIVER EVALUATION REQUEST

INSTRUCTIONS:

1. Complete this form when requesting Driver and Motor Vehicle Services (DMV) to re-evaluate a driver's ability to drive safely.
2. **Sign this request** in the signature block provided. Anonymous requests will not be honored.
3. Mail or fax completed request to: DMV, Driver Safety Unit, 1905 Lana Avenue NE, Salem Oregon 97314; FAX: (503) 945-5329.

NAME OF PERSON TO BE RE-EVALUATED (last, first, middle)		OOL / CUSTOMER NUMBER		DATE OF BIRTH	
STREET ADDRESS			CITY		STATE ZIP CODE

DMV may require re-evaluation only when there is reason to believe that a driver may no longer be qualified to hold a license. The individual may be required to take vision, knowledge or driving tests or obtain a medical clearance. In the space below, please provide specific information such as events, dates and places which caused you to question the individual's ability to drive safely. If you believe that the individual has a medical condition/impairment which impacts safe driving, please provide information about the condition/impairment and its impact on the individual's ability to safely operate a motor vehicle. The information provided on this report will help DMV identify the tests or clearance necessary to determine the driver's qualifications. (If additional space is needed, please use the back of this form.)

REQUESTS BASED ON AGE, DIAGNOSIS AND/OR GENERAL HEALTH ALONE WILL NOT BE HONORED.

Check here if you want your name kept confidential. DMV may not be able to keep this request confidential if the driver requests a hearing or files a lawsuit against DMV.

YOUR RELATIONSHIP TO SUBJECT:

Law Enforcement Physician Health Care Provider (explain): _____
 Relative Friend DMV Employee Court Other (explain): _____

YOUR NAME (please print)	SIGNATURE X	DATE
YOUR MAILING ADDRESS (city, state, zip code)		DAYTIME TELEPHONE NUMBER FAX NUMBER

SECTION FOR MEDICAL PROFESSIONALS ONLY

Is the patient's condition progressive? Yes* No Unknown
 If Yes*, do you recommend that DMV periodically re-evaluate the patient's qualifications to drive? Yes* No Unknown
 If Yes*, when? in 6 months in 12 months in 24 months other: _____

If the reported impairments are severe and uncontrollable and you are the patient's primary care provider, please review the need for referral under Oregon DMV's Mandatory Reporting Program. Additional information can be found at: www.oregondmv.com (click on "Medical Professionals").

SECTION FOR LAW ENFORCEMENT AGENCY OR COURT ONLY

Request is a result of: <input type="checkbox"/> Traffic Accident (attach report) <input type="checkbox"/> Traffic Stop	DATE OF INCIDENT	AGENCY PHONE NUMBER
What was the reason for contact with driver?		
Was the driver issued a traffic citation? <input type="checkbox"/> YES <input type="checkbox"/> NO	Citation for:	Is this request submitted instead of a citation? <input type="checkbox"/> YES <input type="checkbox"/> NO

735-6066 (4-12)

STK # 300230

Figure J-1. Driver Evaluation Request Form Used to Refer Drivers to the Oregon DMV for Medical Review (Form 735-6066).

- The employee just helped a customer and observed that same customer leaving the parking lot and having considerable trouble negotiating a vehicle out of the parking space onto the street.
- The customer didn't give right-of-way to pedestrians in the parking lot or to the traffic on the street.
- While in the office, the customer appeared visibly confused, unable to track normal conversation and/or was unable to follow simple directions needed to complete the issuance process.
- When approaching the counter, the customer stumbled or had a noticeably unsteady gait.
- When completing a form, the customer exhibited shakiness (beyond what may be attributed to normal nervousness), or could not complete the form legibly.

Driver Evaluation Request forms were not required for customers who had undergone a physical change, such as an amputation or were confined to a wheelchair or used a prosthetic device. In most of these cases, the DMV employee required the customer to complete a drive test, and added restrictions to the driver license as necessary.

Ongoing training was conducted for Licensing agency staff by a DMV Field Services Trainer that included initial and refresher training in the At-Risk Driver Program. Field Services employees completed 7.5 hours of initial training that included processes for conducting vision screening and knowledge testing, and scheduling and conducting a drive test for people reported under the At-Risk Driver Program. Training also included how to observe for driver behaviors that may prompt a Driver Evaluation Request, how to process applications when a driver answered "Yes" to the medical eligibility questions, and when it was appropriate to add a restriction to a license.

Vision Screening and Vision Standards

Drivers had their vision screened upon initial licensure and again at each 8-year renewal cycle upon reaching age 50 (OAR-735-062-0060). The Driver and Motor Vehicle Services Division of the Department of Transportation screened drivers' eyesight for acuity and field of vision, and issued a driver permit or driver license only to persons whose eyesight, with best possible correction, met the following standards (OAR 735-062-0050):

- **Acuity:** The person must have a visual acuity level of 20/70 or better when looking through both eyes (or one eye if the person has usable vision in only one eye). Persons with usable vision in both eyes will meet the standard if the visual acuity level in one eye is worse than 20/70 so long as the visual acuity level in the other eye is 20/70 or better.
- **Field of vision:** The person must have a field of vision of 110 degrees.

Except in the case of bioptic-telescopic lenses, drivers could meet the eyesight check standards using corrective lenses. When a driver required a corrective lens or lenses to meet the eyesight check standards, the DMV restricted the person to driving only when wearing corrective lenses. The DMV issued a driver permit or driver license to persons who wore bioptic-telescopic lenses only if the person could meet the eyesight standards when looking through the carrier lens (not the telescopic device).

When the corrected visual acuity of the person's best eye was worse than 20/40 and no worse than 20/70, DMV restricted the person to daylight driving only, unless, in the written opinion of a licensed vision specialist (ophthalmologist, or optometrist), the person's driving should not be restricted to daylight driving only. DMV did not restrict a person whose vision was 20/40 or better to daylight driving only unless, in the written opinion of a licensed vision specialist, such a restriction was warranted. If a person's eyesight did not meet the eyesight standard, the DMV issued the person a Temporary Driver's Permit which was valid for 60 days. To renew their license, the individual was required to submit a vision examination form (Certificate of Vision, Form 24) signed by a licensed vision specialist (ophthalmologist, or optometrist) indicating their eyesight was satisfactory for driving, and had to comply with all other driver license renewal requirements.

On the Certificate of Vision, Form 24, (ORS 807.090), the vision specialist was asked to provide an opinion based on the examination, and to check all of the following statements that applied:

- a. Applicant's vision meets the eyesight standard stated in OAR 735-062-0050 with corrective lenses.
- b. Applicant's vision meets the eyesight standard stated in OAR 735-062-0050 without corrective lenses.
- c. Driving should be restricted to daylight hours only.
- d. Applicant has a progressive vision impairment and DMV should require the applicant to submit updated vision information in 6 months.
- e. Applicant has a progressive vision impairment and DMV should require the applicant to submit updated vision information in 1 year.
- f. Applicant's vision does not meet the eyesight standard stated in OAR 735-062-0050 for acuity.
- g. Applicant's vision does not meet the eyesight standard stated in OAR 735-062-0050 for field of vision.

Referral Sources

The DMV At-Risk Driver Program included provisions for reporting a driver with mental and/or physical conditions or impairments that affected the person's ability to drive safely. Reports were received through mandatory reporting of severe and uncontrollable impairments by designated healthcare providers and non-mandatory (voluntary) reporting of medical conditions or impairments by healthcare providers, law enforcement, family, self-report on license application, and all others.

Mandatory Physician Referrals. Oregon Revised Statute 807.710 dictated that designated healthcare providers must report persons whose cognitive or functional impairment affected that person's ability to safely operate a motor vehicle. This law required the designation of cognitive or functional impairments that were likely to affect a person's ability to safely operate a motor vehicle. The law also mandated that determinations regarding a person's ability to drive safely could not be based solely on the diagnosis of a medical condition or 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. Physicians who made a mandatory report to DMV in good faith were immune

from civil liability. Physicians who chose not to make a mandatory report were also immune from civil liability. As a result of the passage of HB 2195, beginning January 1, 2014, physicians and health care providers were also immune from civil liability for making *voluntary* reports in good faith to DMV. All mandatory and non-mandatory reports by physicians, including the name of the person submitting the report, were kept confidential and could not be admitted as evidence in any civil or criminal action. A report could, however, be used in an administrative hearing or an appeal from an administrative hearing in which the person's qualification to operate a motor vehicle was at issue.

Oregon Administrative Rule 735-074-0080 defined a Mandatory Reporter as:

- A physician or health care provider acting in the capacity of a person's primary care provider;
- A physician or health care provider rendering specialized or emergency health care services to a person who does not have a primary care provider; or
- An ophthalmologist or optometrist providing health care services to a person who does not meet DMV vision standards (OAR 735-062-0050).

ORS 807.710, OAR 735-074-0080 (11) and (12) defined the threshold for the mandatory reporting of cognitive or functional impairments as *severe and uncontrollable*. *Severe and uncontrollable* meant the impairment substantially limited a person's ability to perform activities of daily living, including driving, because it could not be controlled or compensated for by medication, therapy, surgery, or adaptive devices. The threshold for reporting severe and uncontrollable impairments was generally at the end of medical management when all efforts to control the impairments had failed. *Severe and uncontrollable* did not include a temporary impairment for which the person was being treated by a physician or healthcare provider and which was not expected to last more than six months.

Oregon Administrative Rule 735-074-0110 defined the cognitive and functional impairments that were likely to affect a person's ability to safely operate a motor vehicle. Functional impairments included visual acuity and field of vision, strength, motor planning and coordination, peripheral sensation, and flexibility. Cognitive impairments included attention, judgment and problem solving, reaction time, planning and sequencing, impulsivity, visuospatial, memory, and loss of consciousness or control. These are explained in more detail at www.oregon.gov/ODOT/DMV/docs/at-risk/attachmenta.pdf, as well as the standards for identifying how impairments affect driving (OAR 735-074-0130).

Oregon Administrative Rule 735-074-0120 required the use of a *Mandatory Impairment Referral* form for the initial report of severe and uncontrollable impairments (See Figure J-2). Of the 4,660 referrals the Oregon DMV received in 2012; 43% were mandatory reports from designated healthcare providers.

 <small>DEPARTMENT OF TRANSPORTATION DRIVER AND MOTOR VEHICLE SERVICES 1900 LAMA AVE. SE, SALEM OREGON 97305</small>	<h2 style="margin: 0;">MANDATORY IMPAIRMENT REFERRAL</h2> <p style="margin: 0;">(OAR CHAPTER 735 DIVISION 74)</p>	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
<p>The underlying medical condition or diagnosis is: _____</p> <p>IMPAIRMENT(S) IS: <input type="checkbox"/> CHRONIC <input type="checkbox"/> PROGRESSIVE DATE OF MOST RECENT EXAM: _____</p> <p>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.</p>					
<p>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.</p>					
<p>FUNCTIONAL IMPAIRMENTS: (Check all that apply.)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> VISUAL ACUITY and/or FIELD OF VISION Patient is unable to meet the state vision standards listed below, even with correction: <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) </div> <div style="width: 45%;"> <input type="checkbox"/> STRENGTH <input type="checkbox"/> PERIPHERAL SENSATION <input type="checkbox"/> FLEXIBILITY <input type="checkbox"/> MOTOR PLANNING & COORDINATION <input type="checkbox"/> OTHER (describe): _____ </div> </div> <p>COGNITIVE IMPAIRMENTS: (Check all that apply.)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> ATTENTION <input type="checkbox"/> JUDGMENT & PROBLEM SOLVING <input type="checkbox"/> REACTION TIME <input type="checkbox"/> PLANNING & SEQUENCING </div> <div style="width: 30%;"> <input type="checkbox"/> IMPULSIVITY <input type="checkbox"/> VISUOSPATIAL <input type="checkbox"/> MEMORY <input type="checkbox"/> OTHER: _____ </div> <div style="width: 30%;"> <input type="checkbox"/> LOSS OF CONSCIOUSNESS OR CONTROL – Date of Last Episode _____ – Medication to prevent recurrence _____ </div> </div>					
<p>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.</p> <hr/>					
<p>Are you the patient's primary care provider (PCP)? <input type="checkbox"/> YES <input type="checkbox"/> NO* * If "NO," does the patient have a PCP? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>					
HEALTH CARE PROVIDER'S NAME (PLEASE PRINT)			SPECIALTY	LICENSE or CERTIFICATE #	
MAILING ADDRESS			FAX #	TELEPHONE #	
CITY	STATE	ZIP CODE	COUNTY		
SIGNATURE OF HEALTH CARE PROVIDER				DATE SIGNED	
X					

735-7230 (1-08)

FAX or Mail Instructions on Reverse of form

STK# 300457

Figure J-2. Mandatory Impairment Referral Form for Mandatory Physician Reports to the Oregon DMV (Form 735-7230, Page 1 of 2).

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

Figure J-2. Mandatory Impairment Referral Form for Mandatory Physician Reports to the Oregon DMV (Form 735-7230, Page 2 of 2).

The DMV made four presentations to physicians, physician assistants, and vision specialists in 2012-2013 regarding the mandatory reporting requirement, as follows:

- Oregon Health Sciences University Physician Assistant Program (October 2013 & September 2012);
- Asante Health Systems –assisted Chief Council for Asante Health Systems who presented on mandatory reporting to physicians at Rogue Regional Medical Center (October 2012); and
- Oregon Health Sciences University Casey Eye Institute (May 2013).

Voluntary Referrals. Oregon Administrative Rule 735-076-0000 allowed the DMV to receive information through voluntary reporting of a physical and/or mental condition or impairment that could affect the person's ability to drive safely. There was no specific threshold for reporting as required with mandatory reports. Information was received primarily from three sources: non-mandatory reports from medical professionals, law enforcement, and citizens (e.g., family, friends, and social service providers). Other sources of reports included courts, DMV staff, and self-report on DMV license application, renewal, and replacement forms.

There was no required format for the initial report other than it be submitted in writing and could not be anonymous. Initial voluntary reports from nonmedical providers were most commonly submitted on a *Driver Evaluation Request* form (Form 736-6066, See Figure J-1) or self-reported on a driver license application form. Initial voluntary reports from medical providers were submitted on a variety of forms, but the most common were the *Driver Evaluation Request* form, a *Mandatory Impairment Referral* form that did not meet the criteria for acceptance under the mandatory program, and an obsolete DMV loss of consciousness medical reporting form. All non-mandatory reports, including the name of the person submitting the report, were kept confidential, and were not released unless: (1) the release was required by law; (2) DMV determined that the report was necessary evidence in an administrative hearing; or (3) the non-mandatory report was submitted by a law enforcement officer or judge acting within the scope of his or her official duties. People outside of the health care profession who submitted voluntary reports to the DMV were not covered by the immunity clause.

DMV staff also reviewed Oregon Traffic Accident and Insurance Reports (Form 735-32) for red flags that a medical impairment may have contributed to the crash. Oregon law required completion of these reports by crash-involved drivers within 72 hours of the crash, under the following circumstances: damage to the driver's vehicle was over \$1,500; there was an injury (regardless of how minor); death; damage to any one person's property was over \$1,500; or any vehicle had damage over \$1,500 and any vehicle was towed from the scene as a result of damages. Drivers identified as potentially medically impaired following DMV review of Form 735-32 were required to have their treating physician complete and submit a medical report.

A fatal crash automatically triggered a medical review; however, an accumulation of crashes or violations did not.

In 2012, about 57% (2,656 of 4,660) of the referrals for medical evaluation were voluntary referrals. Within the set of 2,656 voluntary referrals, 43% were submitted by law enforcement, 29% were submitted by medical professionals, 13% were submitted by citizens (family, friends, social

service workers), and 15% were submitted by DMV field office employees, courts, etc. No DMV presentations were made in 2012 to sources who would submit voluntary reports; however, there were plans to deliver Statewide training for law enforcement in 2014, pending funding for a project to be jointly developed by the ODOT DMV medical programs coordinator/gerontologist and a Pacific University professor (OTR/L in the School of Occupational Therapy).

Evaluation of Referred Drivers

In accordance with OAR 735-076-0005 (3) before taking action, the DMV could request additional information from the person making the report if DMV had reason to believe the information provided was inaccurate or inadequate. Driver safety staff investigated only reports submitted by physicians to verify that the physician had a license (noting the physician's practice specialty), that the license was in good standing with the State Medical Board, and the correct spelling of the physician's name. The three sources used to verify the reporting physician's license standing and practice included the Oregon Medical Board license verification database, Medical Provider databases, and professional society databases (i.e., Portland Metro Optometric Society). Staff did not investigate other referral sources such as family/friend/citizen reports. Occasionally they received a driver evaluation report from the public that was not submitted in good faith. An "Unable to Process" letter was sent to the reporter when a report was rejected because it did not meet all of the requirements for processing (e.g., report in writing, name and signature of the person making the report, name and date of birth of person being reported, reporter did not have personal knowledge of the reported driving behavior or medical impairment) or insufficient documentation was provided to determine the impact on safe driving (e.g., report of age only, medical diagnosis only, report of a single loss of consciousness only or general health only).

Procedures

Mandatory Referrals. DMV Driver Safety Unit staff reviewed the information submitted through mandatory reporting to determine if the report met all criteria for acceptance as a mandatory report as outlined in OAR 735-074-0140. The risk assessment intake criteria and course of action used by the Driver Safety Unit for Mandatory Report Forms accepted as a mandatory report are shown in Figure J-3. If accepted as a mandatory report, the DMV immediately suspended the person's licensure. The DMV sent the reporting physician a letter stating that their patient's licensure was suspended and sent the driver a letter that their licensure was being immediately suspended (within 5 days of the date of the letter). People had choices at that point: they could turn in their driver license and obtain a DMV-issued identification card; or they had the right to request a hearing under Oregon's Administrative Procedures Act.

To regain licensure, the person had to be determined to be medically eligible for testing (i.e., if medical circumstances changed or when criteria indicated by the MDO such as timeframes were met) and to pass DMV vision, knowledge, and drive tests. If needed, additional medical information was obtained from the customer's treating physician using the *Driver Medical Report* (DMR) form (Form 735-6587, see Figure J-4). MDO review of the person's medical eligibility for testing was required on all reports of cognitive impairments (see Figure J-5).

The person's licensure remained suspended until medically eligible to test, and had passed all required tests (vision, knowledge, and on-road). The tests given were the same tests given to a driver obtaining a license for the first time. The pass/fail criteria and all rules regarding waiting periods for retesting were the same as for all other drivers. If the MDO indicated that a driver was required to submit periodic medical reports as a condition of continued licensure (reestablishing eligibility) a *Medical Impairment Recertification* form was used to obtain updated medical information from the driver's treating physician (Form 735-7231, see Figure J-6) .

Reports that did not meet all criteria for acceptance as a mandatory report were reviewed as non-mandatory (voluntary) reports.

**Risk Assessment Intake Criteria and Course of Action
Mandatory Report Forms (MIRF)
Accepted as a Mandatory Report**

	CONDITIONS FOR ACCEPTANCE FOR AT-RISK DRIVER PROGRAM – MANDATORY REPORT	COURSE OF ACTION IF ACCEPTED
HIGH RISK Mandatory Report	<p>1) MIRF received; <u>and</u></p> <p>2) Reporter is the mandatory reporter*; <u>and</u></p> <p>3) Reported impairments meet threshold of “severe and uncontrollable”; <u>and</u></p> <p>4) Person reported is Oregon resident; <u>and</u></p> <p>5) Person reported is 14 years of age or older; <u>and</u></p> <p>6) MIRF contains all required information (name; sex; date of birth; address; at least one impairment indicated; date of last episode when form reports LOC, CVA, cardiac event, or alcohol/drug use or relapse; description of how the impairment affects the person; doctor’s name; doctor’s certificate #; doctor’s address; doctor’s telephone number.</p> <p>Note: If form would be accepted as a mandatory report except that one or more pieces of required information are missing, call or write to obtain the required information prior to processing the suspension. The date of last exam should also be included but the form may be processed without it. Contact the reporter to obtain this information. If the date of last exam exceeds 6 months, there is insufficient information to determine risk.</p>	<p><u>Driving Record Entry:</u> None – Automatic with suspension letter</p> <p><u>Suspension:</u> 5 Day Pre-dated Suspension Notice 801 – Vision impairment only 802 – Functional impairment only 803 – Functional impairment + Vision impairment 804 – Cognitive impairment (with/without Functional impairment) and no Vision impairment 805 – Cognitive impairment (with/without Functional impairment) + Vision impairment</p> <p><u>Tickler Record:</u> Automatically done by data entered in At-Risk Database</p> <p><u>Database Entry:</u> At-Risk Database to record report and document action</p> <p><u>Customer Letter:</u> None – suspension letter serves as customer letter</p> <p><u>Physician Education Letter:</u> None</p> <p><u>Report Acknowledgement Letter:</u> None</p> <p><u>File:</u> Continuous</p>

How to determine if the person who filed the report is the mandatory reporter:

- The reporter is licensed to practice in Oregon and
 - Is a *designated reporter* (MD, DO, chiropractic physician, naturopathic physician, nurse practitioner, occupational therapist, physical therapist, physician assistant, podiatric physician or surgeon); and they are the *primary care provider* of the person being reported, or they are providing specialized or emergency services to a person who does not have a primary care provider. Note: If a physician or health care provider checks the box on the MIRF indicating they are not the person’s PCP, and also checks the box indicating that the person has a PCP, then they are NOT a mandatory reporter under this program.
 - Note: a *vision specialist* (ophthalmologist or optometrist) licensed to practice in Oregon who is providing health care services to a person whose vision (with corrective lenses or devices) does not meet DMV vision standards is also a mandatory reporter.

How to determine if reported impairments meet threshold for severe and uncontrollable.

- Severe means 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. Note: 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.
- Uncontrollable means the impairment *persists despite efforts to control or compensate for it* by medication, therapy, surgery, or adaptive devices. *Uncontrollable does not include an impairment for which treatment by medication, therapy, surgery or adaptive devices is currently under evaluation.*

Figure J-3. Risk Assessment Criteria for Mandatory Impairment Referrals and Course of Action

 <small>DEPARTMENT OF TRANSPORTATION DRIVER AND MOTOR VEHICLE SERVICES 1903 LANA AVE. NE, SALEM OREGON 97311</small>		<h1>DRIVER MEDICAL REPORT</h1>			<input type="button" value="Clear Form"/>	
SECTION 1 DMV Office Use Only				Ref # _____ MV# _____ Action: _____ Date: _____		
LAST NAME (please print)	FIRST NAME	MIDDLE NAME	SEX	ODL / CUSTOMER NUMBER	DATE OF BIRTH	
REPORTED CONDITION, IMPAIRMENT, INCIDENT or EVENT						
SECTION 2 To be completed by DRIVER						
NOTICE TO DRIVER: DMV requires medical information only when there is reason to believe a driver may not be eligible for a license due to a physical or mental condition or impairment that affects the driver's ability to safely operate a motor vehicle. This information is required under authority of Oregon Revised Statute 807.090 and 807.340. Failure to provide medical information as required by DMV will result in the suspension of your driving privileges. <u>Instructions:</u> 1) Complete Section 2. 2) Ask your physician (M.D., D.O. or N.D.), nurse practitioner or physician's assistant to complete Section 3. Be sure to give them all pages of this form, including this page. 3) Follow up with your medical provider to make sure the completed form is sent to DMV.						
AGREEMENT: I understand that my physician (M.D., D.O. or N.D.), nurse practitioner, or physician assistant will provide the medical information listed on this form to DMV for use in determining my eligibility for a driver license. I understand that the information provided on this form will be used by DMV only for the purpose of determining my eligibility for a driver license and that the information will be kept confidential unless otherwise required by law. X _____ <div style="display: flex; justify-content: space-between;"> Signature of Driver Date Signed </div>						
Complete the section below ONLY if the reported condition or impairment involved a loss of consciousness or control.						
In order to establish my eligibility for an Oregon driver license, submission of this form to DMV constitutes a certification of the following: 1) To the best of my knowledge, my loss of consciousness or control was caused by: _____ <input type="checkbox"/> Check this box if you did not have a loss of consciousness or control. 2) My last loss of consciousness or control occurred on (month/date/year): _____ 3) I can tell in advance if I am going to have a loss of consciousness or control. <input type="checkbox"/> Yes <input type="checkbox"/> No 4) I am presently taking the following medicine(s) to control my loss of consciousness or control. If you are not taking medicine, write "None." _____						
Complete the section below ONLY if the reported condition or impairment involved the use of alcohol, controlled substances or inhalants.						
In order to establish my eligibility for an Oregon driver license, submission of this form to DMV constitutes a certification of the following: 1) I used the following substance(s): _____ <input type="checkbox"/> Check this box if you did not use alcohol, controlled substances or inhalants. 2) I received treatment for my use of this substance(s). <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, what treatment did you receive and when did you receive it? _____ Did you receive a Certificate of Completion of Treatment? <input type="checkbox"/> Yes* <input type="checkbox"/> No *If yes, please attach a copy of the certificate to this form. 3) I currently use the reported substance: <input type="checkbox"/> Frequently <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely <input type="checkbox"/> Never My current use affects my ability to drive safely. <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe how your use affects your ability to drive safely. _____ 4) I last used the reported substance(s) on: _____ (month/day/year)						
Ask your medical provider to complete Section 3. Please give them all pages of this form, including this page						

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Figure J-4. Driver Medical Report Used to Obtain Information From Treating Physicians in Oregon (Form 735-6587, Page 1 of 3).

		<h1>DRIVER MEDICAL REPORT</h1>			
DMV Office Use Only					
LAST NAME (please print)	FIRST NAME	MIDDLE NAME	SEX	ODL / CUSTOMER NUMBER	DATE OF BIRTH
REPORTED CONDITION, IMPAIRMENT, INCIDENT or EVENT					
SECTION 3 To be completed by MEDICAL PROVIDER (M.D., D.O., N.D., N.P. or P.A.)					
NOTICE TO MEDICAL PROVIDER: DMV requires medical information only when we receive a report of a physical or mental condition or impairment that we believe affects the driver's ability to safely operate a motor vehicle. Information is collected under authority of Oregon Revised Statute 807.090 and 807.340. We are only looking for information on conditions or impairments that are likely to affect the patient's ability to safely operate a motor vehicle. The medical information in this report will be kept confidential (unless otherwise required by law) and will only be used by DMV to determine the individual's eligibility for a driver's license.					
Instructions: <ul style="list-style-type: none"> • Complete Section 3A (Page 2) OR Section 3B (Page 3) of this form. • Keep a copy of the completed form and either mail or FAX the completed pages (Pages 1 and 2 or Pages 1 and 3) to: Driver Safety Unit, DMV, 1905 Lana Ave NE, Salem OR 97314 FAX (503) 945-5329. 					
SECTION 3A Complete this section if you feel the reported condition or impairment DOES NOT AFFECT the patient's ability to safely operate a motor vehicle.					
<p>I have examined the above named individual. The following are history, physical findings or laboratory findings relevant to the condition or impairment reported above and the individual's qualifications to drive safely.</p> <p>1) Date of most recent exam (must be within the last 6 months): _____ (month, date, year)</p> <p>2) How long has this individual been your patient? <input type="checkbox"/> First visit <input type="checkbox"/> Established patient</p> <p>3) The underlying medical condition or diagnosis of the reported condition or impairment is: _____</p> <p>4) The condition is: <input type="checkbox"/> Acute <input type="checkbox"/> Transient <input type="checkbox"/> Chronic <input type="checkbox"/> Progressive</p> <p>5) Please check the applicable box below and explain:</p> <p><input type="checkbox"/> The reported condition or impairment has been resolved and is not likely to recur (please explain). _____</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> The reported condition or impairment does not affect the patient's ability to safely operate a motor vehicle (please explain). _____</p> <p>_____</p> <p>_____</p> <p>Note: If you checked one of the boxes above and provided an explanation, DMV does not require any further information about your patient. Please provide the information requested below. Fax or mail Pages 1 and 2 of this form to DMV.</p>					
MEDICAL PROVIDER INFORMATION					
NAME OF LICENSED MD, DO, N.D., NP OR PA (please print)			SPECIALTY		LICENSE OR CERTIFICATE #
ADDRESS, CITY, STATE, ZIP CODE			TELEPHONE #		FAX #
SIGNATURE OF MEDICAL PROVIDER X				DATE SIGNED	

Medical Provider: Please mail or FAX all completed pages to DMV

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Figure J-4 (Cont'd). Driver Medical Report Used to Obtain Information From Treating Physicians in Oregon (Form 735-6587, Page 2 of 3).



DEPARTMENT OF TRANSPORTATION
DRIVER AND MOTOR VEHICLE SERVICES
1903 LANA AVE NE, SALEM OREGON 97314

DRIVER MEDICAL REPORT

DMV Office Use Only

LAST NAME (please print)	FIRST NAME	MIDDLE NAME	SEX	ODL / CUSTOMER NUMBER	DATE OF BIRTH
--------------------------	------------	-------------	-----	-----------------------	---------------

REPORTED CONDITION, IMPAIRMENT, INCIDENT or EVENT

SECTION 3B To be completed by MEDICAL PROVIDER (M.D., D.O., N.D., N.P. or P.A.)

Complete this section if you feel the reported condition or impairment AFFECTS, MAY AFFECT or you are unsure of the effect on the patient's ability to safely operate a motor vehicle.

I have examined the above named individual. The following are history, physical findings or laboratory findings relevant to the condition or impairment reported above and the individual's qualifications to drive safely.

- Date of most recent exam (must be within the last 6 months): _____ (month, date, year)
How long has this individual been your patient? First visit Established patient
- The underlying medical condition or diagnosis of the reported condition or impairment is: _____
- The condition is: Acute Transient Chronic Progressive
If the condition is progressive, do you recommend that DMV require the patient to reestablish eligibility for a driver's license in the future? Yes* No *If yes, when? in 6 months in 12 months other _____
- The patient's condition is currently under medical control. Yes* No *If yes, how long has it been controlled? _____
Likelihood that the condition will remain stable: Low Medium High Unknown
If not under control, please explain: _____
- The condition has caused a decline in cognitive, motor, sensory, coordinative or visual abilities which is likely to impair the patient's ability to safely operate a motor vehicle. Yes* No *If yes, please describe the impairments (including severity) and provide any other clinical data or opinion that would help DMV determine the patient's medical eligibility for a driver's license.

- Current medication (including dosage and frequency) and treatment prescribed for this condition: _____
- The patient experiences side effects from the prescribed use of these medications which are likely to impair driving ability.
 Yes* No *If yes, please explain:

- To my knowledge, the patient is compliant in the use of prescribed medications and other recommended treatment. Yes No
- The patient had an episode resulting in impaired or loss of consciousness or control within the past three months. Yes No
If yes, please provide the date(s), reason for the loss of consciousness or control (e.g. type of seizure, hypoglycemic episode, etc) and any other clinical data or opinion that would help DMV determine the patient's medical eligibility for a driver's license.

An episode of loss of consciousness or control is likely to recur. Yes No
- Answer the following questions ONLY if the underlying condition is related to the use of alcohol, controlled substances or inhalants.
The patient had a seizure related to withdrawal(s) within the past six months. Yes No If yes, date(s) of seizure: _____
The patient participated in a treatment program for this substance. Yes No
If yes, dates of participation: From _____ to _____

MEDICAL PROVIDER INFORMATION

NAME OF LICENSED MD, DO, ND, NP OR PA (please print)	SPECIALTY	LICENSE OR CERTIFICATE #
ADDRESS, CITY, STATE, ZIP CODE	TELEPHONE #	FAX #
SIGNATURE OF MEDICAL PROVIDER X	DATE SIGNED	

Medical Provider: Please mail or FAX all completed pages to DMV

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Figure J-4 (Cont'd). Driver Medical Report Used to Obtain Information From Treating Physicians in Oregon (Form 735-6587, Page 3 of 3).

<h1 style="margin: 0;">CERTIFICATE OF ELIGIBILITY AND DETERMINATION</h1>		FOR OFFICIAL USE ONLY - DMV			
		DATE: _____ REF #: _____ ACTION: _____ MV #: _____			
TYPE OF REPORT / STATUS OF DRIVING PRIVILEGES / REQUEST FOR MDO DETERMINATION					
<p style="text-align: center;">INITIAL REPORT</p> <p>Mandatory Program Report of Cognitive Impairment(s). Driving privileges are currently suspended and will remain suspended until the person passes all DMV required tests.</p> <p>Non-Mandatory Program Report. Driving privileges are currently: <input type="checkbox"/> Valid <input type="checkbox"/> Suspended <input type="checkbox"/> Not issued <small>(person is applying)</small></p> <p>For both types of reports listed above, MDO is asked to determine:</p> <ol style="list-style-type: none"> 1) Medical Eligibility: Is the person medically eligible for a driver license? 2) Recertification: Is the person required to reestablish eligibility (recertify) at a later date? If required, at what frequency? <p>Mandatory Program Report of Functional Only Impairment(s). Driving privileges are currently valid. The person has passed all DMV required tests (vision, knowledge, drive) and regained driving privileges.</p> <p>For the report listed above, MDO is asked to determine:</p> <ol style="list-style-type: none"> 1) Recertification: Is the person required to reestablish eligibility (recertify) at a later date? If required, at what frequency? 	<p style="text-align: center;">RECERTIFICATION REPORT</p> <p>Mandatory Program Report of Functional and/or Cognitive Impairment(s). Driver is currently medically eligible for driving privileges.</p> <p>For the report listed above, MDO is asked to determine:</p> <ol style="list-style-type: none"> 1) Medical Eligibility: Does the person remain medically eligible for a driver license? 2) Testing: Is the person required to demonstrate qualifications for a license by passing DMV vision, knowledge and drive tests? 3) Recertification: Is the person required to reestablish eligibility (recertify) at a later date? If required, at what frequency? <p>Non-Mandatory Program Report. Driver is currently medically eligible for driving privileges.</p> <p>For the report listed above, MDO is asked to determine:</p> <ol style="list-style-type: none"> 1) Medical Eligibility: Does the person remain medically eligible for a driver license? 2) Recertification: Is the person required to reestablish eligibility (recertify) at a later date? If required, at what frequency? 				
DRIVER INFORMATION					
LAST NAME (please print)	FIRST NAME	MIDDLE NAME	SEX	DATE OF BIRTH	ODL / CUSTOMER NUMBER
REPORTED MEDICAL CONDITION/DIAGNOSIS/IMPAIRMENT					DATE OF REPORT

**Figure J-5. Medical Determination Officer Certificate of Eligibility and Determination
(Page 1 of 2).**

OFFICIAL USE ONLY –MEDICAL DETERMINATION OFFICER

Based upon the medical information reviewed as part of DMV's medical case file, the undersigned Medical Determination Officer determines that the above named driver is:

- Medically Eligible** – Certificate of Eligibility granted.
Mandatory Program Recertification Report Only: DMV Tests Required:
 Yes No

- Not Medically Eligible** - Certificate of Eligibility not granted.
Determination for Certificate of Eligibility will be reconsidered when:
 - Medical information indicates that condition is stable, improved and/or resolved.
 - Medical information indicates that condition is stable, improved and/or controlled for _____ months.
 - Proof that person has entered and participated in an alcohol or substance abuse program for 3 months.
 - Other (please specify): _____

Recertification of Eligibility

- Recertification Not Required** – Discontinue monitoring and drop from medical program.

- Recertify Eligibility in:**
 6 months 1 year 2 years Other requirements (please specify) _____

SIGNATURE OF MEDICAL DETERMINATION OFFICER

X

DATE SIGNED

Figure J-5 (Cont'd). Medical Determination Officer Certificate of Eligibility and Determination (Page 2 of 2).



DEPARTMENT OF TRANSPORTATION
DRIVER AND MOTOR VEHICLE SERVICES
1905 LANA AVE. NE, SALEM OREGON 97314

MEDICAL IMPAIRMENT RECERTIFICATION

SECTION 1 DMV Office Use Only

Ref #: _____ MV#: _____
Action: _____ Date: _____

LAST NAME (please print) A	FIRST NAME B	MIDDLE NAME C	SEX	ODL / CUSTOMER NUMBER 1	DATE OF BIRTH 2
--------------------------------------	------------------------	-------------------------	-----	-----------------------------------	---------------------------

REPORTED UNDERLYING MEDICAL CONDITION, DIAGNOSIS and/or IMPAIRMENT
F

SECTION 2 To be completed by DRIVER

NOTICE TO DRIVER:

You previously provided medical information to establish that a reported physical or mental condition or impairment did not affect your ability to safely operate a motor vehicle. DMV now requires you to provide updated medical information to re-establish your eligibility for a license. This information is required under authority of Oregon Revised Statute 807.090 and 807.340. Failure to provide medical information as required by DMV will result in suspension of your driving privileges.

Instructions:

- 1) Complete Section 2.
- 2) Ask your physician (M.D., D.O. N.D.), nurse practitioner or physician's assistant to complete Section 3. Be sure to give them all pages of this form, including this page.
- 3) Follow up with your medical provider to make sure the completed form is sent to DMV.

AGREEMENT:

I understand that my physician (M.D., D.O. or N.D.), nurse practitioner, or physician assistant will provide the medical information listed on this form to DMV for use in determining my eligibility for a driver license. I understand that the information provided on this form will be used by DMV only for the purpose of determining my eligibility for a driver license and that the information will be kept confidential unless otherwise required by law.

X _____

Signature of Driver

Date Signed

Complete the section below **ONLY** if the reported condition involved a loss of consciousness or control.

In order to establish my eligibility for an Oregon driver license, submission of this form to DMV constitutes a certification of the following:

- 1) My last loss of consciousness or control occurred on (month/date/year): _____
- 2) I can tell in advance if I am going to have a loss of consciousness or control. Yes No
- 3) I am presently taking the following medicine(s) to control my loss of consciousness or control. If you are not taking medicine, write "None." _____

Complete the section below **ONLY** if the reported condition involved the use of alcohol, controlled substances or inhalants.

In order to establish my eligibility for an Oregon driver license, submission of this form to DMV constitutes a certification of the following:

- 1) I currently use the reported substance: _____ Frequently Occasionally Rarely Never
My current use affects my ability to drive safely. Yes* No *If yes, please describe how your use affects your ability to drive safely:

- 2) I last used the reported substance(s) on (month/day/year): _____

Ask your medical provider to complete Section 3. Please give them all pages of this form, including this page.

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735-7231 (1-08)

Figure J-6. Medical Impairment Recertification Form Used by Oregon DMV to Obtain Information From Treating Physicians for Drivers Undergoing Periodic Review (Form 735-7231, Page 1 of 2).

 <small>DEPARTMENT OF TRANSPORTATION DRIVER AND MOTOR VEHICLE SERVICES 1905 LANA AVE NE, SALEM OREGON 97314</small>		<h1>MEDICAL IMPAIRMENT RECERTIFICATION</h1>			
DMV Office Use Only					
LAST NAME (please print) A	FIRST NAME B	MIDDLE NAME C	SEX	ODL / CUSTOMER NUMBER 1	DATE OF BIRTH 2
REPORTED UNDERLYING MEDICAL CONDITION, DIAGNOSIS and/or IMPAIRMENT F					
SECTION 3 To be completed by MEDICAL PROVIDER (M.D., D.O., N.D., N.P. or P.A.)					
NOTICE TO MEDICAL PROVIDER: DMV requires the above named individual to provide updated medical information on the reported condition or impairment in order to re-establish their eligibility for a driver's license. Information is collected under authority of Oregon Revised Statute 807.090 and 807.340. The medical information in this report will be kept confidential (unless otherwise required by law) and will only be used by DMV to determine the individual's eligibility for a driver's license.					
Instructions: Complete Section 3 and sign at the bottom of the page. Keep a copy and either mail or FAX all pages of the completed form to: Driver Safety Unit, DMV, 1905 Lana Ave NE, Salem OR 97314 FAX (503) 945-5329.					
I have examined the above named individual. The following are history, physical findings or laboratory findings relevant to the condition or impairment reported above and the individual's qualifications to drive safely.					
1) Date of most recent exam (must be within the last 6 months) _____ (month, date, year) How long has this individual been your patient? <input type="checkbox"/> First visit <input type="checkbox"/> Established patient					
2) Based upon your examination, the patient's underlying medical condition or diagnosis reported above is: <input type="checkbox"/> Resolved and not likely to recur <input type="checkbox"/> Stable <input type="checkbox"/> Improved <input type="checkbox"/> Deteriorated					
3) The patient's condition is currently under medical control. <input type="checkbox"/> Yes* <input type="checkbox"/> No *If yes, how long has it been controlled? _____ Likelihood that the condition will remain stable: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Unknown If not under control, please explain (if applicable, include the date and reason for any loss of consciousness or control): _____					
4) If the condition has deteriorated, has it caused any further decline in cognitive, motor, sensory, coordinative or visual abilities which is likely to impair the patient's ability to safely operate a motor vehicle? <input type="checkbox"/> Yes* <input type="checkbox"/> No *If yes, please describe the impairments (including severity) and provide any other clinical data or opinion that would help DMV determine the patient's medical eligibility for a driver's license. Impairments are: <input type="checkbox"/> Acute <input type="checkbox"/> Transient <input type="checkbox"/> Chronic <input type="checkbox"/> Progressive					
5) Current medication (including dosage and frequency) and treatment prescribed for this condition: _____					
6) The patient experiences side effects from the prescribed use of these medications which are likely to impair driving ability. <input type="checkbox"/> Yes* <input type="checkbox"/> No *If yes, please explain: _____					
7) To my knowledge, the patient is compliant in the use of prescribed medications and other recommended treatment. <input type="checkbox"/> Yes <input type="checkbox"/> No					
8) If you have any other clinical data or opinion that would help DMV determine whether or not this person should be issued a driver license, including information about the development of a new condition or impairment(s) that impacts driving, please explain: _____					
9) In your opinion, does the patient's medical condition currently impair his/her ability to drive safely? <input type="checkbox"/> Yes* <input type="checkbox"/> No <input type="checkbox"/> Unknown *If yes, do you recommend that DMV require the patient to pass driver license tests at this time? <input type="checkbox"/> Yes <input type="checkbox"/> No					
10) Do you recommend that DMV require the patient to reestablish eligibility for a driver's license in the future? <input type="checkbox"/> Yes* <input type="checkbox"/> No <input type="checkbox"/> Unknown *If yes, when? <input type="checkbox"/> in 6 months <input type="checkbox"/> in 12 months <input type="checkbox"/> other _____					
MEDICAL PROVIDER INFORMATION					
NAME OF LICENSED MD, DO, ND, NP OR PA (please print)			SPECIALTY	LICENSE OR CERTIFICATE #	
ADDRESS, CITY, STATE, ZIP CODE			TELEPHONE #	FAX #	
SIGNATURE OF MEDICAL PROVIDER X			DATE SIGNED		

Medical Provider: Please mail or Fax all pages to DMV

Page 2 of 2

Figure J-6 (Cont'd). Medical Impairment Recertification Form Used by Oregon DMV to Obtain Information From Treating Physicians for Drivers Undergoing Periodic Review (Form 735-7231, Page 2 of 2).

Non-Mandatory Referrals. The DMV Driver Safety Unit reviewed the information submitted through voluntary reporting to determine if the reported condition or impairment might affect the person's ability to drive safely. Depending on the information, DMV could immediately suspend licensure if the driver's medical condition presented an immediate danger to safety (i.e., the driver was placed in the "high-risk" category, as described in Figure J-7 for physician-submitted Mandatory Impairment Referrals not accepted as mandatory reports, and Figure K-8 for Non-Mandatory Reports). However, a driver was normally given 30 to 60 days to submit additional medical information, obtain MDO clearance, and/or pass DMV tests before any suspension action was taken. If needed, the driver was required to have his or her treating physician provide medical information using the *Driver Medical Report* form (shown in Figure J-4).

For accepted voluntary reports, the DMV mailed the referral source a letter, confirming that the report was received. One version of this letter stated that the DMV would evaluate the person's qualifications for licensure. Another version stated that the information provided DMV with sufficient reason to question the person's ability to drive safely and that the DMV would notify the person reported of the actions needed to prove that they were able to drive safely. These actions could include passing DMV vision, knowledge and driving tests and/or submitting medical information.

In the majority of non-mandatory cases, testing was used to determine the effect of the reported condition on safe driving and MDO review was not requested. If testing was used, the person was required to demonstrate his or her ability to drive safely by passing the vision, knowledge, and drive tests.

Testing was required when the person's ability to drive safely was in question due to reported driving behavior. The Risk Assessment Intake Criteria included examples of driving behavior considered to be dangerous, as follows: person seemed unaware of need to obey traffic control devices or traffic laws; was prevented from causing an accident by the actions of other drivers; turned from the wrong lane or into the wrong lane in a way that impeded the right of way of others; drove over a curb, sidewalk or median; depended on the action of other drivers for his or her own safety; changed lanes or merged into traffic without checking for other vehicles; was an experienced driver who was unable to perform basic driving tasks; seemed unaware of driving mistakes made, took no responsibility as mistakes were pointed out and showed a pattern of denial of any error.

	CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY	COURSE OF ACTION IF ACCEPTED
HIGH RISK	<p>Condition/impairment described as severe and/or uncontrollable and provider notes that person is not safe to drive.</p> <p>Severe and uncontrollable (does not meet one or more requirements for reporting under mandatory program).</p> <p>Report from eye-care provider that person's vision does not meet state standards.</p> <p>Severe impairment, may be controllable, but person is not compliant to treatment.</p> <p>Severe impairment, may be controllable but is not yet controlled and person is not complying with medical orders to not drive.</p> <p>Evidence of recent multiple episodes of loss of consciousness and/or control without evidence of current treatment.</p> <p>Evidence of recent multiple episodes of loss of consciousness and/or control, under current treatment but not yet controlled.</p> <p>Drug/alcohol abuse problem with evidence of DUII, implied consent, BAC fail/refusal, diversion, or other supporting information on the driving record within the previous two years, or multiple such offenses within the previous five years.</p> <p>Condition/impairment of unknown etiology caused a crash or dangerous driving behavior and behavior may be likely to reoccur if cause of condition/impairment is not identified.</p> <p>Loss of consciousness and/or control of known etiology caused a crash or dangerous driving behavior and compliance with current prescribed treatment is unknown.</p>	<p><u>Driving Record Entry:</u> Add as applicable: Testing VKD stop (95562); Medical stop (95053); Vision stop (95560)</p> <p><u>Suspension:</u> 5 Day Pre-dated Suspension Notice 018 <u>if</u> non vision 308 <u>if</u> vision</p> <p><u>Tickler Record:</u> None – person will remain suspended until cleared</p> <p><u>Database Entry:</u> At-Risk Database to record report and document initial action (018 Suspension) <u>and</u> Re-Exam Database to record report and document all other actions (including requirements for additional medical information and/or testing)</p> <p><u>Customer Letter:</u> None – suspension letter serves as customer letter</p> <p><u>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</u> P4 <u>or</u> L154 S (as approved by Medical Program Coordinator)</p> <p>* Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information Sheet</p> <p><u>File:</u> Continuous</p>
MODERATE RISK Additional Medical Information Required (medical call-in)	<p>Loss of consciousness and/or control of known etiology (cause) mentioned as <u>possible</u> cause of crash or dangerous driving behavior and person's participation in current prescribed treatment is unknown.</p> <p>Evidence of recent multiple episodes of loss of consciousness and/or control under current treatment and currently controlled.</p> <p>Report notes vision that may not meet state standard.</p> <p>MIRF submitted by a non-PCP contains sufficient documentation to determine that the impairment impacts driving but insufficient documentation to determine if risk is high or low.</p>	<p><u>Driving Record Entry:</u> Add as applicable: Medical stop (95053); Vision stop (95560). If testing is also required after receipt of medical information/clearance, refer to course of action for Testing Call-In outlined in next section.</p> <p><u>Suspension:</u> 30 Days to Submit Information Before 30 day pre-dated Suspension (017)</p> <p><u>Tickler Record:</u> Stop will automatically generate a 30 day tickler for a print.</p> <p><u>Database Entry:</u> At-Risk Database to record report and document initial action (Re-Exam) <u>and</u> Re-Exam Database to record report and document all other actions.</p> <p><u>Customer Letter:</u> L127 ARV <u>if</u> non vision L138 ARV <u>if</u> vision L127 MV ARV <u>if</u> vision and non vision</p> <p><u>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</u> P3 <u>or</u> L154 C (as approved by Medical Program Coordinator)</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information Sheet</p> <p><u>File:</u> Continuous</p>

**Figure J-7. Risk Assessment Intake Criteria and Course of Action for a Mandatory Report Form (MIRF)
Not Accepted as a Mandatory Report (Page 1 of 3)**

	CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY	COURSE OF ACTION IF ACCEPTED
<p>MODERATE RISK</p> <p>Vision-Knowledge-Drive Tests Required</p> <p>(testing call-in)</p>	<p>Report of driving behavior only (no mention of medical).</p> <p>Report of concern about impact condition/impairment may have on ability to drive safely, severity of condition/impairment has not been reported and testing can establish eligibility for a license.</p> <p>Condition/impairment described as mild to severe, mention of driving behaviors or concern about driving behaviors and testing can establish eligibility for a license.</p> <p>Condition/impairment mentioned as <u>possible</u> cause of crash or dangerous driving behavior and testing can establish medical eligibility for a drive license.</p>	<p><u>Driving Record Entry:</u> Testing VKD stop (95562)</p> <p><u>Suspension:</u> 60 Days to Pass All Tests Before 30 day pre-dated Suspension (731)</p> <p><u>Tickler Record:</u> Stop will automatically generate a 60 day tickler for a print</p> <p><u>Database Entry:</u> At-Risk Database to record report and document initial action (Re-Exam) <u>and</u> Re-Exam Database to record report and document all other actions</p> <p><u>Customer Letter:</u> L123 ARV <u>if</u> valid DL L124 ARV <u>if</u> suspended DL</p> <p><u>Physician Education Letter plus enclosures*or Report Acknowledgement Letter</u> P3 <u>or</u> L154 C (as approved by Medical Program Coordinator)</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information</p> <p><u>File:</u> Continuous</p>
<p>LOW RISK</p> <p>Additional DMV Action Not Required</p>	<p>Report of one-time incident driving behavior without clear evidence of medical cause.</p> <p>Report of driving behavior only and the driving behavior is not likely to recur.</p> <p>Report of single episode loss of consciousness/control related to adverse reaction to medication or situation.</p> <p>Report of medical condition/impairment currently controlled AND individual is participating in prescribed treatment AND MD, DO, NP and/or PA indicates DMV intervention is not necessary.</p> <p>Report of medical condition/impairment AND MD, DO, NP and/or PA indicates condition/impairment has resolved and is not likely to recur.</p> <p>Report of medical condition/impairment AND MD, DO, NP and/or PA indicates condition/impairment does not affect the person's ability to safely operate a motor vehicle.</p>	<p><u>Driving Record Entry:</u> DMV Drop</p> <p><u>Suspension:</u> None</p> <p><u>Tickler Record:</u> None</p> <p><u>Database Entry:</u> At-Risk Database to record report and document initial action (Re-Exam) <u>and</u> Re-Exam Database to record report and document DMV clearance and low risk drop.</p> <p><u>Customer Letter:</u> None</p> <p><u>Physician Education Letter or Report Acknowledgement Letter</u> L154</p> <p><u>File:</u> Dropped Files</p>

Figure J-7. Risk Assessment Intake Criteria and Course of Action for a Mandatory Report Form (MIRF) Not Accepted as a Mandatory Report (Page 2 of 3)

	CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY	COURSE OF ACTION IF ACCEPTED
<p>REJECTED REPORT</p> <p>Return to Reporter</p>	<p>Reported impairments do not meet threshold of “severe and uncontrollable;” <u>AND</u> Form does not report dangerous driving behavior; <u>AND</u> Form does not report a mental or physical condition rendering it unsafe for person to operate a motor vehicle (i.e., condition or impairment meeting high or moderate risk criteria).</p> <p>MIRF contains insufficient documentation to determine the impact on safe driving.</p>	<p><u>Driving Record Entry:</u> None <u>Suspension:</u> None <u>Tickler Record:</u> None <u>Database Entry:</u> At-Risk Database to record report and document action (Reject) <u>Customer Letter:</u> None</p> <p><u>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</u> P2 <u>if</u> person is not already in the At-Risk Driver Program (mandatory or non-mandatory) P2a <u>if</u> person is already suspended under the At-Risk Driver Program (mandatory or non-mandatory) P2b <u>if</u> person is not suspended but is already required to pass tests or provide medical information under the At-Risk Driver Program (mandatory or non-mandatory)</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information <u>File:</u> Physician Education File</p>
<p>MISSING INFORMATION</p> <p>Return to Reporter</p>	<p>MIRF would be accepted as a mandatory report except that: one or more pieces of required information are missing and/or information is contradictory</p> <p>Call or write referral source to obtain the required information prior to processing the suspension. Keep report on your desk for 7 days. If requested information is not received within 7 days, review under other “not accepted as mandatory report” risk criteria.</p>	<p><u>Driving Record Entry:</u> None <u>Suspension:</u> None <u>Tickler Record:</u> None <u>Database Entry:</u> At-Risk Database to record report and document action (Pending) <u>Customer Letter:</u> None</p> <p><u>Physician Education Letter or Report Acknowledgement Letter</u> P1 <u>if</u> reporter is a mandatory reporter (is designated reporter <u>and</u> PCP) <u>File:</u> Desk</p>

Figure J-7. Risk Assessment Intake Criteria and Course of Action for a Mandatory Report Form (MIRF) Not Accepted as a Mandatory Report (Page 3 of 3)

REFERRAL SOURCE	<p>CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY</p> <p>If Report from All Sources (medical provider, law enforcement, courts, self-report, family, friends, social service providers, neighbors, others)</p>	<p>CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY</p> <p>If Report from Medical Provider Only</p>	<p>CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY</p> <p>If Report from Law Enforcement Only</p>	<p>COURSE OF ACTION IF ACCEPTED</p>
<p>HIGH RISK</p> <p>Non-MIRF Report</p>	<p>Severe impairment, may be controllable, but person is not compliant to treatment.</p> <p>Severe impairment, may be controllable but is not yet controlled and person is not complying with medical orders to not drive.</p> <p>Evidence of <u>recent</u> multiple episodes of loss of consciousness and/or control without evidence of current treatment.</p> <p>Evidence of <u>recent</u> multiple episodes of loss of consciousness and/or control, under current treatment but not yet controlled.</p> <p>Drug/alcohol abuse problem with evidence of DUII, implied consent, BAC fail/refusal, diversion, or other supporting information on the driving record within the previous two years, <u>or</u> multiple such offenses within the previous five years.</p> <p>Condition/impairment meets threshold of severe and uncontrollable.</p> <p>Condition/impairment of unknown etiology caused a crash or dangerous driving behavior and behavior may be likely to reoccur if cause of condition/impairment is not identified.</p> <p>Loss of consciousness and/or control of known etiology caused a crash or dangerous driving behavior and compliance with current prescribed treatment is unknown.</p>	<p>Condition/impairment described as severe and/or uncontrollable and provider notes that person is not safe to drive.</p> <p>Severe and uncontrollable (does not meet one or more requirements for reporting under mandatory program)</p> <p>Report from eye-care provider that person’s vision does not meet state standards.</p>	<p>Loss of consciousness and/or control of known etiology caused a crash or dangerous driving behavior and compliance with current prescribed treatment is unknown.</p>	<p><u>Driving Record Entry:</u> Add as applicable: Testing VKD stop (95562); Medical stop (95053); Vision stop (95560)</p> <p><u>Suspension:</u> 5 Day Pre-dated Suspension</p> <p>018 <u>if</u> non vision</p> <p>308 <u>if</u> vision</p> <p><u>Tickler Record:</u> None – Person will remain suspended until cleared.</p> <p><u>Database Entry:</u> Re-Exam Database to record report and document action</p> <p><u>Customer Letter:</u> None – suspension letter serves as customer letter</p> <p><u>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</u></p> <p>P10 <u>if</u> report submitted on a “Report of Disorders Affecting Consciousness” form</p> <p>P13 <u>if</u> report submitted on a “Driver Evaluation Request” form</p> <p>L154 S (as approved by Medical Program Coordinator)</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information</p> <p><u>Non-Physician Report Acknowledgement Letter:</u></p> <p>L154</p> <p><u>File:</u> Continuous</p>

Figure J-8. Risk Assessment Intake Criteria and Course of Action for Non-Mandatory (Voluntary) Report Forms (Page 1 of 3)

	CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY	COURSE OF ACTION IF ACCEPTED
	Report from All Sources (medical provider, law enforcement, courts, self-report, family, friends, social service providers, neighbors, others)	
MODERATE RISK Non-MIRF Report Additional Medical Information Required (medical call-in)	<ol style="list-style-type: none"> 1) Loss of consciousness and/or control of known etiology mentioned as <u>possible</u> cause of crash or dangerous driving behavior and person’s participation in current prescribed treatment is unknown. 2) Evidence of recent multiple episodes of loss of consciousness and/or control under current treatment and currently controlled. 3) Report notes vision that may not meet state standard. 4) Self-report on license application/renewal/duplicate of condition/impairment that impacts ability to safely operate a motor vehicle and testing cannot establish eligibility for a license. 5) Self-report on license application/renewal/duplicate of a problem condition involving alcohol, inhalants or controlled substances. 6) Police Traffic Crash Report or other report from law enforcement reports a medical condition as cause or possible cause of a crash and/or dangerous driving behavior and <u>testing cannot establish</u> medical eligibility for a license.* 7) Report of concern about impact condition/impairment may have on ability to drive safely and it is unclear whether testing can establish eligibility for a license. 8) Oregon Traffic Accident and Insurance Report reports a medical condition as cause or possible cause of a crash and/or dangerous driving behavior and <u>testing cannot establish</u> medical eligibility for a license.* <p>*review under High Risk if there is other supporting evidence to suggest that this is an ongoing medical issue that makes the person unsafe. This evidence might include current involvement in the At-Risk Driver Program or dropped from the At-Risk Driver Program within the previous 6 months.</p>	<p>Driving Record Entry: Add as applicable: Medical stop (95053); Vision stop (95560); If testing is also required after receipt of medical information/clearance, refer to course of action for Testing Call-In outlined in next section.</p> <p>Suspension: 30 Days to Submit Requested Information Before 30 day pre-dated Suspension (017)</p> <p>Tickler Record: Stop will automatically generate a 30 day tickler for a print</p> <p>Database Entry: Re-Exam Database to record report and document action</p> <p>Customer Letter:</p> <ul style="list-style-type: none"> • L127 ARV <u>if</u> non vision • L138 ARV <u>if</u> vision • L127 MV ARV <u>if</u> vision and non vision <p>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</p> <ul style="list-style-type: none"> • P9 <u>if</u> submitted on “Report of Disorders Affecting Consciousness” form • L154 C (as approved by Medical Program Coordinator) <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information</p> <p>Non-Physician Report Acknowledgement Letter: L154</p> <p>File: Continuous</p>
MODERATE RISK Non-MIRF Report Vision-Knowledge-Drive Tests Required (testing call-in)	<ol style="list-style-type: none"> 1) Report of driving behavior only (no mention of medical). 2) Report of concern about impact condition/impairment may have on ability to drive safely, severity of condition/impairment has not been reported and testing can establish eligibility for a license. 3) Condition/impairment described as mild to severe, mention of driving behaviors or concern about driving behaviors and testing can establish eligibility for a license. 4) Condition/impairment mentioned as <u>possible</u> cause of crash or dangerous driving behavior and testing can establish medical eligibility for a drive license. 5) Self-report on application/renewal/duplicate of condition/impairment that impacts ability to drive safely and testing can establish eligibility for a license. 6) Police Traffic Crash Report or other report from law enforcement reports a medical condition as cause or possible cause of a crash and/or dangerous driving behavior and <u>testing can establish</u> medical eligibility for a license.* 7) Oregon Traffic Accident and Insurance Report reports a medical condition as cause or possible cause of a crash and/or dangerous driving behavior and <u>testing can establish</u> medical eligibility for a license.* <p>*review under High Risk if there is other supporting evidence to suggest that this is an ongoing medical issue that makes the person unsafe. This evidence might include current involvement in the At-Risk Driver Program or dropped from the At-Risk Driver Program within the previous 6 months.</p>	<p>Driving Record Entry: Testing VKD stop (95562)</p> <p>Suspension: 60 Days to Pass All Tests Before 30 day pre-dated Suspension (731)</p> <p>Tickler Record: Stop will automatically generate a 60 day tickler for a print</p> <p>Database Entry: Re-Exam Database to record report and document action</p> <p>Customer Letter:</p> <ul style="list-style-type: none"> • L123 ARV <u>if</u> valid DL • L124 ARV <u>if</u> suspended DL <p>Physician Education Letter plus enclosures* or Report Acknowledgement Letter</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information</p> <ul style="list-style-type: none"> • P9 <u>if</u> submitted on a “Report of Disorders Affecting Consciousness” form • L154 C (as approved by Medical Program Coordinator) <p>Non-Physician Report Acknowledgement Letter: L154</p> <p>File: Continuous</p>

Figure J-8. Risk Assessment Intake Criteria and Course of Action for Non-Mandatory (Voluntary) Report Forms (Page 2 of 3)

	CONDITIONS FOR ACCEPTANCE IN RISK CATEGORY	COURSE OF ACTION IF ACCEPTED
<p>LOW RISK</p> <p>Non-MIRF Report</p> <p>Additional DMV Action Not Required</p>	<p>Report from All Sources (medical provider, law enforcement, courts, self-report, family, friends, social service providers, neighbors, others)</p> <ol style="list-style-type: none"> 1) Report of one-time incident driving behavior without clear evidence of medical cause. 2) Report of driving behavior only and the driving behavior is not likely to recur. 3) Report of single episode loss of consciousness/control related to adverse reaction to medication or situation. 4) Report of medical condition/impairment currently controlled AND individual is participating in prescribed treatment AND MD, DO, NP and/or PA indicates DMV intervention is not necessary. 5) Report of medical condition/impairment AND MD, DO, NP and/or PA indicates condition/impairment has resolved and is not likely to recur. 6) Report of medical condition/impairment AND MD, DO, NP and/or PA indicates condition/impairment does not affect the person’s ability to safely operate a motor vehicle. 	<p>Driving Record Entry: DMV Drop</p> <p>Suspension: None</p> <p>Tickler Record: None</p> <p>Database Entry: Re-Exam Database to record report and document low risk drop action</p> <p>Customer Letter: None</p> <p>Physician Education Letter: L154</p> <p>Non-Physician Report Acknowledgement Letter: L154</p> <p>File: Dropped Files</p>
<p>REJECTED REPORT</p> <p>Non-MIRF Report</p> <p>Return to Reporter</p>	<ol style="list-style-type: none"> 1) Report does not meet <u>all</u> of the following requirements for processing: <ul style="list-style-type: none"> • must be in writing; AND • must contain name of the person making the report; AND • must contain signature of person making the report; AND • must contain 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 • must provide sufficient information to give DMV reason to believe the person may be no longer qualified to hold a driver license or permit or may no longer be able to drive safely (i.e., report of dangerous driving behavior and/or a report of a mental or physical condition that affects safe driving); AND • must be submitted by reporter who has personal knowledge of the reported driving behavior or medical condition/impairment (i.e., no third party reports). 2) Report contains insufficient documentation to determine the impact on safe driving (e.g., report of age only, medical diagnosis only, report of single loc only and/or general health only). 	<p>Driving Record Entry: None</p> <p>Suspension: None</p> <p>Tickler Record: None</p> <p>Database Entry for Report of Disorders Affecting Consciousness form: Re-Exam Database to record report and document actions</p> <p>Database Entry for All Other Reports: None</p> <p>Customer Letter: None</p> <p>Report Acknowledgement Letter for Report of Disorders Affecting Consciousness form: P8 with enclosures*</p> <p>*Mandatory Impairment Referral Form; Driver Evaluation Request Form; At-Risk Driver Program Information</p> <p>Report Acknowledgement Letter for All Other Reports: “Unable to Process Report” letter sent with rejected report</p> <p>File:</p> <ul style="list-style-type: none"> • File copy of P8 letter and copy of report in Physician Education File • Do not file “Unable to Process” letter and rejected report (send letter and report to reporter).

Figure J-8. Risk Assessment Intake Criteria and Course of Action for Non-Mandatory (Voluntary) Report Forms (Page 3 of 3)

As described in the ODOT/DMV document *Medical Reporting and Evaluation Program*, testing was also required when concerns about driving ability were reported due to the following conditions and/or impairments:

- Conditions included but were not limited to: Alzheimer's, Parkinson's disease, head injury, pulmonary disease with chronic hypoxia, arthritis, spinal cord injury, multiple sclerosis, muscular dystrophy, and vision conditions, including glaucoma (required certification by a vision specialist prior to other testing if DMV has received a report that vision did not meet state standards).
- Impairments included but were not limited to: weakness or paralysis in extremities, rigidity and/or limited range of motion, delayed reaction time, problems determining spatial relationships, slowness initiating movement, difficulty anticipating and reacting to changes in the environment, problems with confusion, memory, and/or decision-making ability, and vision impairments (required certification by a vision specialist prior to other testing if DMV had received a report that vision did not meet state standards).

The tests given to drivers in the at-risk program were the same tests given to drivers obtaining a license for the first time. The pass/fail criteria and all rules regarding waiting periods for retesting were the same as for all other drivers. Staff who conducted the tests for At-Risk Program drivers were more experienced, and included either a transportation services office leader or a customer service manager. Training in test administration consisted of an initial specialized at-risk training and a refresher training approximately every two years. At-risk drivers who could not pass the full drive test, but might be able to operate safely in their home area could take a limited route test. This test was conducted by a customer services manager beginning and ending at the driver's residence, over routes to destinations the driver identified as essential for meeting basic needs. The customer services manager could modify the route based on the driver's skills and performance on the test. DMV added a "J" restriction to the license when a driver had passed a limited-route drive test and a limited-route restriction was imposed. DMV's Driver Safety Unit also prepared a restriction letter describing the route that the driver was to carry when driving.

Drivers were not referred to driver rehabilitation specialists for an assessment and recommendation of fitness to drive, prior to a licensing decision by the DMV. However, a driver who had been denied further DMV testing in accordance with OAR 735-062-0073 (e.g., the DMV employee reasonably believed that the person was likely to endanger persons or property while being tested; the person was visibly confused; an avoidable crash occurred during testing; failure to obey traffic control devices; turned into or from the wrong lane impeding the right-of-way of others, etc.) could be allowed to test if they had successfully completed a driver rehabilitation/education program conducted by a rehabilitation specialist, and submitted proof of completion to the DMV.

The DMV could request MDO review for determination of medical eligibility when a non-mandatory report indicated a condition or impairment and the person's qualification to drive safely could not be established by testing. This situation most commonly occurred when the reported condition or impairment resulted in a loss of consciousness or control. A voluntary report of loss of consciousness or control that DMV was unable to clear as "low risk" required clearance by the MDO. Loss of consciousness or control could occur from a variety of conditions including but not limited to seizure disorders, diabetes mellitus, hypoglycemia, hyperventilation,

migraine, vertigo, narcolepsy, sleep apnea, cardiac arrhythmia, cardiac syncope, supraventricular arrhythmia, ventricular tachycardia, ventricular fibrillation, and substance abuse.

Some drivers assigned to the “moderate risk” category were not required to obtain a medical report from their physician; they were required only to pass the DMV tests. This included reports of driving behavior only (no mention of medical condition), voluntary reports of a one-time driving behavior incident without clear evidence of medical cause, or voluntary reports of mental or physical conditions or impairments that could affect a person’s ability to safely operate a motor vehicle, but did not include loss of consciousness or control or a problem condition involving alcohol, inhalants, or controlled substances.

No DMV action might be taken for drivers placed at low risk, based on information included in the referral (e.g., a report from a physician or healthcare provider indicating the condition or impairment was not likely to recur or did not affect the person’s ability to drive safely, or a report of driving behavior that reported a single incident with no indication of a mental or physical condition or impairment affecting the person’s ability to drive safely). A subset of voluntary reports were rejected for not meeting all the requirements for processing. In these cases, a letter was sent to the reporter indicating that the report was unable to be processed, and the driver was not included in the At-Risk database.

When a *Driver Medical Report* was required (for suspended drivers wishing to regain licensure, or for voluntary reports when more information was needed to establish eligibility) treating physicians completed one of two sections of the DMV medical form, depending on whether the physician felt the reported condition, impairment, incident, or event (which the DMV provided on the form): (1) did not affect the patient’s ability to safely operate a motor vehicle; or (2) affected, could affect, or the physician was unsure of the effects on the patient’s ability to safely operate a motor vehicle. For conditions that did not affect ability to operate a motor vehicle safely, the information requested was limited to whether the condition was acute, transient, chronic, or progressive; and whether the reported condition or impairment had been resolved and was not likely to occur (with an explanation); or that the reported condition or impairment did not affect the patient’s ability to safely operate a motor vehicle (with an explanation).

For conditions that affected, could affect, or the physician was unsure of the effect, the DMV asked the treating physician to provide much more detailed information including:

- Whether the condition was acute, transient, chronic, or progressive, and if progressive, whether and how often the DMV should review the driver’s eligibility for a license in the future;
- Whether the condition was under control, and if yes, how long, and the likelihood that the condition would remain stable;
- Whether the condition had caused a decline in cognitive, motor, sensory, coordinative, or visual abilities likely to impair the patient’s ability to operate a motor vehicle safely (and if yes, to describe, indicate the severity and provide any other clinical data that would help DMV determine medical eligibility);
- Current medication (including dosage and frequency) and treatment prescribed for the condition;
- Whether the patient experienced side effects from the prescribed use of the medications likely to impair driving safety (and if yes, to describe);

- Whether the patient was compliant in the use of the prescribed medication and treatment;
- Whether the patient had had a loss of consciousness or control within the past three months (and if yes to provide the dates and reason, and whether an episode is likely to recur); and
- Several questions for conditions related to alcohol, substance abuse, or inhalants.

Physicians were not asked to recommend restrictions, nor were restrictions included in the medical guidelines for licensing. Physicians were asked to recommend periodic review cycles; recertification frequency was also included in the medical guidelines.

If a driver was cleared by the DMV or an MDO to continue with licensure, but was placed on periodic review, a *Medical Impairment Recertification* form (see Figure J-6) was used to obtain updated medical information from the driver's treating physician.

Medical Guidelines

Medical determination officers used evidence-based guidelines in conjunction with their medical expertise to guide decisions involving medical eligibility for licensure or a waiver. These guidelines, entitled the *Medical Criteria Impairment Categories, Profile and Recertification Guidelines*, were adopted by the State Highway Office and the DMV on January 15, 2006, and were included in an internal DMV document titled *DMV Medical Program Criteria* (updated August 29, 2012). The guidelines were based on research addressing medical conditions, driving, and recommendations found in NHTSA's *Driver Fitness Medical Guidelines*, the American Medical Association's *Physician's Guide to Assessing and Counseling Older Drivers*, and FMCSA's physical qualification requirements for commercial drivers and recommendations made by actively practicing physicians.

The medical review guidelines were evaluated annually by DMV's medical determination officers and medical program coordinator and updated if necessary. Each updated guideline was submitted to 6 to 10 Oregon practicing physicians for review and approval. Physicians were selected based on their practice specialty for the guideline under review. In 2012, DMV requested that NHTSA review the current DMV medical criteria to ensure consistency with the *NHTSA Driver Fitness Medical Guidelines*. Oregon's current criteria addressed 27 of the 36 recommended NHTSA *Driver Fitness Medical Guidelines*.

The Guidelines contained profiles for the following medical conditions.

- Cardiovascular Disorders
- Diabetes Mellitus/Metabolic Conditions Impairment
- Loss of Consciousness or Control Disorders
- Mental Illness Disorders
- Substance Abuse/Use – Alcohol/Drug
- Brain and Spinal Cord Disorders
- Neurological Disorders
- Dementia and Other Cognitive Disorders
- Mobility Impairments.

Four impairment levels were defined for each condition, with examples provided for each level.

A. High-risk impairments, permanent and/or progressive

- B. High-risk impairments, reversible and/or correctable
- C. Moderate-risk impairments
- D. Low-risk impairments

Within each impairment level was a Yes/No determination of whether to grant a certificate of eligibility, and when “Yes,” whether periodic review was required and how often. If the person was deemed not medically eligible, the Guidelines indicated that a Certificate of Eligibility could be granted if medical evidence indicated that the impairment or condition was stable or improved, and for some conditions, the stability time period was provided (e.g., six months for mobility impairments). The medical criteria impairment profile and recertification guidelines for loss of consciousness or control disorders are presented in Figure J-9. The Guidelines for these disorders began with the following statement:

Episodic losses of consciousness or control can occur from a wide variety of conditions, including but not limited to seizure disorders, pseudo-seizures, hypoglycemia, hyperventilation, migraine, vertiginous syndromes, narcolepsy, sleep apnea, cough syncope, cardiac arrhythmias, neuro-cardiogenic syncope, and substance abuse. Because of the wide variability in severity, efficacy of treatment, and potential recurrence rate, this profile requires extra flexibility and reliance on the PCP’s advice and opinion.

The following circumstances should be considered reasonable for discontinuing medical monitoring:

- Seizures occurring only in sleep over a period of three or more years.
- Seizures so limited as not to interfere with control, if stable for one year.
- Seizures recurring when medication has been reduced on PCP advice to change or discontinue medication and a corrective change has been made as recommended by the PCP.
- A seizure provoked by a clearly identified cause that is not likely to recur.

Impairment Level and Examples	Grant Certificate of Eligibility	Require Recertification of Medical Eligibility If Yes, Recertification Frequency
<p>A. High Risk Permanent/Progressive Examples: Uncontrollable seizure or sleep disorder; or required medication levels that impede driving.</p>	<p>No – Not medically eligible. <i>If medical evidence indicates impairment and/or condition stable/improved, review for change in severity category.</i></p>	<p>N/A – Recertification not warranted until medically eligible.</p>
<p>B. High Risk Reversible/Correctable Examples: LOC or control within the last three months, with unknown/uncertain risk of recurrence; etiology known or unknown.</p>	<p>No – Not medically eligible. If applicable, identify time period needed for <i>Certificate of Eligibility</i>. <i>May grant Certificate of Eligibility if medical evidence indicates impairment and/or condition is stable/improved.</i></p>	<p>N/A – Recertification not warranted until medically eligible. Yes – Recertification warranted until under medical control for 12months; then discontinue medical monitoring. Recertification at 6-to-12 month intervals.</p>
<p>C. Moderate Risk Examples: a) Single or multiple LOC or control within past 12 months; under medical control at least three months; cause known or unknown. b) Controlled seizure disorder where anticonvulsant meds are being discontinued at PCP discretion.</p>	<p>a) Yes – Medically eligible. b) Yes – Medically eligible.</p>	<p>a) Yes – Recertification warranted until under medical control for 12 months; then discontinue medical monitoring. Recertification at 6-to-12 month intervals. b) Yes – Recertification warranted until under medical control for six months; then discontinued medical monitoring. Recertification at 3-to-6 month intervals. If continued monitoring advised by PCP, increase risk factor.</p>
<p>D. Low Risk Examples: a) No single or multiple LOC or control, cause known or unknown, for at least 12 months; or b) A single recent episode considered related to an adverse reaction to medication or situation (e.g., sleep or dietary deprivation) and no further events after discontinuation thereof; or c) A seizure or LOC provoked by a clearly identified cause and PCP indicates it is not likely to recur; or d) Seizures recurring when medication has been reduced on PCP advice to change or discontinue medication, a corrective change has been made as recommended by PCP, and PCP indicates seizures are not likely to recur.</p>	<p>Yes – Medically eligible.</p>	<p>N/A – Recertification not warranted. If continued monitoring advised by PCP, increase risk factor.</p>

Figure J-9. Oregon DMV Medical Criteria Impairment Categories, Profile, and Recertification Guidelines for Loss of Consciousness or Control Disorders.

Disposition

A driver's license was suspended immediately as a result of a mandatory physician report or a voluntary report where the driver was categorized as high risk. Licensure was also immediately suspended when a State hospital superintendent informed the DMV that a person was not competent to drive. The person's license remained suspended until the DMV received recommendation of the State hospital superintendent, a judicial decree of competency, or a favorable determination from the MDO. Licensure was also immediately suspended if a court found a person charged with a traffic offense guilty except for insanity and the person was committed to the jurisdiction of the Psychiatric Security Review Board. A copy of the final judgment was sent to the DMV to suspend the person's licensure, and privileges remained suspended until the person established eligibility under ORS 807.090 (i.e., by MDO determination of eligibility based on information provided by treating physician and passing the DMV vision, knowledge, and road tests).

Licensure could also be suspended at certain points during the medical review process as a result of: failing to submit medical or vision reports, an unfavorable medical or vision report (physician or vision specialist indicates the severity of the condition did not permit safe operation of a motor vehicle), failure to take required DMV tests, failure to pass any required DMV tests, or disqualification based on DMV medical or visual criteria for licensing.

In their review of the medical information provided by the driver's treating physician, DMV case reviewers (MDOs) considered the following when making a licensing determination: newly diagnosed conditions; diagnosed conditions that a driver had had for some time; medication, medication interactions, and their effects on function; conformance with department medical guidelines for licensing; and the treating physician's opinion on fitness to drive. Receiving conflicting medical information from a driver's medical provider could complicate the process.

Non-medical administrative staff in the Driver Safety Unit (driver safety manager or technicians) could make licensing determinations in some circumstances. These included dropping a driver from the at-risk program in cases where the driver passed the required DMV vision screening, knowledge, and drive tests. In addition, non-medical administrative staff could drop a driver from a periodic review requirement in cases where a driver submitted a Certificate of Vision that met State standards and recertification was not required.

Medical review cases were processed, on average, within 10 to 14 days. The range was 5 days (for immediate suspensions) to 60 days (when a driver had to submit a medical report within 30 days and then schedule and pass the DMV vision, knowledge and road tests). Licensing decisions were communicated to the driver by mailed letter. The licensing outcome was not provided to the referral source, unless the referral source was a physician or other healthcare provider, and the driver's license was suspended as a result of the referral. DMV also notified the reporting healthcare provider if the person's licensure was reinstated.

License Restrictions, Periodic Evaluations, and Remediation

MDO guidelines incorporated periodic review requirements for each condition included in the guidelines. The driver's treating physician was also asked to indicate when a driver should be recertified and at what frequency. MDO guidelines did not recommend restriction types, with the exception of dementia and other cognitive disorders, where a restricted license for limited

travel routes and times was suggested. Treating physicians were not asked to recommend restriction types when completing the Driver Medical Report form.

The DMV vision standards required a restriction to driving only during daytime when drivers' acuity was between 20/40 and 20/70, and restricted drivers to driving with corrective lenses when they needed corrective lenses to meet the acuity standard.

In addition to daytime only, corrective lenses, and restricted route/destination/time restrictions, the DMV could apply the following restrictions: driving within a specified radius of home, driving within a specific geographic area, speed restrictions (e.g., streets under 35 mph), road type restrictions (e.g., no freeways), adaptive equipment and/or prosthetic equipment required. The Driver Programs Manual (Chapter 13-05) contained suggested driving aids and controls for various disabilities, and included: automatic transmission, power brakes, power steering, six-way power seats, hand headlight dimmer switch, left-foot accelerator pedal, hand controls, full foot controls, steering wheel spinner knob, left side gear shift extension, and parking brake extension. These restrictions could be added to a license by a license examiner if a driver passed a test in a vehicle using the prosthesis or adaptive equipment.

The licensing agency referred drivers to their vision specialist if they did not pass the DMV vision screen. If a license examiner thought that a person needed adaptive equipment and the vehicle was not so equipped, the test was stopped and treated as an equipment failure. The examiner could advise the driver that he or she may be able to continue to drive safely with adaptive equipment or professional driving instruction, but did not provide a direct referral. According to the At-Risk Driver Program Module 4 (At-Risk Driver Testing Process), an examiner could suggest the driver check the Yellow Pages of the phone book under "Therapy," "Therapist," or "Mobility," or to check the Internet for "mobility" or "adaptive equipment for driving," but an examiner should not suggest any specific company, brand, or device. It was also noted in the manual that it was not necessary to have the equipment professionally installed; homemade devices were acceptable provided they were sturdy, functional, and properly attached.

Of the 4,660 initial cases referred in 2012, about 7% resulted in no licensing action, 43% were immediately suspended (the mandatory physician referrals), 20% received license restrictions (type not specified by the survey respondent), and 30% were required to undergo periodic review.

Appeal of License Actions

Oregon Administrative Rules 735-074-0220 documented the procedures for a hearing request, for a driver whose licensure had been suspended or cancelled as the result of medical review under the at-risk program. Drivers who received notice of an immediate suspension or cancellation (those referred under the mandatory healthcare reporting law, and others reported who were deemed high risk) were required to request a hearing within 90 days from the date on the notice. The suspension or cancellation remained in effect pending the outcome of the hearing. A person otherwise issued a notice of suspension or cancellation was required to request a hearing within 20 days from the date on the notice. The suspension or cancellation did not go into effect until the hearing outcome confirmed the suspension or cancellation.

Upon receipt of the request, the DMV hearings unit processed the request and sent it to the Office of Administrative Hearings, where the case was heard by an administrative law judge (ALJ). The ALJ rendered a decision of AFF (affirmed) or DISAFF (disaffirmed).

In 2012, about 2.8% of the drivers who underwent initial medical review (non-alcohol cases) appealed the licensing decision.

Costs of Processing Medical Referrals

The assumptions used in the cost estimates were based on the annual salary (salary plus other payroll expenses) for office assistants at the top step of the pay scale (\$51,468), office specialists at the second step of the pay scale (\$47,304), office specialists at the second from the top step of the pay scale (\$60,036), transportation service representatives at the sixth step of the pay scale (\$64,464), and the proportion of their annual work hours spent working on at-risk cases. The medical determination officers worked a total of approximately 20 hours per month, reviewing approximately 280 cases per month. Their salary was \$71.24 per hour.

When a road test was not required, the personnel time and costs associated with each At-Risk case were 2.69 hours and \$77.88. A road test added 1.35 hours and \$40.66 to each case. A knowledge/vision test added 0.75 hours and \$22.80 to each case. These costs did not include the costs of supplies (mailing labels, stamps, envelopes, letters, and the costs of processing mailings, or knowledge test forms) or overhead costs. Including these costs increased each At-Risk case without a road test to \$99.20, each road test to \$52.09, and each knowledge/vision test to \$29.25.

The estimated cost to the DMV when a case was appealed was \$80. If a driver defaulted (did not appear for the scheduled hearing), there was an additional cost of \$33 for administrative law judge time and DMV staff time to process the default, for a total of \$113.

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