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Model Driver Screening and Evaluation Program

Guidelines for Motor Vehicle Administrators

FOREWORD

The screening and evaluation of drivers in the interest of personal and public health and safety has received increasing attention since the publication in 1992 of the *Model Driver Screening and Evaluation Program: Guidelines for Motor Vehicle Administrators* by the National Highway Traffic Safety Administration and the American Association of Motor Vehicle Administrators. Researchers and policy makers in this area have recommended a comprehensive framework that ties the screening and assessment of high-risk drivers to referral, education and counseling, and remediation activities, with an explicit goal of *safe mobility for life* for all citizens.

In 1998, AAMVA conducted a survey of licensing officials throughout the United States and Canada to address cost and time constraints, as well as legal, ethical, and policy implications that could influence program implementation. Even more recently, pilot programs have yielded important new information about the types of screening techniques likely to be most valuable to identify drivers with significant mental and physical impairments, and also about the costs and feasibility of administering such programs.

This report has been produced by *TransAnalytics, LLC* and the Scientex Corporation under NHTSA sponsorship, in cooperation with AAMVA, as a resource for jurisdictions in North America wishing to introduce or update a driver screening program. It is not intended as a mandate, nor does it represent the only approach with the potential to promote safe mobility for individuals while meeting Departments of Motor Vehicles' responsibilities in the public health and safety arena. It serves as a Model that may be useful, in whole or in part, as States move to address the changes brought on by an aging population—a population that experiences much higher levels of functional impairment while continuing to depend, to an extraordinary degree, on private vehicles to meet their transportation needs.

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16. Abstract

These Guidelines present an update of report number DOT HS 807 853 published in August 1992. They reflect current understanding of the relationship between functional capabilities and driving impairment gained through review of existing medical review programs, and the experience of jurisdictions in implementing pilot screening and evaluation activities. The results of the Maryland Pilot Older Driver Study are relied upon most extensively in the identification of procedures that can be recommended as most valid and feasible for implementation by jurisdictional (State and Provincial) driver licensing agencies. Practical, technical, and administrative issues associated with the development and implementation of a screening program for the detection of functionally-impaired drivers are addressed in these guidelines. A summary of the research syntheses and empirical findings that support these guidelines may be found in Volumes 1 and 2 of the Final Technical Report for NHTSA contract number DTNH22-96-C-05140, "Model Driver Screening and Evaluation Program." Additional supporting documentation is provided in the *Safe Mobility for Older People Notebook*, report number DOT HS 808 853, published in April 1999.

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SI* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in^2	square inches	645.2	square millimeters	mm^2
ft^2	square feet	0.093	square meters	m^2
yd^2	square yards	0.836	square meters	m^2
ac	acres	0.405	hectares	ha
mi^2	square miles	2.59	square kilometers	km^2
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft^3	cubic feet	0.028	cubic meters	m^3
yd^3	cubic yards	0.765	cubic meters	m^3
NOTE: Volumes greater than 1000 l shall be shown in m^3.				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5(F-32)/9 or (F-32)/1.8	Celcius temperature	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m^2	cd/m^2
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in^2	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm^2	square millimeters	0.0016	square inches	in^2
m^2	square meters	10.764	square feet	ft^2
m^2	square meters	1.195	square yards	yd^2
ha	hectares	2.47	acres	ac
km^2	square kilometers	0.386	square miles	mi^2
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m^3	cubic meters	35.71	cubic feet	ft^3
m^3	cubic meters	1.307	cubic yards	yd^3
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact)				
°C	Celcius temperature	1.8C + 32	Fahrenheit temperature	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m^2	candela/m^2	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in^2

* SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.

(Revised September 1993)

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PREFACE

It is undeniable that as we age, each in our own unique fashion, we are at increasingly greater risk of experiencing deficits in the various functional capabilities needed to drive safely. These include the visual abilities needed to detect hazards, and the capacity to devote attention to key driving tasks in the face of mounting distractions. The mental skills needed to accurately judge gaps in traffic, and the cognitive functions necessary to make rapid and appropriate maneuver decisions are also essential. Not least are one's physical abilities, including the head and neck flexibility to scan for safety threats before turning, backing, changing lanes, or merging, as well as the arm and leg strength and stamina needed for effective control of the vehicle under normal and emergency response conditions. For virtually everyone in modern society, safely operating a motor vehicle demands a higher level of functional ability and functional integration than any other activity that is a daily part of life.

During the 1990s, evidence began to mount linking functional loss to increasing risk of crash involvement. Department of Motor Vehicle studies have found that unrestricted drivers with certain medical conditions have significantly higher crash and citation rates than control groups without impairments. Analyses conducted by NHTSA provide a strong argument that, given current practices and demographic trends, we can expect to see a sharp increase in both the number and proportion of traffic fatalities related to the declining abilities and frailties of aging over the first quarter of the 21st century.

Following the publication in 1988 of the Transportation Research Board (TRB) Special Report 218, *Transportation in an Aging Society*, research efforts in this area increased dramatically. An update to this seminal work, entitled *A Decade of Experience,* was released by TRB in 2002 to summarize current understanding of the problem, and to recognize evolving program activities and countermeasures in this area that appear most effective and feasible to implement. The Office of the Secretary of the U.S. Department of Transportation released the report *Improving Transportation for a Maturing Society* in 1997, and in 1998-99 organized forums across the country to obtain community-level input to a National Agenda in this area. A major international conference held on the campus of the National Institutes of Health in Bethesda, MD, was similarly devoted to this subject in 1999. In 1999, NHTSA published the *Safe Mobility for Older People Notebook*, which contains a more detailed discussion of many of the program elements described in this document, plus examples of their application. This resource can also be accessed at www.nhtsa.dot.gov/people/injury/olddrive/safe/tech-doc.htm. Together, such activities reflect a growing consensus that the identification of individuals who pose unacceptable risks to themselves and others by continuing to drive should be a part of public health policy.

To lend support to those officials charged with ensuring safe access to our public roads and highways, the 1992 NHTSA/AAMVA *Model Driver Screening and Evaluation Program: Guidelines for Motor Vehicle Administrators* has been updated. To the extent that jurisdictions have already implemented elements in the Model Program, this report reinforces best practices. For other jurisdictions, the Model Program may represent a fundamental shift away from a policy that defers primary responsibility for control of at-risk drivers to the individual, family, or physician and toward more active management of at-risk drivers by motor vehicle agencies.

The consistent goal in these Guidelines is to document a means of fairly, effectively, and affordably screening high-risk drivers – identifying those individuals who pose the greatest risk to themselves and to others without placing an unacceptable burden on motor vehicle agencies. To that end, the program elements described herein offer a template that may be tailored to best meet the needs of a particular jurisdiction.

The key features of the Model Program are:

- A single unit within the DOT or DMV coordinates all activities to detect and intervene with functionally impaired drivers, ideally, the *Medical Advisory Board (MAB)* or its equivalent in each jurisdiction.

- Drivers enter the Program both through external referrals, and through internal (DMV) referrals resulting from *periodic reevaluation* of functional status. Accordingly, some DMV's may need to adjust their license renewal requirements so that drivers cannot avoid DMV examination or observation for lengthy periods.

- All drivers are exposed to education and counseling activities appropriate to their health status—*regardless of screening outcome*—as part of a multi-tiered approach targeting driving health maintenance as well as crash reduction.

- Program priorities are *keeping drivers on the road as long as they are safe*, through early identification and assessment, coupled with remediation, counseling, and restriction where needed; equally important, though, is a formal linkage to other programs providing a safety net of transportation options for seniors who can no longer drive.

- Broad-based education of the driving public *plus* more focused training aimed at physicians and the medical community are necessary before and during Program operation, clearly explaining the link between functional status and driving risk.

- An advisory committee or consortium to help establish and periodically review Program procedures should be formed under the auspices of the licensing authority, whose membership includes diverse public and private sector groups plus all agencies of Government concerned with transportation, public health, and aging.

It may be readily acknowledged that, at first glance, the recommended practices in the Model Program will appear unrealistic to some jurisdictions due to budgetary or administrative hurdles. Yet, pilot program results offer encouraging evidence of a substantial and offsetting increase in the efficiency with which an agency can conclude a medically sound determination of fitness-to-drive. And given the near-certainty that dramatically higher numbers of functionally-impaired drivers will seek (re)licensure in the years ahead, the collateral savings to society from the prevention of motor vehicle injuries makes the case for innovative public health initiatives all the more compelling.

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PROGRAM INTRODUCTION

BACKGROUND AND STATEMENT OF THE PROBLEM

Projections that more than one in five drivers will be age 65 or older within the next twenty years have raised a number of concerns among those working to ensure public health and safety. In 1986, Congress passed the Commercial Motor Vehicle Safety Act (CMVSA), followed by the Surface Transportation Act a year later in 1987. These Acts established the need for screening and testing practices to identify commercial driver's license (CDL) applicants who may have medical or mental conditions or impairments that limit their functional capability to safely operate a motor vehicle. The standards promulgated in the CMVSA have been widely hailed as a timely and appropriate response to a legitimate public safety concern. Now there are calls at all levels to develop, apply, and enforce standards for fitness to drive beyond the arena of commercial operations, expanding the requirements to obtain and renew a license to operate private automobiles to include not only vision but other functional abilities that are most important for safe driving.

Program initiatives in this area are motivated in large part by anticipated increases in crashes and fatalities due to age-related functional decline. Already, based on the number of miles driven, the rate of fatal crashes for the oldest drivers in our society is higher than that of any other group, including teenagers. In absolute terms this problem is diminished by the smaller number of seniors, and the fact that, on average, they drive fewer miles than young and middle-aged drivers. But easily the fastest growing segment of the driving population is persons age 85 and older. For these individuals, maintaining one's health and overall quality of life depends overwhelmingly upon remaining independent, and independence requires mobility. Thus, it is prudent to assume that virtually all who *can* continue to drive *will* continue to drive.

The loss of functional abilities through normal aging is well documented. Because people age differently, chronological age alone is a poor indicator of functional status. But across the population, a steady decline in visual acuity and contrast sensitivity, in attentional and perceptual processes, in memory and cognition, and in physical strength, flexibility, and range of motion can be very reliably associated with advancing age. Even without considering the accelerating rates of disease and pathology—and in particular, dementia—that are evidenced in older persons, at some point most older persons are likely to experience an impairing condition serious enough to significantly elevate crash risk. Fortunately, such impairments can often be partially or fully remediated. When combined with appropriate restrictions on driving exposure, at least a degree of independence can be preserved for most people. To realize this personal and societal benefit, however, functional impairments *must first be detected*. And the earlier, the better.

It might be presumed that such impairments are best identified by individuals' physicians or other health care professionals. In this line of reasoning, the licensing authority must then rely on physician reporting, which presently has a number of drawbacks. Physicians, while primarily concerned with patients' confidentiality, may also be confused about their own liability in reporting a condition that could result in the loss of driving privilege. Several jurisdictions have enacted legislation to protect physicians in such circumstances, in certain cases including stiff penalties for *failing* to report. During 1999, the American Medical Association (AMA) Council

on Judicial and Ethical Affairs adopted recommendations that underscore physicians' traditional respect for the individual and desire to promote patient autonomy. At the same time it articulated physicians' responsibility to recognize impairments in patients' driving ability that pose a threat to public safety and, when clearly documented, to notify the Department of Motor Vehicles. Still, physicians are trained to make medical diagnoses, not identify functional impairment. Doctors have long requested explicit guidance about the degree of driving impairment that will result from a particular stage of a given disease—for example, diabetes—but neither DMV's nor the larger scientific community has until recently been in a position to provide it. Emerging research findings now can begin to define which functional abilities should be measured, and how to measure them, establishing a framework for DMV's and the medical/health care community to work together to keep people driving safely longer.

The particular age-related changes in functional abilities at the center of identification and assessment programs undergoing pilot testing by licensing authorities in the U.S. and abroad are described in appendix A.

Undoubtedly, the problems underlying successful implementation of a driver screening and evaluation program in a given jurisdiction will involve a great deal more than deciding upon measurement targets and techniques to assess drivers' functional status. At a minimum, seniors, their families, and the public at large must understand the goals of the program and trust that it will be fairly applied. Other stakeholders involved in the administration of the program, including a broad array of public and private sector partners, must all feel that they have had a say in its development. The funding and availability of physical and staff resources to not only evaluate drivers, but to counsel and refer them as appropriate for further assessment, remediation, and access to alternative transportation options in the community must be assured. Effective liaison with the health care community—rehabilitation medicine and occupational therapists in particular—is essential. And exercising leadership and providing coordination of program activities by a dedicated administrator or Medical Advisory Board official is paramount.

FEASIBILITY ISSUES IN AUGMENTING LICENSE CONTROL PROGRAMS

Development of the Model Program has been driven first by the scientific evidence indicating which functional abilities deserve periodic reevaluation, but there is also clear concern about the extent to which jurisdictions will find it feasible to augment existing license control practices with more extensive screening activities. The incremental cost of implementing the Model Program depends in part on the resources presently committed to monitor driver qualifications. Without a cost analysis that is beyond the scope of these Guidelines, an understanding of present commitments in each jurisdiction can be fairly represented by the information in appendix B. This appendix describes the nature and extent of requirements for license renewal applicants across North America in 2001, and highlights differences between jurisdictions *vis-à-vis* special requirements for older drivers.

Examination of appendix B reveals that current practices vary widely with regard to the standards drivers must meet and the procedures they must follow to renew their licenses. Most notable are differences in the length of the renewal cycle; allowances for mail-in versus in-person renewal; and varying vision testing requirements and standards for low-vision programs. Approximately one-half of the jurisdictions in North America now have more stringent requirements in place for seniors, most often reflected in shorter intervals between renewals,

requirements for in-person renewal, and/or mandatory vision tests beyond a specified age threshold. Such age thresholds are as low as age 50 and as high as age 75, but for the vast majority of jurisdictions they fall within the 65-70 age range.

The use of extended renewal cycles (longer than 4 or 5 years) combined with flexible renewal options (e.g., telephone or Web-based processes), while undeniably popular with older drivers, runs counter to the goals of the Model Program. Such practices have the combined effect of allowing drivers to avoid DMV examination or observation for 8 to 10 years or more, depending on jurisdictional renewal cycles, and preclude what is perhaps the best opportunity for DMV's to provide information and educational materials that can help older drivers remain safely mobile.

To gauge the feasibility of introducing or expanding driver screening procedures among jurisdictions, a survey developed under NHTSA sponsorship was completed by AAMVA in 1998. This survey was mailed to Driver License Administrators in the 50 United States, plus Washington, D.C., and 12 Canadian Provinces and Territories (excluding Nunavut). The survey questions, and a tabulation of response frequencies to each item as received from 60 of the 63 jurisdictions contacted by AAMVA, are presented in appendix C.

The 1998 NHTSA/AAMVA survey indicated that 90 percent of responding jurisdictions would apply any new or expanded screening procedures either to "high risk" drivers referred to the DMV only, or to this subgroup *plus* drivers over a specified age (which might vary from one jurisdiction to another); only 10 percent responded that a screening program in their State or Province would be limited to drivers who exceeded an age threshold.

With specific regard to the cost of new procedures, approximately one-half of responding jurisdictions stated that program costs would have to be offset "substantially or completely" by savings elsewhere in the Department *regardless* of expected payoffs in safety. Another quarter of respondents stated that program costs would need to be offset by such savings "to a significant extent but not completely." But, 24 percent stated that the cost of test procedures would have to be offset "only minimally, or not at all" if significant safety benefits have been demonstrated in another State or pilot program.

The practical upper limit on the time that could be devoted to administering functional tests to drivers was also addressed in the survey, with a nearly even distribution of responses among the alternatives provided: 25 percent stated that the maximum allowable time to administer functional tests is 15 minutes per driver; 29 percent would allow 15 to 30 minutes; 25 percent responded that 30 to 45 minutes would be feasible; and 20 percent would allow 45 minutes to an hour, or would impose no limit on test time. A majority of responding jurisdictions (63%) indicated that the DMV would likely *not* implement all screening and evaluation activities wholly within the Department, but would privatize some of the included procedures.

Next, the NHTSA/AAMVA survey asked licensing officials to answer 'yes' or 'no' to indicate whether "current policies and priorities in your Department would make it feasible" to implement various candidate components of the Model Program. Strong levels of affirmative responses were recorded in virtually every instance. The practice of "graduating" older drivers away from full privileges as capabilities suffer progressive decline was endorsed by 67 percent

of respondents, though two-thirds of these stated that a change in legislation would be required for program implementation. Implementing community outreach activities to educate the public about the relationship between functional ability and safe driving, promote self-assessment and self-referral, and connect to local transportation alternatives would be feasible in 85 percent of States and Provinces. And fully 97 percent of responding jurisdictions affirmed the feasibility of testing driver functional capabilities—with consequent licensing action if warranted by test results—without regard to renewal cycle for any individuals referred into a screening program.

Additional judgments by licensing officials requested in the NHTSA/AAMVA survey addressed the feasibility of implementing alternative criteria and procedures related to vision testing; the testing of functional abilities other than vision; the use of alternative referral mechanisms; and the tailoring of subsequent evaluation procedures to the conditions leading to referral or detected through screening. Again, as documented in appendix C, responses were overwhelmingly affirmative.

Caution must be applied not to interpret the findings of the 1998 survey as an uncritical endorsement of driver screening program activities. Also, specific details of how a screening and evaluation program should operate were not addressed in the survey. Not surprisingly, jurisdictional licensing authorities revealed a keen sensitivity to the challenges of program implementation, through extensive supplementary comments. At the same time, survey data provide at least qualified support for ongoing efforts to develop and implement pilot tests in this area, while establishing broad parameters for program scope and content.

AAMVA POLICY AND UNIFORM VEHICLE CODE PROVISIONS

AAMVA Policy relevant to the screening and evaluation of drivers, at the time of license application or at other times, is presented in appendix D. A review of this material indicates broad agreement with key provisions of the Model Program, namely a close liaison with the medical community and other health care professionals to detect functionally impaired drivers; the endorsement of the NHTSA/AAMVA Guidelines for application by jurisdictional Medical Advisory Boards; the periodic reexamination of all drivers; and the recognition of vehicle-related trauma as a major public health problem amenable to prevention efforts by a combination of medical and highway safety professionals. The AAMVA Policy sections dealing with examination content and examining procedures, while not inconsistent with the Model Program, provide considerably less detail about the range of functional tests that may be of value in detecting impaired drivers.

The provisions of the Uniform Vehicle Code (UVC) pertinent to establishing qualifications for driver licensure, and disqualification on the grounds of functional impairment, are presented in appendix E. The mandate for Departments of Motor Vehicles to develop and apply licensing standards that protect the public from unsafe drivers is unambiguous. A provision whereby licensing authorities may disqualify persons with limitations under the UVC when there is "good cause to believe that such person by reason of physical or mental disability would not be able to operate a motor vehicle safely" is also clearly stated. Further, the UVC provides guidance with respect to the nature, composition and functions of Medical Advisory Boards that closely parallels the Model Program, specifically asserting that "the report of the Medical Advisory Board will be the determining factor" in deciding if a license should be issued.

LAYING THE GROUNDWORK FOR A SUCCESSFUL PROGRAM

Lessons learned through the most extensive pilot program implemented in this area to date[1] suggest that program success will depend strongly upon various planning and organizational activities which are performed well before the driving public becomes directly affected. While problems in launching a program may be expected to differ from one jurisdiction to another, a common set of requirements can also be identified. Establishing partnerships between the DMV and other agencies and organizations with a stake in enhancing safety, mobility, and public health is an important first step. Incorporating representatives from these partners into an advisory panel to provide advice on program content and operating procedures, and preempt potential disputes where areas of overlapping jurisdiction exist among partners, should follow closely thereafter. The advisory panel will also prove invaluable in identifying technical, jurisdictional and political barriers to program success, and devising strategies to overcome them. A single administrative unit that draws upon the advice and consent of this body must also be identified within the Department to coordinate program functions and ensure that day-to-day program operations are carried out as planned.

The jurisdictional agencies whose active cooperation is essential to develop and implement an effective driver screening and evaluation program may be expected to include—though not necessarily be limited to—the Departments of Transportation, Health, and Aging. Municipal- and county-level government participation is strongly encouraged. Private health care providers, networks, and health maintenance organizations (HMOs) are key partners, with a special emphasis on the role of occupational therapists. Representatives from law enforcement and the judicial system, both potential sources of referrals into a driver screening program, should also be included. Senior advocacy and community action groups, and social service providers used and trusted by older persons will be indispensable to public information and education components. In addition, academic and professional organizations with an interest in understanding and enhancing the validity of the screening process as well as the effectiveness of the program in meeting safety and mobility goals, have important contributions to make.

Again drawing upon the model cited earlier, a standing committee or consortium with a formal structure, mission, and agenda can bring together the diverse members and stakeholders during the program planning stages. This is recommended to establish an infrastructure for communications among the various parties, and to evolve, through open discussion, a set of program objectives that all parties will endorse and support, publicly if required.

Consortium leadership will logically be exercised by a unit within the DMV that also will, upon program implementation, fulfill the central role in coordinating activities to detect and intervene with functionally impaired drivers. AAMVA Policy, consistent with provisions of the Uniform Vehicle Code and pilot implementation of Model Program components, points to the entity designated in most jurisdictions as the Medical Advisory Board (MAB) or Health Advisory Board to accomplish this function. The Director or Chief of the MAB thus chairs the advisory committee/consortium, facilitating communications and fostering consensus among its members, and serving as the primary point of contact between the consortium and the driving public. Alternately, an administrator within the DMV could successfully lead the consortium.

[1] Maryland Pilot Older Driver Study implemented in cooperation with NHTSA's *Model Driver Screening and Evaluation Program* project, 1998-2001.

Without prescribing a particular administrative structure to govern their interrelationships, the various components—with associated personnel and locus of responsibility—that are key to an effective functional screening program may be summarized as shown in Table 1.

Table 1. Overview of key components in an effective screening program.

Program Function(s)	Key Personnel	Responsible Entity(ies)
Planning and coordination	MAB Chief or Agency Administrator	Jurisdictional agency (DOT, DMV, MVA)
Case management	Nurse (RN, LPN, or LVN)	Jurisdictional agency (DOT, DMV, MVA)
Functional screening (1st-tier)	Specially trained license examiner (DLE) or Health care workers with training, certification	Jurisdictional agency (DOT, DMV, MVA) or Public or private sector health care or social service providers
Diagnostic assessment (2nd-tier)	Medical specialists, labs, OT/CDRS	Clinical and research institutions and facilities
Education and outreach *re:* functional decline and driving impairment	OT, Certified OT Assistant, Public Relations and Customer Assistance staff	Offices of Motor Vehicle agencies at all levels; Departments of Health, Public Safety and Aging; non-profit organizations
Driver counseling *re:* changes in driving habits, planning for driving cessation	OT, Physician, Nurse, Ophthalmologist, Social Worker, specially trained staff at Senior Centers	DOT, DMV, or MVA; health care and social service facilities; Area Agency on Aging
Mobility management (trip planning, alter. trans.)	Specially trained staff at Senior Centers	Area Agency on Aging
Training, Remediation and Adaptive equipment	OT/CDRS, PT, Physician, Nurse, Optometrist, Ophthalmologist, Driving instructor	Clinical/rehabilitation facilities; Driving schools

DESIGNING A PROGRAM TO MEET JURISDICTIONAL NEEDS

GOALS AND ROLES

Achieving the cooperation of public and private sector partners in implementing a driver screening program, while fostering a more favorable reception by the media and by the public at large, begins with a clear statement of program goals. The central objective of the program described in these guidelines is twofold—*to keep people driving safely longer, while protecting the public through early identification of functionally impaired drivers*. It is recommended that all consortium members in a State emphasize and reiterate these expected outcomes as the design of its program evolves.

To develop a plan of action to meet this central objective in a driver screening and evaluation program, it is useful to also define a number of secondary goals. They pertain to the resources and procedures required to carry out the functions of primary program components. Primary program components include: *catchment and referral mechanisms* that bring drivers to a point where functional tests are performed; *screening and assessment techniques* for determining functional status; *education and counseling activities* to improve understanding about functional impairment and driving risk, as well as what steps to take when functional loss is detected; and *restriction and remediation options* that govern the extent to which driving privileges may be retained in the future. The following sections in this chapter are organized accordingly.

In addition, early program planning and oversight efforts should identify which consortium partners and stakeholders bring knowledge and experience to particular program components; and, which procedures can best be administered at the local or county level, versus which must be administered through jurisdictional agencies. As consortium members take ownership of developing or implementing specific components, they should be recognized for their contributions in such roles; a sense of teamwork can result that will prove essential over the long term, as well as a shared sense of responsibility to meet program funding demands.

CATCHMENT AND REFERRAL MECHANISMS

This section first distinguishes between two broad avenues of entry into a driver screening and evaluation program—internal and external referrals. Contacts between State and Provincial licensing systems and older drivers in North America come about principally through the renewal process and by the direct observations of licensing personnel when an older driver appears at a field office to transact business (“internal” referrals). These contacts are augmented by referrals from physicians, law enforcement and the courts, family and friends, and others (“external” referrals). The relative emphasis placed upon internal versus external referral mechanisms presently varies from one jurisdiction to another. The Model Program assumes that this situation will persist, creating a need for each jurisdiction to preserve flexibility in this area.

Internal Referrals

At-risk drivers may be identified through activities undertaken by a motor vehicle agency. Applicants for renewal (and, ideally, original applicants), should be “pre-screened” through direct interactions with counter personnel, resulting in the identification of candidates for functional screening based upon predetermined, standard and objective criteria. Screening

might also be triggered by crash or violation experience; by age; or by a statistical sampling procedure (reflecting, for example, the relationship between age and crash rates). Self-selected populations, such as those applying for handicapped status, also could be required to undergo screening. Chapter 6 of the Uniform Vehicle Code [§6-116(b) and §6-110(a)] provides the authority for a department to require drivers to undergo and pass tests to determine their fitness to drive safely.

Direct Observation by DMV Line Personnel. The practice of requiring drivers to renew their licenses in person presents the opportunity for licensing personnel to objectively evaluate general cognitive and physical fitness, through simple observation and communication with the renewing drivers, and prompt further assessment. Several jurisdictions already using this practice have comprehensive procedure manuals and field employee training to ensure that observations are made for relevant capabilities, and in a respectful manner. The majority of jurisdictions surveyed by AAMVA in 1998 indicated that this practice would be feasible to implement in their jurisdictions. This practice also has passed the scrutiny of courts which examined it in cases brought under the Americans with Disabilities Act (ADA). In-person renewal with a requirement that DMV line personnel complete a very brief checklist of structured observations is therefore strongly recommended as a Model Program component.

Guidelines for conduct of DMV personnel are straightforward, preserving quality customer service through courtesy and efficiency. "Verifying Questions" such as "please spell your name;" and, "please verify your address and date of birth" should be used instead of interrogatories such as "tell me what your name/address is," or "I want to see what you know/remember." DMV staff should make note of any physical impairments the applicant may have without letting the applicant know that the way he or she walks or uses his or her arms or hands is being observed. When an apparent functional limitation has been observed, the DMV should address it with the applicant only in a private setting and always according to established Department procedures for which adequate prior training has been provided. Alternately, a DMV may elect to have all observations of apparent functional limitation referred to the Medical Advisory Board or to other specially-trained staff within the Department for follow up.

If observations by line personnel are conducted as part of a set of more comprehensive procedures that include vision screening and/or paper and pencil or automated test procedures to detect gross functional impairments, the same emphasis on customer service applies. Under these circumstances, the driver would be directed to the next station or examiner charged with test administration, after the checklist of structured observations is completed during the initial interaction with DMV staff.

The training provided to DMV line personnel to "pre-screen" for functional limitations is critical. Written documentation should be provided that defines each to-be-observed functional ability and provides the standard, so the DMV employee understands the benchmark of performance. A person who does not meet a standard, and whose license is not properly restricted, may be required to submit to additional functional screening measures, to complete a driving skills test or evaluation, and/or to file a medical report.

A description of relevant functional abilities and standards for observation by DMV personnel follows in table 2.[2]

If mail-in renewal practices are permitted, a policy requiring third-party screening for gross impairments in relevant visual, mental, and physical abilities *and* clear guidelines for conducting, documenting, and reporting the results of these procedures to the DMV prior to granting license renewal is strongly recommended.

Table 2. Determining driver functional ability by visual inspection.

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.

Medical Condition/Symptom Questions on License Application/Renewal Forms. A substantial number of medical referrals—one-fifth or more—may be triggered initially through driver responses to questions on application forms about their medical conditions and symptoms, and about the prescription medications they are taking. Studies have found that drivers who provide affirmative answers to medical questions have significantly worse prior crash-involvement records than a randomly selected comparison sample.[3]

[2] From: Section 235 "Evaluating Medical Conditions or Disabilities," *Driver Licensing Manual*, State of Wisconsin.
[3] Janke, M and Hersch, S.W. (1997). *Assessing the Older Driver: Pilot Studies*. California DMV Publication No. RSS-97-172. Sacramento, California.

Medical fitness questions included on a driver license application form should be designed to identify applicants who may have the following conditions: diabetes; cardiovascular; pulmonary; neurologic; epilepsy; learning and memory; psychiatric; alcohol and drugs; visual acuity; musculoskeletal/chronic debilities; or functional motor impairment. Because drivers may not consider their particular health condition as one that affects driving performance, or may not recognize it in a list of body systems, the wording of medical conditions questions should be non-technical and easily understood by the general public. For example, it is preferable to phrase questions about "heart" instead of "cardiovascular" conditions. Also, specific examples of conditions and symptoms of primary interest (e.g., irregular heart beat, heart attack, heart surgery, high blood pressure) should be cited. An example of a form that satisfies these guidelines is presented in table 3.

The form should include a statement that the applicant signs which certifies that his or her statements are true, accompanied by relevant State law describing penalties for false affidavit perjury. State law should reflect verbatim, or be in substantial conformity with, the Uniform Vehicle Code §6-302:

> "Any person who makes any false affidavit, or knowingly swears or affirms falsely to any matter or thing required by the terms of this chapter to be sworn to or affirmed, is guilty of perjury and upon conviction shall be punishable by fine or imprisonment as other persons committing perjury are punishable."

A follow-up visit with a physician, with a report submitted to and reviewed by the DMV, should take place before any licensing action is undertaken for an individual. If the physician report clears the individual to continue to drive, an immediate screening to establish current measures of functional capability should be performed. This will serve as a useful baseline to assist the individual, his or her physician, and the DMV in subsequent reviews of license status.

Driving History: Crashes and Violations. Crash and violation history over the prior 3-year period should be accessed for all license renewal applicants as a potential trigger for screening and evaluation program activities. The recommended trigger for functional screening is an incidence of crash involvement *coupled with* an entry on the investigating officer's crash report of one or more violations or driver/vehicle contributing factors among those listed below:

- Ran traffic signal or stop sign.
- Passing, interfered with other vehicle.
- Left of center, not passing.
- Failure to have control.
- Failure to yield right-of-way from stop sign.
- Failure to yield right-of-way from yield sign.
- Failure to yield right-of-way making left turn.
- Failure to yield right-of-way to pedestrian.
- Any violation of a prior license restriction.
- Failure to yield at uncontrolled intersection.

Table 3. Utah Driver License Division form used to collect information about driver medical conditions and symptoms.

Do you have, or have you had, any of the following in the last 5 years?	
☐ YES ☐ NO	**Diabetes:** Diabetes (high blood sugar or sugar diabetes that you control with diet, medication, or insulin), hypoglycemia, or other metabolic conditions such as thyroid.
☐ YES ☐ NO	**Cardiovascular:** Heart condition, with or without symptoms (heart attack, heart surgery, irregular rhythm, general heart disease) or hypertension (high blood pressure) currently requiring medication for control.
☐ YES ☐ NO	**Pulmonary:** Pulmonary (lung) condition (asthma, emphysema, passing out from coughing, etc), sleep apnea or shortness of breath.
☐ YES ☐ NO	**Neurologic:** Neurological condition (stroke, head injury, narcolepsy, cerebral palsy, multiple sclerosis, muscular dystrophy, Parkinson's Disease, and other spinal cord or brain diseases?)
☐ YES ☐ NO	**Epilepsy:** Epilepsy, seizures, and other episodic conditions that include any recurrent loss of consciousness or control. Any time in life? ☐ YES ☐ NO
☐ YES ☐ NO	**Learning and Memory:** Learning and memory difficulties observed personally or reported to you by others.
☐ YES ☐ NO	**Psychiatric:** Psychological condition (anxiety, severe depression, behavioral mood conditions, schizophrenia, etc.) for which a physician has recommended that you take medication.
☐ YES ☐ NO	**Alcohol and Drugs:** Excessive use of alcohol and/or prescription drugs; use of any illegal drugs; or treatment or recommendation for treatment of alcohol use or chemical dependency.
☐ YES ☐ NO	**Visual Problems**: Awareness of decrease of vision worse than 20/40 in either eye, or a decrease in peripheral vision (side vision). Also includes cataracts, glaucoma, macular degeneration, diabetic retinopathy. Do you have a prescription for corrective lenses? ☐ YES ☐ NO
☐ YES ☐ NO	**Musculoskeletal/Chronic Debilities:** Loss or paralysis of all or part of an extremity; or onset of a general debilitating illness requiring treatment. This includes osteoporosis, HIV, amputations, and congenital abnormalities. New or changed past 5 years? ☐ Present longer than 5 years? ☐
☐ YES ☐ NO	**Functional Motor Impairment:** Need for use of a brace, prosthesis, or compensating accessories for driving. Includes reductions in muscular strength, coordination, range of motion of joints, spinal movement and stability that affect your ability to drive safely. New or changed past 5 years? ☐ Present longer than 5 years? ☐
☐ YES ☐ NO	Other: Other health problems or use of medications which might interfere with driving ability or safety. Please explain:

A special reexamination is also recommended at any time (i.e., mid-cycle, not waiting until the time of license renewal) when a licensee has been involved in a crash, *and* the investigating officer's report or the person's own account of the crash identifies one or more of the actions or factors listed above. If a jurisdiction also employs an age threshold for initiating such actions, cost-effectiveness is likely to be reduced significantly if the threshold is set lower than age 60. Law enforcement referrals for suspected medical impairments should lead to functional screening and evaluation regardless of driver age.

Driver Age. Driver age affects license renewal practices in 33 jurisdictions, most often by requiring older persons to comply with a shortened renewal cycle relative to the general population, and/or by requiring them to apply in person for license renewal. Less commonly, driver age is used as a trigger requiring a vision test, medical review by a physician, knowledge test, and/or road test for renewal. In these guidelines, across-the-board testing based on driver age alone is not mandated; but, neither is it ruled out. Early identification of impairing conditions will be enhanced by establishing baseline functional status, with a clear benefit to individuals in terms of lowering their own driving risk. A public health benefit of this preventive measure is also presumed, but is difficult to quantify. It is expected that technical, economic, and political considerations together will influence decisions regarding age-based testing by DMV's, on a jurisdiction-by-jurisdiction basis.

If driver age is to be used by a jurisdiction as a trigger for screening, what age can be recommended? Statistically, very little is gained by requiring age-based medical reexaminations for drivers under the age of 60. A survey of age thresholds adopted for other license renewal practices, and the scientific literature describing changes in critical functional abilities with advancing age in the general population, suggests that a value in the 70-75 age range will be most widely accepted if a jurisdiction embarks on a policy of across-the-board screening to detect driving impairments.

External Referrals

In some jurisdictions, "external" referrals may provide the primary means of entry into driver screening and evaluation programs. In others, it may be the only means. The referral sources considered under this heading include physicians; ophthalmologists and other vision care specialists; occupational and physical therapists; hospitals and rehabilitation facilities; law enforcement and the courts; social service providers; and family and friends. Coordinating the activities of the various external sources of driver referral, while standardizing reporting procedures, is essential. In addition, lines of communication back and forth between the sources utilized in a jurisdiction and the motor vehicle agency should be formalized, including procedures for the agency to report back to a source regarding the disposition and status of referral cases, within legal bounds of privacy and confidentiality.

Physician Reporting. Physician reporting, whether compulsory or on a voluntary basis, can greatly assist the licensing agency to identify drivers with physical and mental impairments that place them and others at risk when driving. Physicians' expertise and position of trust place them in a key role to diagnose likely driving impairments, as prescribed by their jurisdictional Medical Advisory Board. Studies indicate that health care providers are seniors' preferred source for information and advice about whether it is safe for them to continue to drive or if they should modify their driving habits.

A dilemma for physicians is how to protect the confidentiality of their physician-patient discussions, if reporting is not mandatory in their jurisdiction. Physicians may also be reluctant to report an individual with whom he/she has held a long-term relationship, knowing the devastating impact on quality of life that can result from restriction or loss of driving privileges. At the same time, these professionals bear an ethical responsibility to alert licensing officials whenever they judge an individual to pose a health risk to themselves and to the public. This responsibility is underscored by recent guidelines issued by the American Medical Association's

Council on Ethical and Judicial Affairs which state that, "*physicians [have] legal and ethical obligations with respect to reporting physical and mental conditions which may impair a patient's ability to drive*" (see appendix F).

Physicians also may be concerned about their potential legal liabilities if they report to the DMV. This may be addressed through legislation that requires physician reporting, and/or the physician must be granted immunity from legal action arising out of such reporting. Fourteen jurisdictions currently require physicians to report conditions that are associated with increased driving risk to licensing agencies. All of these grant the physician immunity from legal action by the driver. Another ten States and three Provinces permit physicians to report potentially impaired drivers to the licensing agency, and all but two of these grant immunity to physicians making these reports. Other jurisdictions allow the physician to report impairing conditions to licensing agencies, but only if the patient refuses to report himself or herself.

The Medical Advisory Board, or other jurisdictional agency as appropriate, must provide physicians with unambiguous guidance regarding the "potentially impairing conditions" they should report. Medical conditions covered by existing statutes vary from jurisdiction to jurisdiction; while conditions such as epilepsy that may cause loss of consciousness are near universal as triggers for reporting, only one jurisdiction (California) presently identifies dementia among the conditions physicians are mandated to report.

Reportable conditions should include:

- Alcoholism or Alcohol Abuse.
- Multiple Sclerosis.
- Cerebral Palsy.
- Muscular Dystrophy.
- Diabetes.
- Dementia.
- Drug/Narcotic Abuse or Addiction.
- Schizophrenic Disorders.
- Epilepsy/Loss of Consciousness.
- Severe Anxiety Disorders.
- Heart Condition.
- Stroke.
- Loss of Limb (or loss of use).
- Manic Depressive Disorders.
- Any other illness producing a lapse of consciousness, blackout or seizure.

Until such time that uniformity exists among the jurisdictions with regard to medical qualifications of drivers, it will be up to the individual physician to become familiar with the medical classifications of drivers and the examination forms and procedures used by their jurisdiction. One jurisdiction[4] asserts that, "The physician has much of the responsibility for determining medical competence to drive. This implies that the physician has four duties: (1) to be aware of such medical conditions; (2) to detect these conditions in their patients; (3) to discuss with their patients any limitations on driving imposed by the medical condition; and (4) if necessary, report the patient's condition to the appropriate [State] agencies." These guidelines also list specific questions a physician may pose to a patient to help identify if he/she is at risk:

- Do you still drive? Where and when do you drive?
- How many physicians are you currently seeing? For what conditions?
- How many medications (including over-the-counter drugs) are you taking? Which ones?
- Have you noticed any changes in your eyesight recently?
- Any recent falls or weakness?
- Have you experienced any loss of consciousness? Any dizziness? Any drowsiness?
- Have you experienced any confusion or memory loss?
- Have you experienced any hearing loss? Since when?
- Have you experienced any problems with mobility? (e.g., difficulty turning your head?)
- Have you had any medical conditions such as a heart attack or stroke which makes movement of the arms and legs difficult? If yes, what type of vehicle are you driving?
- Are you willing to follow my advice about driving?

The DMV should provide physicians with information that explains the ways in which specific medical conditions increase driving risk. The link between medical conditions, functional impairment, and driving difficulties that increase the likelihood of a crash must be well understood by physicians; this information underscores physicians' desire to act in their patients' best interests, even if it means reporting to the DMV. It also aids in counseling their patients about how they should modify or limit their driving. This information, also including risk ratios for a wide range of medical conditions, may be found in recently-developed preliminary medical guidelines for assessing fitness to drive that are published by NHTSA in cooperation with the Association for the Advancement of Automotive Medicine (AAAM). The American Medical Association (AMA) and NHTSA will publish final guidelines in 2003.

Of particular importance to physicians is an understanding of how driving risk changes with progressive diseases, most notably dementia. Alzheimer's Disease (AD) is the most common cause of dementia among older adults, with prevalence estimated as high as 12 percent for persons aged 65 and older and 48 percent for those age 85 and older. Drivers with dementia are less likely to report driving problems, and their perception of their own driving ability is not reliable. Therefore, they are much less likely to self-limit their driving exposure than persons with, for example, declining vision, and reporting by physicians is more critical. During the early stages of dementia, the crash rate for AD patients is only slightly higher than that for the general driving population. But as the disease progresses, the AD-related crash rate more than doubles, and regular reassessments (every six months) are recommended. More extensive information about dementia and other progressive diseases is provided in the NHTSA/AMA guidelines.

[4] See *The Physician, the Older Patient, and Driving Safety: A Physician's Guide*, Texas Medical Association (with Texas Department of Transportation and Texas Department of Public Safety), 1991.

Finally, a jurisdiction should provide physicians with a listing of providers to whom they can refer patients with functional impairments for treatment and rehabilitation that may extend their safe driving years. These will include ophthalmologists, occupational and physical therapists, providers of classroom courses in traffic safety, and behind-the-wheel instruction from driving schools tailored to the needs of special populations.

Referrals from Vision Specialists. While some DMVs perform periodic vision screening as a requirement for license renewal, most do not; and where screening *is* performed, it is limited to only a subset of the visual capabilities needed for safe driving. Given research findings from Pennsylvania indicating that over half of those who fail a DMV vision exam are unaware that they have a vision problem, it is apparent that ophthalmologists, optometrists and other eye care specialists can be important external referral sources for detection of impaired drivers. It also emphasizes the need for periodic vision exams as a central element of driver screening and evaluation programs, where all providers of such services comply with measurement standards and vision screening procedures established by each jurisdiction.

A useful starting point for establishing requirements for periodic vision testing are the recommendations of the American Optometric Association (AOA), which advises individuals to get eye exams that include:

- A review of family and personal health history, including any problems the individual is having with vision.
- Tests to determine how well the individual can see at near and far distances.
- Tests to determine nearsightedness, farsightedness and astigmatism (a refraction) and if there is a problem, a lens prescription for correction.
- A check of eye coordination and eye muscle function.
- Tests of ability to accommodate changes in focus easily from near to far and vice versa and to maintain clear focus for reading and other close work.
- An eye health examination, involving a number of tests (in some cases, the eyes may be dilated for this part of the exam).

Current AOA guidelines recommend that people ages 10 to 40 be tested every 2 to 3 years; people ages 41 to 60 every two years; and people age 61 and older every year. Individuals age 61 and older have an increasing risk for the development of cataracts, glaucoma, and macular degeneration and other sight-threatening or visually disabling conditions. Also at elevated risk of driving impairment due to reduced visual function, are people age 65 and older who are diagnosed with diabetes or hypertension; who have a family history of glaucoma or cataracts; and who are taking prescription or nonprescription drugs with ocular side effects.

A certification that a jurisdiction's standards have been met is likely to be the least burdensome reporting requirement for vision care providers in a driver screening and evaluation program. Vision care providers should also be mandated to inform their patients of the driving risks associated with loss of visual function. If an impairment is remediable, an additional exam certifying compliance with jurisdictional standards may be needed. In such cases, a review of any licensing actions (restrictions) should follow visual correction or remediation.

Occupational/Physical Therapist Referral. While physicians are required to report drivers with specific disorders that may impair driving ability in certain jurisdictions, and may report

with immunity in others, many consider reporting to be a breech of confidentiality or fear that the patient will seek a new physician. An alternate approach within a driver screening and evaluation program is to require the physician to refer potentially at-risk patients to a driving program, which will utilize occupational therapists (OT's) and driving instructors to objectively determine driving ability.

After the assessment, the OT will explain performance outcomes to the patient and family, and will provide a written report to the individual's physician. This gives the family and physician an objective determination of driving ability to back up any recommendations for driving restriction or driving cessation. However, it is not sufficient that the OT or driving instructor report results only to the physician, because physically and mentally unfit license holders often continue to drive despite medical advice not to. It is therefore a program requirement that the professional who performs testing also reports to the licensing authority. Reports should include: a determination of current fitness to drive; the presence of impairments that are and are not remediable and, in the former case, recommended actions; and a timeframe when the individual's driving capability should next be reevaluated. Because occupational therapy practitioners are trained to look at physical and cognitive issues, they are in a good position both to evaluate and to rehabilitate drivers who are frail, disabled, or impaired as a consequence of disease or injury.

Hospital Plan of Discharge/Care Plan Referral. Drivers who have been hospitalized for a condition that results in impaired driving ability may learn about or be referred to rehabilitation services provided by occupational and physical therapists at the time they are discharged. Yet, a 1997 study of stroke survivors in Alabama reported that nearly half (48%) did *not* receive any advice about driving when leaving the hospital, and 87 percent did not receive any type of driving evaluation. Thirty percent of stroke survivors who drove before the stroke resumed driving after the stroke, with one-third of this group driving 6 or 7 days and/or 100 to 200 miles every week.

It is recommended that, as one activity during care plan development for patients about to leave the hospital, there is DMV notification for license holders who manifest any of a list of medical conditions or symptoms. This list should be developed with reference to the NHTSA/AMA guidelines discussed earlier under the Physician Reporting section.

Law Enforcement and Court Referral. Law enforcement agencies have the ability to identify and refer impaired older drivers in virtually all jurisdictions, and account for at least one-fourth and as many as two-thirds of reports concerning impaired drivers (of all ages). Not all law enforcement officers are properly trained to be observant for cues indicating functional problems, however, which can lead to unnecessary referrals and reexaminations. After stopping an individual who has violated a traffic law or is driving erratically, an officer should observe for cues of possible impairment that include observations of the driver's awareness and cognitive status (e.g., does he/she know time of day, day of week, and month of year; can he/she state the origin and destination of the trip; does the person stumble over words, or ramble); observations of appearance (e.g., does the person exhibit poor hygiene or inappropriate clothing); and observations of physical disability or frailty (does the person take a long time to walk a short distance, stumble/fall, shake, or seem uncoordinated).

Once stopped by a law enforcement officer, a driver identified as potentially functionally impaired should be referred directly to the DMV for screening and evaluation, and/or to the courts for a disposition of the case. Jurisdictions including Ohio and Florida recommend an offer of relief from legal action associated with the offense triggering the traffic stop, following participation in a screening, education, or remediation program. In any event, the participation of potentially impaired drivers in such programs should be mandatory, if a driver is stopped for unsafe driving. It should also be a requirement that evidence of an offending driver's participation in a screening and evaluation program activity is communicated back to the law enforcement unit that initiated the referral.

Courts should not give drivers who are identified by a police officer as potentially functionally impaired the option of only paying a fine, without further contact with a program activity where fitness to drive can be determined. In addition, the court may rely on a driver's pattern of crashes or convictions as a basis for referral into a screening and evaluation program where functional abilities are assessed. Depending upon the results of this assessment, a road test may be requested.

Education and counseling focused on the relationship between functional decline and driving risk, procedures for self-evaluation, changes in driving habits appropriate to declining abilities, and alternative transportation options in the community should be provided to all drivers referred for screening and evaluation by law enforcement officers or the courts, regardless of screening outcome.

Referrals from Social Service Providers. The Department of Health and/or Office on Aging in each jurisdiction can serve as referral sources that offer particular benefits to individuals and to the community, in terms of early detection of at-risk drivers prior to a crash, conviction, or traffic stop for negligent driving behavior. Education and counseling activities stressed as essential components of a screening and evaluation program also may be delivered most credibly and most effectively by social service providers, given the overall mission and the range of other supports available in these settings.

In many jurisdictions, the Health Department undertakes comprehensive evaluations of older individuals referred by family, friends, clergy, etc., who are at risk of losing their independence (through nursing home admission) because of health, social, or environmental problems. This assessment helps to determine the person's functional status and what an individual's needs are to maintain community living for as long as possible. A typical evaluation consists of medical, psychosocial, environmental, psychiatric, and economic assessments (performed by licensed social workers and nurses, in addition to consulting physicians and psychiatrists). The results of the evaluation are kept confidential, but a letter may be sent to the DMV indicating that a person should not be driving. This letter does not mention specific information about diagnosis, but instead describes only problem behaviors, thus meeting strict guidelines to avoid infringement of patient confidentiality.

The Office on Aging, if it exists in a jurisdiction, typically takes the lead in planning, coordinating and delivering programs and services for older adults to promote their health and well-being. These services are provided at the local level, through Area Agencies on Aging. Case management, a Title IIIb service under the Older Americans Act, begins with initial client intake and continues through the application process, assessment of need, service planning for a

client, provision or arranging for provision of services, review and reassessment of client need, and revision of service plans as appropriate. Screening and assessment are performed to determine new applicants' eligibility for services, or ongoing eligibility for services for existing clients. Functional assessment outcomes that affect safe driving ability could be reported to a motor vehicle agency, in the same manner that the Department of Health would refer a client.

Family/friend referral. Family and friends are a unique source of referrals because of their ability to observe impaired drivers over longer periods of time, and their awareness of conditions or behaviors not observed by visits to physicians or during interactions with licensing agency personnel. In jurisdictions with policies in place for family reporting, these referrals account for between 5 and 10 percent of requests for reexamination by the DMV. Jurisdictions that act upon referrals by family or friends should conduct a pre-investigation before requiring a re-test, to make sure the report is legitimate. Anonymous referrals are discouraged. However, if a jurisdiction allows anonymous referrals, it is strongly recommended that such information is investigated and validated before confronting the accused.

At the same time, steps need to be taken to facilitate referrals by family and friends. These steps may include distribution of information to the public detailing if, when, and how one should refer an impaired driver. In addition, since physicians are the most frequent contact, and are often reluctant to get involved with families and issues of driving cessation, education campaigns must include and target health care personnel. This is a sensitive issue when a parent or grandparent is involved; family and friends require the support of physicians, law enforcement personnel, *and* the DMV in their attempts to protect their loved ones.

SCREENING AND ASSESSMENT TECHNIQUES

To keep people driving safely longer while protecting the public through early identification of functionally impaired drivers requires a cost-effective approach to the administration of valid screening and assessment techniques. The Model Program guidelines distinguish *screening* activities as those that can be applied quickly by a licensing agency, to gauge the priority for further evaluation of an individual's functional status. In contrast, techniques for *assessment* are applied diagnostically, to determine an underlying medical or neurological condition that explains the functional loss and may suggest a course of treatment or remediation.

The full range of functional impairments for which candidate screening techniques were evaluated during Model Program development is detailed in appendix A.

Screening activities are further distinguished by their feasibility of implementation, with specific reference to the personnel qualifications, training requirements, and needs for space, equipment, and other resources to carry out functional testing and interpret test results. For more information on these topics, see the later discussion on Program Implementation.

Following the 1992 NHTSA/AAMVA Guidelines, the abilities for which it is important to detect functional loss as early as possible can be clustered loosely into *visual* abilities, *mental* abilities, and *physical* abilities. In each category screening activities leading, where appropriate, to more in-depth or comprehensive driver assessments can be recommended as Model Program

components. It is essential to remember that: *a screening "failure" is not in itself grounds for licensing action, but serves as a trigger for further evaluation***.**

In fact, recommendations for the implementation and scoring of driver screening procedures have been developed at two levels. The results of screening procedures may be used to assign a driver to a *low priority* or *high priority* for further evaluation. According to this two-tiered approach, not one but two performance thresholds or "cutpoints" must be identified for each measure of functional ability included in a screening battery.

The cutpoint used to indicate a low priority for further evaluation connotes an early stage of functional decline, where prevention is stressed and the opportunities for remediation or to make changes in driving habits to keep driving safely longer are greatest. Individuals who score above (i.e., those who perform *better than*) this "prevention threshold" on all functional measures in the screening battery effectively receive a clean bill of health. For these persons, a functional performance baseline will be established against which future decline may be monitored. This may be accomplished through screening in subsequent license renewal years; testing by others, such as health care providers; or self-testing. Educational materials should be provided to these intact, healthy individuals to underscore the importance of early detection of functional loss. But without any medical basis for action by the licensing authority, it may be assumed that these individuals can safely continue to drive with whatever level of restriction—if any—was on their license before the screening.

Individuals who score below the "prevention threshold" on one or more functional measures in the driver screening battery should receive further evaluation. The nature and the urgency of such evaluations depend upon *how far below* this threshold a driver scores, however. If an individual scores below the "prevention threshold" but above a second cutpoint connoting an "intervention threshold," he/she has the lowest priority for further evaluation. And the types of further evaluation undertaken with these drivers would typically be limited to an interview; medical history review; pharmacological review; and potentially, a diagnostic assessment through clinical referral, to support a prescription for remediation. It would not be expected that road testing would often be required at this relatively modest level of functional decline.

Individuals having the highest priority for further evaluation are those who not only score below the "prevention threshold," but also fail to perform at or above the lower cutpoint, or "intervention threshold." This cutpoint connotes a more advanced stage of decline on one or more functional measures, where intervention is stressed to protect both the individual and the public. Drivers demonstrating this degree of functional loss would be subject to all evaluation activities noted above, but on an accelerated schedule. And, it is expected that many would also be required to complete a behind-the-wheel evaluation. The premise for establishing multiple cutpoints may be represented graphically, as shown in figure 1.

Establishing the cutpoint scores identifying a "prevention threshold" and an "intervention threshold" is obviously a key aspect of any jurisdiction's driver screening program. These scores should reflect analysis of very large, population-based samples that provide an accurate understanding of *(a)* how functional abilities change with normal aging, and *(b)* the extent to which functional decline can be related to motor vehicle crash involvement, in particular "at fault" crash involvement.

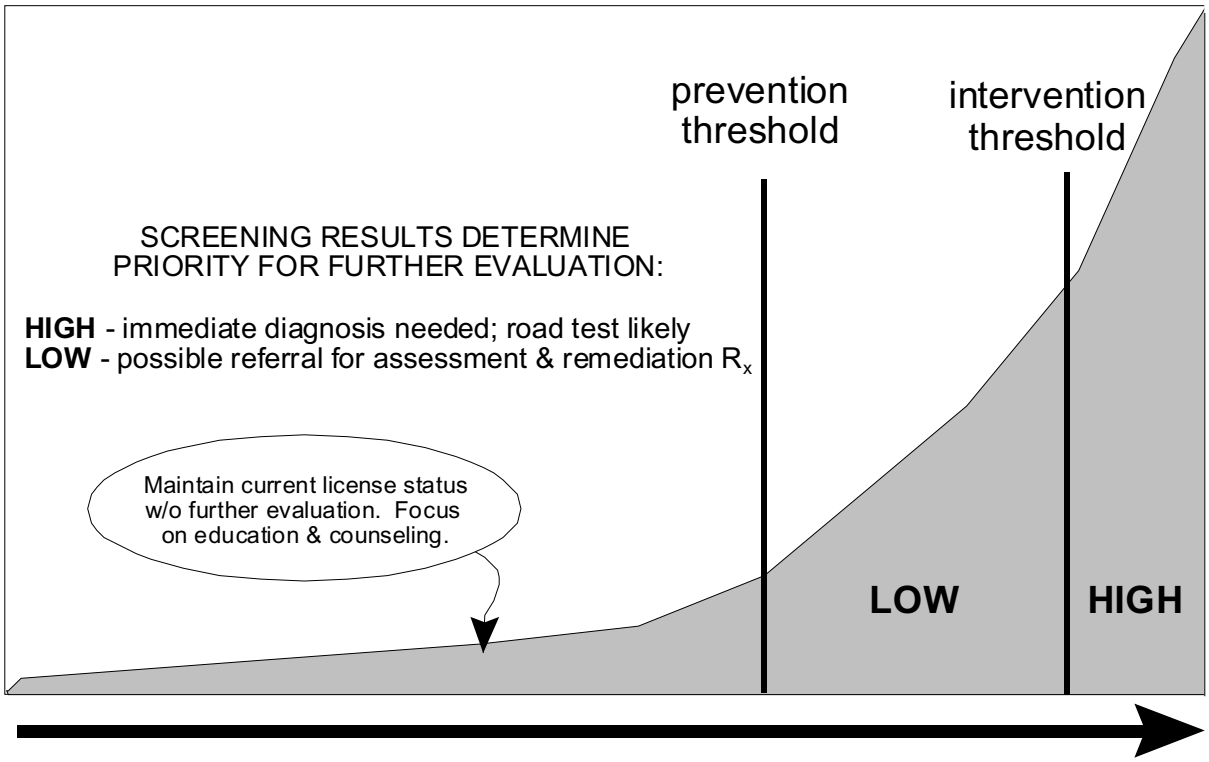

Figure 1. Multiple cutpoints established for prevention and intervention activities depending upon level of functional impairment.

Practical considerations for choosing cutpoints are discussed below, followed by recommendations for the functional domains that should be targeted by jurisdictions for use in driver screening and evaluation programs. The focus on a particular aspect of functional ability, rather than a particular test procedure, acknowledges that there are often a number of reliable measurement techniques in a given area and that what may be feasible in one setting is not appropriate in another.

The goal in establishing the "prevention threshold" in a driver screening program is to set the bar low enough so that very few people who are at increased risk of a crash due to functional impairment are missed. Of course, this strategy also increases the number of potential "false positives"—people who will never be crash-involved or, if they are, it will be for another reason that is unrelated to the functional ability under consideration. This places a premium on the administrative feasibility of the driver screening techniques, to minimize the "cost side" of the cost-benefit equation. At the same time, the benefits of implementing driver screening at this level include anticipated gains in personal mobility—because problems more often are detected early enough to be remediated such that people can keep driving safely longer—in addition to savings realized through crash reduction.

By contrast, the goal in establishing the "intervention threshold" is to identify, with much higher specificity, those individuals who pose immediate risk to themselves and others by continuing to drive. This goal justifies the higher costs of diagnostic assessment and road testing. Since the bar is set higher, making it more difficult to fail the screen, there are many fewer people affected. The benefits of implementing driver screening at this level will be reflected less in terms of mobility gains—because the potential for remediation of functional loss is significantly lower at a more advanced stage of decline—and more in terms of actual crash reduction. Also, at this level it is essential to minimize false positives, to maintain credibility.

The screening activities recommended here as being most useful in helping an agency advance personal mobility *and* public safety goals within its jurisdiction are geared to the clusters of functional abilities identified earlier—visual, mental, and physical abilities.

Recommended vision tests include the measurement of (1) *near* and *far acuity* and (2) *contrast sensitivity*, and testing for (3) *visual field loss*. These visual functions help determine how well and under what conditions a person can sense objects in the environment. As performance in visual function declines, the probability that hazards, traffic control messages, navigational cues and other safety-critical information will be detected early enough so that a driver can understand and apply the information to maneuver safely falls to an unacceptably low level.

Commercially available, effective methods for performing acuity and contrast sensitivity testing include manual and automated techniques. In the latter case, both standalone testing machines and computer-based testing programs are available; respectively, these require proper maintenance and careful adherence to instructions regarding viewing distance and control over ambient lighting conditions. These same concerns also apply with manual techniques (e.g., wall charts). Testing for limitations in visual field size is more difficult. Manual (sometimes called "confrontational") techniques are notoriously unreliable. While vendors of standalone vision testing machines commonly advertise this measurement capability, a clinical (ophthalmological) perimetry evaluation is most reliable.

Recommended tests of mental functions include the measurement of (1) *working memory* plus (2) *visual (divided) attention processing speed*, (3) *directed visual search*, and (4) the ability to *visualize missing information*. These capabilities enable motorists to seek and acquire information needed for everyday driving, to recognize and anticipate safety threats, and to make timely and appropriate maneuver decisions to avoid hazards and conflicts with other road users.

The measurement of working memory, of directed visual search, and of a person's ability to visualize missing information can all be accomplished using manual methods drawn from neuropsychological test batteries. With training, including periodic follow-up for quality control, these measures can be applied quickly and reliably at very modest cost, based on extensive field tests sponsored by the NHTSA. Automated (computer-based) methods are also available and have been used by DOT's in pilot applications[5]. Manually obtaining measures of how fast a driver can divide and switch his/her attention is problematic, however; because response times are measured in fractions of a second, only computer-based tests of these abilities are feasible.

Recommended tests of physical ability include tests of drivers' (1) *lower limb strength and mobility* and (2) their *head-neck rotation* capability. Measures of the former ability predict

[5] *Ref.* Florida Department of Highway Safety, Department of Motor Vehicles, *Florida Aging Driver Council Study*.

how quickly a driver can move his/her foot from the accelerator to the brake in an emergency situation, while the latter ability influences how well the driver can scan the environment for conflicts, especially at intersections and when merging or changing lanes.

While the targeted abilities can be measured quickly, cheaply, and reliably in an office setting, testing should be performed in private—and may be done off-site.

In summary, these guidelines recommend that nine specific aspects of functional ability be measured in the Model Driver Screening program. These abilities, the type of test methods that can be used to measure each ability, and the testing time that will accommodate an estimated 85 percent of older drivers in the general population[6] are summarized in table 4. The three vision tests are already included in (or can be easily added to) the screening protocols offered by most manufacturers of automated vision testing equipment used by DMV's. The two physical abilities are simple and straightforward to measure, within 1-2 minutes and at very modest cost. As shown, three of the four mental abilities are the most time-consuming to test. But, functional losses in these areas also bear the strongest relationships to crash involvement.

Finally, jurisdictions are discouraged from collapsing measures to expedite testing. A significant decline in *any* of the targeted functional abilities can result in driving impairment. Similarly, pass/fail criteria or "cutpoints" should be specific to individual measures, not to any sort of combined criterion. Up-to-date guidance about the most feasible and effective techniques for measuring each ability, together with suggested cutpoints to trigger program interventions, should be obtained through reference to the most current information available from NHTSA.

EDUCATION AND COUNSELING ACTIVITIES

Providing information to older drivers and their families about the link between functional decline and driving safety, and about resources that exist to help preserve or extend their mobility as they grow older, is central to the Model Program. Community outreach and public education about these topics was endorsed by 85 percent of the jurisdictions in the 1998 AAMVA/NHTSA survey of license administrators in North America. When individuals may go for extended periods without examination or observation by licensing staff (up to 18 years in Florida, for example) they are deprived of information they need to remain safely mobile. And in addition to the drivers themselves, physicians, vision care specialists, and other health care providers—who may also be reached through professional and trade organizations—are a critical audience for educational efforts within a jurisdiction's driver screening and evaluation program.

Educational materials designed for direct distribution to the public should emphasize that older persons themselves are at greatest risk if they drive while functionally impaired. A clear explanation of the visual, mental, and physical abilities deemed essential for safe driving should be provided, including examples of their roles in common driving tasks. Procedures for screening, providers of screening services, and the consequences of scoring below specified cutoffs should also be stated—underscoring the fact that a "poor" screening outcome may lead to early detection of a problem that has a much better chance of remediation than if detected at a later time. Above all, educational materials should convey to the public that self-knowledge *and* an understanding by one's physician, about the status of one's functional abilities as highlighted in these guidelines, are essential to prolonging the safe driving years.

[6] *pers. comm.*, Mr. Jack Joyce, Office of Driver Safety Research, Maryland MVA, January 23, 2002.

Table 4. Key functional abilities to measure in a driver screening program.

Targeted Functional Ability	Test Method and Duration of Testing
1. Visual Acuity (Near *and* Far)	Manual Test Administration: 1 minute Automated Test Equipment: 1 minute
2. Visual Contrast Sensitivity	Manual Test Administration: 1 minute Automated Test Equipment: 1 minute
3. Field of View	Automated Test Equipment: 1 minute
4. Working Memory	Manual Test Administration: 1 minute
5. Directed Visual Search	Manual Test Administration: 6 minutes Automated Test Equipment: 3 minutes
6. Visual (Divided) Attention Processing Speed	Automated Test Equipment: 4 minutes
7. Visualization of Missing Information	Manual Test Administration: 3 minutes Automated Test Equipment: 3 minutes
8. Lower Limb Strength and Mobility	Manual Test Administration: < 1 minute
9. Head-Neck Rotation	Manual Test Administration: < 1 minute

One example of a brochure that may serve as a useful starting point for jurisdictions wishing to develop educational materials for the general public is presented in appendix G ("How Is Your Driving Health?"). NHTSA-sponsored research supporting the development of educational materials geared to the health care profession was initiated in 2000.

Education materials distributed in several jurisdictions now include a guide for self-assessment by older persons and their families. Insurance companies and the AARP also offer self-assessment guides. Such guides describe procedures that can be carried out quickly, easily, and cheaply in one's own home. This can be a valuable component of a screening and evaluation program, to the extent that older persons gain awareness of their current functional status; this knowledge establishes a baseline against which any future decline serves as a "red flag" that may be brought up during their next visit to the doctor. Guides for self-assessment should include suggestions about which changes in driving habits make sense when functional decline in one or more safe driving abilities is revealed.

In the Model Program, the availability of counseling services to help explain test results and answer drivers' questions about what to do next is a necessary accompaniment to functional screening, wherever it is performed. For those who do not evidence any gross functional impairments, this service must address changes in driving that may be necessary with future decline, or, that may be considered sooner to make driving a more comfortable experience. Those who are impaired with respect to one or more safe driving abilities should receive an appraisal—pending further evaluation—of whether continued driving, albeit with restrictions, is an option. If so, the nature of the restrictions the DMV is likely to impose, and their impact on the driver's mobility and quality of life should be discussed. If continued driving depends upon remediation of a functional deficit, the nature and amount of time required to complete the remediation, its eligibility for coverage under Medicare or other insurance, and its prospects of restoring full or partial driving privileges should be addressed empathetically but realistically.

Driver counseling may be provided on an in-house or referral basis. The best course will vary from jurisdiction to jurisdiction, depending upon resources available in the agency and in the community. Peer counseling provided by others who have confronted restriction or cessation of their driving privileges can be extremely effective in helping individuals cope with emotional distress and life changes in this difficult situation. Further, while agency staff in a jurisdiction may need to coordinate this activity, peer counseling can often be performed by volunteers. This is only one component of driver counseling, however, and agency staff must keep in mind that peer counseling alone is not likely to meet all of the driver's needs.

Community-based and social service programs may also aid in a number of areas that are critical for the person who ceases driving; in addition to trip planning, these include managing the cost burden of maintaining and insuring an automobile that may no longer be needed—or deciding how these resources can be better used to meet transportation needs. Perhaps most important is to provide guidance and support for older persons in the practical aspects of utilizing alternative transportation services. Not only should the individual's present physical condition be taken into consideration in this regard, but future needs and the transportation options that can accommodate them must be addressed to assure an uninterrupted continuum of care and the best quality of life possible given further functional decline.

A geographically diverse sampling of programs for counseling older and functionally impaired persons, that span the full range of issues associated with driving cessation, follows:

- *Older Drivers in Crisis*; Central Plains (Kansas) Area Agency on Aging; Wichita, KS.
- *Senior Driving Awareness Program*; Michigan Area Agency on Aging 1-B, Southfield, MI.
- *Driving Decisions for Seniors*; Eugene, OR.
- *DriveWise*; Beth Israel Deaconess Medical Center; Boston, MA.
- *Senior Health Center*; St. Mary's Hospital Senior Health Center; Richmond, VA.
- *Getting Around—Seniors Safely on the Go*; Howard County Office on Aging, Columbia, MD.
- *Getting in Gear*; Tampa Bay Regional Council, Area Agency on Aging, St. Petersburg, FL.

Regardless of who provides counseling services, drivers—especially those with gross functional impairments without clear potential for remediation—must be "connected" to alternative transportation options in the community. Alternative transportation provides the "safety net" that allows individuals who cannot or choose not to continue driving to maintain the dignity and quality of life afforded by independent mobility.

Options at the community level will likely include some public providers, but principally private providers, of transportation services. Surveys of senior citizens consistently show very small rates of use of public transportation services—5 percent or less. This underscores the fact that older persons who no longer drive are *consumers of transportation services* who, quite understandably, make choices based on available information about the option that best meets their needs and preferences while accommodating their budgets, schedules, and functional limitations. In the vast majority of cases—95 percent and up—this choice is *not* a publicly-funded option, whether fixed-route or demand-responsive (e.g., paratransit).

Connecting persons in need of alternative transportation to appropriate providers thus begins with accurate and up-to-date information describing public and private options, the names and numbers of contact persons, hours of service, fees, and restrictions, if any, on the availability and nature of service. For example, door-to-door services must be distinguished from curb-to-curb services. The need to acquire and regularly update such information on a city, county, and regional basis cannot be emphasized too strongly. But in many jurisdictions, this responsibility may well be viewed as outside the scope of a screening and evaluation program. The need for a simple sequence of actions by the DMV is thus identified, extending through counseling of persons who can no longer drive—as discussed above—to a "hand off" to a point of contact who can provide all information necessary to support an informed choice about which alternative(s) in the person's home community will work best for him/her.

The recommended point of contact in this regard in the U.S. is the Area Agency on Aging closest to the driver's home. To enter the network encompassed by the National Association of Area Agencies on Aging, an unbiased source of information for seniors and their families, the *Eldercare Locator* service accessible toll-free at 800-677-1116 is most helpful. This is a public service of the Administration on Aging of the U.S. Department of Health and Human Services. Each office within the nationwide Area Agencies network is staffed by trained professionals dedicated to helping aging persons find local support services, including transportation options, which will enable them to remain independent.[7]

RESTRICTION AND REMEDIATION OPTIONS

Restrictions may be imposed by the licensing authority, or may be self-imposed; in both cases the intent is to preserve at least limited privileges and independent mobility for individuals who experience diminished capabilities in one or more of the functions needed to drive safely. Remediation of functional deficits to expand an individual's driving privileges, or to permit restricted driving where privileges would otherwise be completely disallowed, is central to the goal of the Model Program to help people keep driving safely longer.

Driving Restrictions

Self-Restriction. In driving habits surveys, older drivers commonly report driving less often and driving fewer miles during nighttime, poor weather and poor visibility conditions, and peak traffic conditions than younger drivers. They also avoid specific roads, intersections, and other locations that they regard as high-risk. In other words, older drivers *who are aware of functional disabilities* frequently limit their driving exposure to situations they perceive as least

[7] *pers. comm.,* Ms. Phyllis Madachy, Administrator, Howard County, MD, Area Agency on Aging and President, Maryland Association of Area Agencies on Aging, July 8, 2002.

demanding. This may vary greatly, however, depending upon the nature of the functional decline. Certain losses of vision or hearing, as well as physical impairments, are relatively easier to identify and to compensate for or (potentially) to correct. At the same time, the prevalence of undetected eye disease increases with age, and drivers with diminished cognitive abilities may completely lack awareness of their functional loss. In particular, drivers with dementia overestimate their capabilities and may not restrict their driving to times and situations that reduce risk. In addition, drivers who have no access to alternative transportation and who live alone may be more likely to drive even when they realize they are at higher risk; reports from older driver focus groups consistently indicate that when there is no choice but to drive to get to a doctor appointment, the grocery store or pharmacy, they will do so.

For the reasons above, self-regulation alone is not sufficient to mitigate the risk to themselves and to others posed by functionally impaired drivers. Self-regulation complements, but does not replace, a formal screening and evaluation program. At the same time, the Model Program goal to foster self-evaluation, and evaluation by friends and family members, will further whatever safety gains are to be realized through self-restriction. The education and counseling resources provided within the Model Program will help older persons, their friends and families understand which capabilities are important to drive safely, how to test them, what their score means, whether and how they may be able to compensate for a functional loss, and where to go if they wish to pursue remediation for their loss.

Education and counseling provided within the Model Program also should help older persons who remain functionally intact to understand that they may unnecessarily limit or prematurely stop driving. While some older persons may choose to cease driving, for personal reasons, others may gain confidence from the knowledge that their visual, mental, and physical abilities are within the normal range, and safely continue to independently meet their own mobility needs.

Restriction by the Motor Vehicle Agency. While practices vary from one jurisdiction to another, it is a universal practice to try to accommodate drivers with diminished functional abilities by applying license restrictions that limit exposure and/or mandate the use of adaptive equipment to preserve driving privileges. The determination of which restrictions are appropriate to a particular impairing condition, as well as the resolution of disputes when a restriction is contested by a driver, including all clinical examinations and/or road tests that may be performed, should be carried out under the auspices of a Medical Advisory Board (MAB) or an equivalent office within the agency.

In the Model Program, it is expected that the MAB will establish restriction codes (or confirm the appropriateness of existing codes) that correspond to conditions which are self-reported at the time of first licensing or license renewal. Many common conditions such as the wearing of corrective lenses to meet vision standards will be accommodated in this manner. Guidelines released by NHTSA and the AMA regarding the consequences for safe driving of a wide range of diseases and medical conditions will support the process of establishing appropriate restrictions and restriction codes. A formal review process whereby the MAB will determine any/all restrictions that should be recommended to licensing officials should be developed if it does not already exist within a jurisdiction.

Examples of adaptive equipment requirements or restrictions that may be recommended for specified physical impairments are provided in table 5, as follows.

Table 5. Restrictions to accommodate physical impairments.

Physical Ability	Adaptive Equipment/Restrictions
Coordination Includes all disorders that limit the driver's ability to coordinate motion of bodily members. All body members are present, but cannot be adequately controlled.	• Hand-operated controls (brake and accelerator) • Low effort power steering • Spinner knobs of cuffs (grip on steering wheel) • Left foot accelerator • Steering column mounted dimmer and horn • Right side turn indicator • Electrical lifts and transfer boards • Automatic transmission • Pedal extensions
Range of Motion Disorders that limit the ability to reach and operate various components of the automobile	• Hand-operated controls (brake and accelerator) • Low effort power steering • Spinner knobs of cuffs (grip on steering wheel) • Left foot accelerator • Steering column mounted dimmer and horn • Right side turn indicator • Automatic transmission • Pedal extensions • Seat cushions • Prosthetic restrictions
Strength of Motion Disorders that limit the strength and endurance of the driver.	• Special mirrors • Mechanical directional signals • Power or low effort steering • Automatic transmission • Spinner knobs • Power brakes

In cases of visual loss, examples of restrictions that may be recommended include, but are not limited to: *corrective lenses only; daylight driving only;* and *outside rearview mirror(s) required*. Examples of restrictions that may be recommended for loss of mental function include, but are not limited to: *area restriction* (__ mile radius of driver's home); *road restriction* (no driving permitted on ___ street/avenue/route − must be specific); *road class restriction* (e.g., no freeway driving); *speed limit restriction* (no driving on roads with posted speed limit of __ mph or higher); *driving permitted only within ____ city/village limits*; *driving <u>not</u> permitted within ___ city/village limits*; and *driving permitted only between the person's residence and a named destination* (e.g., place of work, doctor's office, etc.).

Restrictions applied by the motor vehicle agency must be enforceable—a law enforcement officer must be able to determine if the restriction on the license is being observed. This rules out restrictions such as "must take medication," or "must check blood sugar before driving." If adaptive equipment restrictions are to be applied, the equipment should be in place at the time a driving examination or evaluation is performed; the restricted driving privileges in such cases are contingent upon successful completion of the driving evaluation.

Remediation Options

Many visual, medical, and physical rehabilitation options are available that can add substantially to the safe driving years of normally-aging individuals. In many cases, rehabilitation with or without adaptive equipment can restore function sufficient to permit at least restricted driving for persons with disease or trauma, as well.

The specific service providers a functionally-impaired person can and should access depend on the type and severity of the impairment, and also upon the medical status of the particular diminished capability as categorized by the insurance industry. Vision-related problems, for example, may be remediated using either non-surgical or surgical methods, and require contact with either an optometrist or an ophthalmologist. And, vision care is generally considered to be a "medically-necessary" activity by the health insurance industry, and as such, is generally a covered expense. This is also the case for remediation of other *medical* conditions (e.g., stroke, traumatic brain injury, and cardiovascular problems), but not currently for activities that are specifically designated as remediation to permit continued driving. This is because driving is not presently categorized as a "medically necessary" activity by the insurance industry. Therefore, driving evaluations and adaptive equipment are not usually Medicare reimbursable; but, portions of evaluations (neurological, for example) may be covered if the client was referred to a physician for symptoms of cognitive decline that affect activities of daily living or instrumental activities of daily living. This distinction strongly impacts the affordability of, and access to, remedial services for older persons with driving impairments.

Considering the extent to which the prospects for remediation depend upon diagnosis and referral by a driver's physician or other health care providers, it is reasonable to expect that the most up-to-date and definitive information on remediation options also will be provided to functionally-impaired drivers by these professionals. Knowing which questions to ask is always helpful, however, and will be facilitated if drivers and their families have access to general information concerning: the nature of interventions; who they serve and when they are needed; their availability; their expected benefits; and, their approximate cost. This information should be maintained and provided to participants in a jurisdiction's screening and evaluation program.

Tables 6 and 7 provide an overview of the range of options to address visual, physical, and medical conditions, and to remediate deficits in knowledge or driving skills, respectively.

Table 6. Range of options to remediate driving impairments associated with visual, physical, or medical conditions.

Remediation	Who is served *or* when is service needed?	Availability	Benefits	Approximate Costs
Non-Surgical Visual Correction	$ Annual (age 61+) or bi-annual (age 41-60) eye exam to detect eye diseases associated with aging $ Lens prescriptions for drivers with visual acuity below 20/40 $ Eye drops for drivers with glaucoma	Optometrists & ophthalmologists nationwide	Correction of visual acuity and prevention of blindness (between 40 – 50% of all blindness can either be prevented or effectively treated)	$ New patient exam: $ 100+ $ Lenses 100 - $500 every 2 years $ Office visits for glaucoma: medication $800- $1,800 per year
Surgical Visual Correction	Drivers with cataracts, diabetic retinopathy, macular degeneration	Ophthalmologists nationwide	Restoration of vision to 20/40 or better, for cataract removal and interocular lens implant	For cataracts, $2,000 to $3,000, depending on surgery location
Physical Therapy	Drivers with restricted range of motion , general muscle, weakness, poor endurance, fatigue, lack of body balance, poor muscle control	Physical therapists and physiatrists nationwide	Improvements in strength, coordination, endurance, and range of motion in the affected body parts	$75 to $150 per hour
Exercise Program	All older persons	Fitness centers, YMCA/YWCA, other community-based programs	Improvements or maintenance of strength, flexibility, range of motion, endurance, and postural stability (falls reduction), increased feeling of well-being	Cost ranges based on type of facility (e.g., free for exercises done in the home or walking, to $ 30+per month at an exercise center)
Occupational Therapy & Prescriptions for Adaptive Driving Equipment	$ Drivers recovering from loss of function due to medical conditions (e.g., stroke, traumatic brain injury) $ Drivers with medical conditions that result in progressive functional decline (e.g., Parkinson's Disease, Alzheimer's Disease)	Occupational therapists (or Certified Driving Rehabilitation Specialists) nationwide	$ Compensation for loss or reduction of physical function through vehicle modification $ Compensation for visual field loss (hemi-neglect), and potential improvement in visual search and attention skills	$ $50 - $150/hour $ Cost of adaptive equipment depends on the modalities affected, and whether the equipment is electrical or mechanical
Risk Reduction from Side Effects of Medications	All older persons	Physicians, nurse practitioners, and pharmacists	Review of medications that singly or in combination result in impairment to driving skills and change in driving habits as needed	Undetermined: Could be part of annual physical exam ranging from $50 - $200+

Table 7. Range of options to remediate deficits in road/traffic knowledge or vehicle control skills.

Remediation	Who is served or when is service needed?	Availability	Benefits	Costs
Refresher Driver Education Classes	Mature drivers, age 55+	Nationwide through AARP ("55-Alive"); AAA ("Safe Driving for Mature Operators"); National Safety Council ("Coaching the Mature Driver")	$ Provides awareness of functional declines with aging, their effects on driving skills, and techniques for compensation $ Educates drivers about new signs and road geometries, and provides tips for driving more safely (e.g., 3-second following distance rule, merging onto highways, trip-planning strategies)	Ranges from $5 to $40 depending on program and part of the country
On-Road (Behind-the-Wheel) Training	$ Drivers recovering from medical conditions $ Drivers who need confidence-building	Driving schools staffed with Certified Driver Rehabilitation Specialists, and affiliated with the Association of Driver Educators for the Disabled, the Department of Veteran's Affairs, or State Rehabilitation Services Agencies	$ Provided continuing ability to keep driving through training in the use of adaptive equipment and strategies to compensate for disabilities $ Trains individuals who drove infrequently in the past and want to return to driving (e.g., surviving spouses, persons recovering from long-term illnesses)	~ $50+/hour
Trip Planning/ Navigational Assistance	All older persons	$ Web-based access to driving directions (e.g., yahoo.com; excite.com; mapquest.com) that show a map and text directions with distances between turns $ CD-ROM map programs (e.g., MS Streets98/2000, Rand McNally TripMaker) $ AAA Triptiks	$ Increased expectancy/peace of mind by knowing the exact route to a destination $ Some search engines allow the user to specify types of roads to avoid (e.g., toll roads, freeways)	$ Internet-based driving directions free, with Internet access and a PC $ Some computers come pre-loaded with MS Streets98/2000; other CD-ROM programs available from $15 - $35 $ Triptiks free to members
On-Board Navigational and Emergency Assistance	Older persons who restrict their driving because of concerns about their personal safety in the case of a breakdown	$ GM OnStar in-vehicle safety, security, and information service available on many GM vehicles $ Standard cell phones available through many vendors nationwide	$ OnStar combines Global Positioning System satellite technology and wireless communication to link the driver and vehicle to a 24-hour staffed center that offers real-time personalized help $ Cell phones allow driver to contact emergency personnel, as well as friends/family, and other services	$ Dealer-installed OnStar system= ~$700; safety/security package = ~$200/yr., 2001 price quote. Factory installed system included vehicle cost & includes 1 yr of service. $ Phone and initiation costs vary, plus monthly cost ~$30 +

PROGRAM IMPLEMENTATION

INFRASTRUCTURE NEEDS

Each jurisdiction deciding to implement a screening and evaluation program will face unique challenges in program administration and in the delivery of services to its driver population. At the same time, it is possible to identify certain resources that will be required by most if not all jurisdictions, and to provide guidance for certain aspects of program operations that should uniformly enhance their efficiency and cost-effectiveness. Following a brief discussion of system capacity issues, the consideration of resource requirements in the Model Program will focus on personnel, training, and facilities and equipment needs.

The capacity of a screening and evaluation program, represented as the number of individuals screened annually in a State, is driven by the laws and policies governing eligibility. Jurisdictions in which people become eligible for screening for the functional abilities to drive safely only through referral to the DMV will have the lowest capacity. At the high end would be any jurisdiction where some type of screening, however limited, was implemented as a requirement for all drivers for initial licensure and for license renewal. Between these extremes are jurisdictions where screening for functional ability would be required in the case of valid referrals to the DMV, and also would be phased in for license renewal at a particular age threshold. The Model Program reflects this intermediate strategy, while recognizing that different jurisdictions will choose different age thresholds, for different reasons.

Estimating system capacity thus begins with a review of historical records showing the number of referrals by source to the DMV, plus current and projected age distributions of licensed drivers in a jurisdiction. Through education activities for the general public and for specific groups such as physicians and others in the health care profession that are recommended under the Model Program, it is expected that the volume of referrals will increase. In addition, changes in the laws which require—versus those which allow—physician reporting; the immunity provided in the case of such referrals; and the penalties and liabilities associated with failure-to-report all will impact referral volumes. The result of initiatives in this area can be dramatic: In Pennsylvania, following an information campaign reminding physicians of their mandate to report patients with conditions that could impair the ability to drive safely, the number of drivers referred to PennDOT increased from 10,000 in 1990 to over 40,000 in 1994.

Gauging system capacity in terms of the increase in the number of older persons in a given jurisdiction, which may be projected with reasonable accuracy from Census data, must also take into account the percentage of drivers in different age cohorts who retain their licenses. Research indicates that while the rate of licensure drops off significantly by about age 80 for females, and 85 for males, the percentages of all older men and older women with licenses are increasing and that gender differences are narrowing over time[8]. If screening requirements for renewal are put in place, this trend may be offset to a small degree by voluntary cessation of driving. During pilot studies in Maryland it was observed that approximately 10% of drivers who were referred to the MVA for medical evaluation declined to keep their scheduled appointments for mandatory functional screening, instead choosing to relinquish their licenses.

[8] *Source:* NPTS 1983, 1990, 1995.

After considering the factors outlined above and weighing their likely impact in a State, licensing authorities will be in a position to refine their projections of the number of drivers who would be screened, at particular age thresholds. A higher threshold will result in fewer drivers eligible for screening through the renewal process. For example, in Maryland in the year 2000 there were 452,591 drivers over age 65, or 12.7% of the driving population, but only 182,530 drivers or 5.1% of the driving population over age 75.

A final adjustment in estimating the annual numbers of drivers eligible for screening under the Model Program will reflect the renewal cycle in a given jurisdiction. Based on the Maryland example, where the renewal cycle is five years, the drivers eligible for screening under the Model Program would include referrals plus ~90,000 using an age threshold of 65, and referrals plus ~36,000 using an age threshold of 75. Of course, in future years these numbers would be expected to grow according to the demographic and behavioral trends noted earlier.

Thus far, the discussion of system capacity to perform driver screening has considered only *first-tier* assessments. As emphasized in these guidelines, these types of screening activities are designed primarily to determine whether and how urgently further evaluation may be required. And while screening may identify drivers with significant impairments who would otherwise go undetected, the functional measures recommended under the Model Program also hold the promise of reducing the number of drivers subject to more sophisticated and costly diagnostic assessments.

A case in point is drawn from the Maryland Pilot Older Driver Study conducted in cooperation with NHTSA. Relative to the period before a functional screening requirement was put in place for drivers referred to the MVA for medical evaluation, the percentage of people cleared to continue driving *and* the percentage for whom restrictions or cessation was recommended both increased; at the same time, the percentage of referrals for whom a recommendation was delayed pending a follow-up interview and/or a road test dropped sharply. A key benefit of the functional screening data was that it removed a substantial degree of uncertainty from the driver evaluation process, with dramatic gains in program efficiency. The official in charge of the pilot program in Maryland estimated that, in the future, screening could reduce the required number of road tests for referred drivers by *up to 50 percent*.[9]

Personnel

Implementation of the full Model Program as recommended in these guidelines will involve the services of a diverse group of professionals to perform diagnostic assessments, education, counseling, mobility planning, and a host of remedial activities that are designed to help people keep driving safely longer. Medical and ophthalmological specialists, other health care professionals, and especially each driver's personal physician will play essential roles in a successful program. Occupational therapists and others qualified as Certified Driver Rehabilitation Specialists (CDRS) are likely to be in greatest demand; these individuals perform driver evaluations as well as prescribing adaptive/assistive equipment and training drivers in its use. Social service providers, at Senior Centers and elsewhere, are highly trusted resources for counseling and mobility planning when a transition from driving is under consideration.

[9] Dr. Robert Raleigh, Chief, Medical Advisory Board, Maryland Motor Vehicle Administration.

However, while professionals such as these must be integrated into the operational plans for any driver screening and evaluation program that may evolve in a jurisdiction, they are external to the licensing agency, and their qualifications and training requirements are governed by certification bodies within their respective areas of specialization. In contrast, a professional who will serve as a Case Manager and those personnel charged with administering "first-tier" functional screening measures are more likely to include—though are not necessarily limited to—DMV employees.[10] As indicated in the later discussion of Program operations, a nurse is viewed as the best-qualified person for the Case Manager role. Staffing and training requirements to perform first-tier screening are the present focus.

State civil service employees in positions ranging from line personnel to license examiners may successfully carry out screening activities, given appropriate experience and capabilities, and adequate training opportunities. It is recommended that a separate position and job description be developed, in accordance with each jurisdiction's guidelines, for staff who perform screening functions; this will reinforce the professional nature and responsibilities of conducting driver screening. Allowing personnel to conduct screening activities who are "borrowed" from their "regular" job within the agency is not recommended.

The personnel trained to carry out screening may be assigned permanently to a fixed site, or serve as roving teams that conduct screening at different sites on different days. Either way, experience in the Maryland Pilot Study indicates that these individuals should:

a) *Have a strong background in customer service*, involving a high degree of interaction with a diverse segment of the driving public.

b) *Demonstrate careful attention to detail and a high level of consistency* in delivering instructions, making certain drivers adhere to required procedures, scoring any non-automated tests, and providing appropriate feedback to drivers.

A suggested approach when initiating a driver screening and evaluation program is to select candidates for screening staff on the basis of the first attribute, with further evaluation of their suitability in terms of the second factor occurring during a training period, described below.

Training

With limited training, candidates who have good "people" skills and demonstrate attention to detail can gain the knowledge and specific skills in test administration they need to effectively carry out driver screening activities. A combination of group and one-on-one training is recommended, for greatest efficiency. An extended practice interval with subsequent evaluation then yields a proficiency rating, using a structured checklist for scoring. If deficiencies are noted, re-training, practice, and re-evaluation should be provided. In all cases, once proficiency has initially been demonstrated, follow-up observations and re-evaluation will be necessary to ensure accuracy and consistency in test administration.

[10] The Model Program allows for the possibility that screening could be conducted at a physician's office or other setting(s) within the community, as per specifications provided by the DMV.

A mandatory, 3-day training period begins with a classroom group orientation to explain the purpose of the screening program, and the relationship between functional abilities and crash risk. Trainees must understand that the functionally impaired driver places his/her own health and safety at risk by continuing to drive, as well as the safety of others. The overall program goal of helping people drive safely longer should be clearly emphasized during the orientation period. An even number of trainees numbering no more than one dozen should be included in each group.

It is recommended that ½ day be devoted to orientation, combining presentations by the trainer with question-and-answer and group discussion. During the discussion, trainees may give examples from personal experience where they have had concerns about a loved one's fitness to drive safely. At the conclusion of the ½-day orientation session, trainees should be tested on their understanding and retention of the materials presented by the trainer before proceeding to a description of the screening procedures *per se*.

The second half of the first day of training is devoted to explanation and demonstration of the screening procedures. After an introduction to the range of measures they will learn how to conduct, it may be most useful for trainees to view a demonstration video showing the screening tests being carried out in a familiar setting. It is recommended that the trainer then review the video in short segments, stopping it as often as required during each test to emphasize aspects of the testing methods that are key to obtaining valid measures of functional status. Trainees are expected to take notes during the presentation of this material. At the end of the day, trainees should be tested on their understanding and retention of the materials presented by the trainer. As they leave the group training session on the first day each trainee is given written instructions, exactly as they are spoken to drivers during each screening procedure, to study before returning for the second day of training. A copy of the demonstration video should also be handed out to each trainee at this time.

The second day of training is devoted to one-on-one instruction by the trainer, with extended practice in test administration by pairs of trainees. A classroom setting may again be used, but it is recommended that movable partitions be set up to provide for as many semi-private areas as there are pairs of trainees. All equipment and supplies required to conduct screening must also be available, in sufficient quantity for all pairs of trainees to work concurrently.

To begin the second day, it is recommended that the trainer performs the screening tests on one trainee while the rest of the group watches. Each procedure—including instructions, equipment use, scoring, and feedback—will be explained by example. Questions by trainees should be encouraged. Again, those aspects of the testing methods that are key to obtaining valid measures of functional status must be emphasized by the trainer, who will also explain that these are the criteria according to which proficiency in test administration will be rated. During the remainder of the second day, pairs of trainees should practice on each other. The trainer should rotate among trainee pairs, providing criticism and correction as needed and answering additional questions as they arise. By the end of the second day, each trainee should have completed 6 to 8 repetitions of the entire battery of screening tests with his/her partner. At the end of the second day, each trainee will be given an appointment for a ½-hour time slot on the following day, when the trainer will formally rate their proficiency in test administration.

Proficiency ratings should be performed using a structured checklist that addresses all relevant details of test administration. The trainer will rate each trainee's proficiency on a private and individual basis, watching as he/she performs the various screening measures with a subject (not another trainee), then providing detailed feedback after all measures have been completed. The subject being screened during the proficiency rating may be a naïve driver, if feasible to recruit, or may be another agency employee who can effectively mimic this role as required to properly evaluate the trainee. What is most critical during this evaluation exercise is that the subject not evidence any pre-existing knowledge of what is expected of him/her during screening.

Feedback to trainees following their proficiency ratings will identify all instances where they have failed to accurately follow proper screening procedures. A tally of such instances will serve as the rating score, with zero (errors) as the best possible performance. The trainer will provide feedback immediately after test administration has been completed, for each trainee. Any trainees who do not pass the proficiency requirement established by a jurisdiction must return for repeated evaluation. Jurisdictions are strongly encouraged to adopt stringent proficiency requirements.

Trainees who successfully meet the proficiency requirement should subsequently be monitored, as unobtrusively as possible, either in person or via video recording methods, on a weekly basis for the first month he/she performs the responsibilities of the driver screener position. Bi-weekly observations should be made for the second month, and monthly observations every month thereafter. Inaccurate *or* inconsistent administration of test procedures invalidates the obtained measures of functional status. When problems are observed, remedial training should be provided. An individual who is repeatedly found to be administering screening procedures in an inaccurate or inconsistent manner should be reassigned to other duties.

Materials that will be useful to train screening personnel to perform measures recommended under the Model Program, include a trainer's manual, trainee's handbook, demonstration video, proficiency rating checklist, and all equipment and supplies involved in actual driver screening activities. Jurisdictions interested in implementing or standardizing their screening efforts may contact NHTSA for guidance in obtaining these resources.

Facilities and Equipment

The recommended first-tier functional screening measures require an indoor (office) area of approximately 3.6 by 2.4 m (12 by 8 ft) for test administration. The testing area does not necessarily have to be completely enclosed, but should be as removed as possible from noise, distractions or interruptions resulting from other, ongoing activities if screening is conducted at the DMV. If a separate office is not available, the use of 1.8-m (6-ft) high, movable partitions is recommended to create a wall that provides privacy when performing testing activities.

Equipment needs are limited to a small table and two chairs—one with a straight back—plus a PC running Windows 98 or higher, a 432-mm (17-in) or larger CRT monitor with a touch screen interface, and a standard Microsoft keyboard.

ORGANIZATION AND OPERATIONS

The guidelines presented in this section recognize that each jurisdiction engaged in driver screening and evaluation activities will face different challenges in delivering services that are both cost-effective and acceptable to the public, and will develop somewhat different solutions. At the same time, lessons learned in pilot implementation of the Model Program[11] suggest a general framework for program organization and flow of program operations that should broadly benefit all jurisdictions in meeting common safety and mobility goals. Drawing upon this experience, a framework to guide and coordinate the activities of the key components comprising a driver screening and evaluation program is presented in figures 2 and 3.

From the very outset of an individual's Program involvement, it must be assumed that community and private sector organizations will play a major role in the identification of at-risk drivers—*and* that motor vehicle agencies will report back to external sources the status of referred drivers within legal bounds of privacy and confidentiality. Figure 2 lists the various external and internal referral sources discussed earlier in this report: DMV line personnel, most likely counter staff, who observe signs of functional impairment; law enforcement and the courts; physicians, occupational therapists, and other health-care providers; social service providers, including those who perform geriatric assessments; self-reports of medical conditions that drivers check off on license renewal forms; and family members, friends, and other citizens. As noted earlier, referrals from family, friends, and citizens are investigated by the Department of Motor Vehicles (DMV) to validate their legitimacy, before a driver is subject to functional screening and evaluation.

The box labeled "age-based policies for license renewal or review" is included in figure 2 as a direct referral source to indicate, tentatively, that this intake mechanism may be legislatively permitted or even mandated in an increasing number of jurisdictions in the future as the baby-boom generation reaches their mid- to late-70's. Currently, only a minority of jurisdictions conduct medical evaluations of drivers that renew their licenses—or treat drivers with a given number of sanction points on their records differently—depending upon their age.

A DMV (MAB) Case Manager, as shown in the program flow diagram, is central to the efficient conduct of program operations. This individual initiates paperwork and compiles a driver file containing all information that the MAB physician(s) require to perform a medical review. The Case Manager communicates with the MAB physicians regarding medical diagnoses and, as indicated in figure 3, is likely to be the individual who interacts with and counsels drivers about the outcome of their fitness-to-drive determinations by the MAB. To maximize the success of the screening and evaluation program, the Case Manager should have knowledge, skills, and abilities appropriate to this range of responsibilities—a nurse is an example of a professional who would possess the necessary qualifications.

For all valid referrals, a Case Manager sends a package of forms to the driver that must be completed by the driver and his or her physician(s), plus a release form for the driver to sign that allows the physician(s) to share information with the DMV/MAB (see appendix H for examples). The driver completes the health history questionnaire and signs the form authorizing the release of medical information, and then returns these forms to the Case Manager. The driver

[11] Maryland Pilot Older Driver Study, 1998 – 2001.

forwards the physician report forms to his or her physician for completion, and the physician in turn completes the forms and returns them to the Case Manager. Included in the packet of forms sent by the Case Manager to the driver is a notification of the requirement to undergo a "first-tier" functional screening battery at a local DMV office, or at another facility approved by the DMV to perform screening activities. As per previous discussion, the included tests will entail (manual or automated) procedures shown by current research to have the greatest utility for detecting impairments in the key functional abilities listed in table 3.

The Case Manager assembles a file containing the driver's crash and conviction data and forwards it, together with the completed medical history forms and the functional screening data, to the MAB (or equivalent body) for review by the physician(s) who will make the fitness-to-drive determination. The results of the functional tests, together with other information available for review by the DMV, lead to either a "clean bill of health" that clears the individual to continue driving without any new restrictions, or to further evaluation. If functional loss is detected, its extent dictates the type and the urgency of additional assessment procedures undertaken to determine fitness to drive.

The specific operations that may be entailed in this determination are shown in figure 3. As highlighted in this diagram, education and counseling are strongly recommended for all drivers, regardless of whether screening results lead to a determination of *OK*, *OK with restriction*, or *not OK*. Drivers who retain full privileges should receive materials describing strategies and tactics to help compensate for future loss of functionality (e.g., flexibility and strength-building exercises, walking, proper nutrition), together with techniques for self-testing to increase awareness of one's own declining abilities. In fact, it is recommended that these materials be developed, promoted and distributed to the general driving public, both in electronic form and in print, *before* implementing new or enhanced screening and evaluation activities within a jurisdiction. Such materials may be obtained from NHTSA.

For drivers who are determined to be *not OK* to retain even restricted privileges, counseling about how to meet their transportation needs is essential. This is an integral part of the Model Program. Individuals who no longer possess the functional abilities to safely operate a motor vehicle must be provided with information identifying alternative transportation options in their communities. They should also be connected with a "mobility manager"—either a DMV employee assigned to this task, or a knowledgeable individual or agency in the community who provides this service. As discussed earlier, offices of the Area Agency on Aging are particularly well-suited to meet this need. A mobility manager needs to be able to link the individual with alternative transportation programs and options for obtaining other needed supports. The importance of staying socially connected in one's community after giving up driving cannot be emphasized too strongly, both for the individual's sense of independence and dignity and for society as a whole—nursing home admissions are strongly predicted by loss of independent mobility. Alternative transportation spans not only public transportation and paratransit options, but also: shopping services for seniors; meals on wheels; adult day care; housekeeping services; social, cultural, and religious groups who provide transportation assistance to meetings and functions; and a broad range of private and volunteer providers preserving independent mobility for those who cannot or choose not to continue driving.[12, 13]

[12] *Independent Transportation Network* of Portland, ME, at www.ITNAmerica.org.
[13] *Supplemental Transportation Programs for Seniors*, at www.aaafoundation.org.

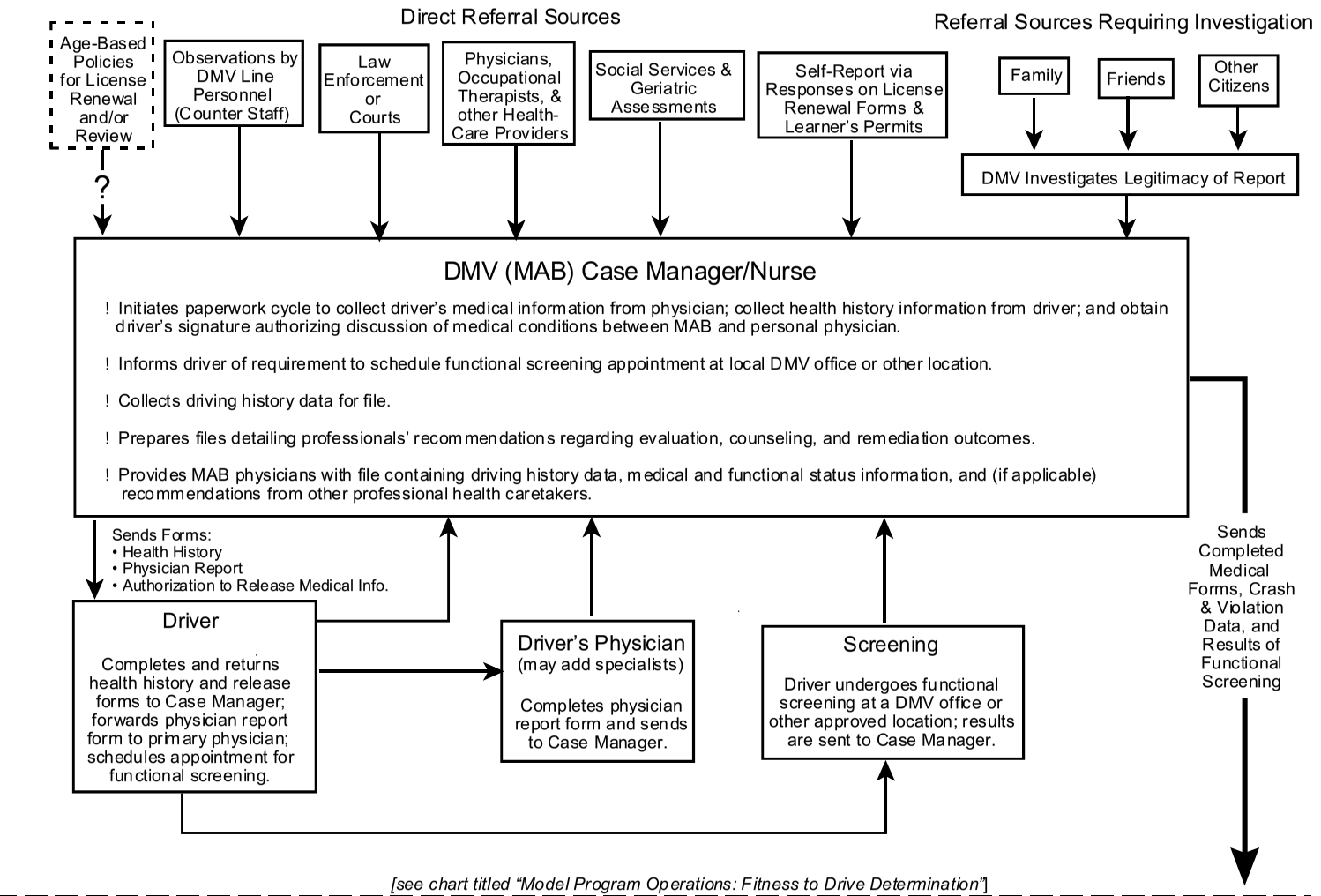

Figure 2. Model program operations: intake and preparation for medical review.

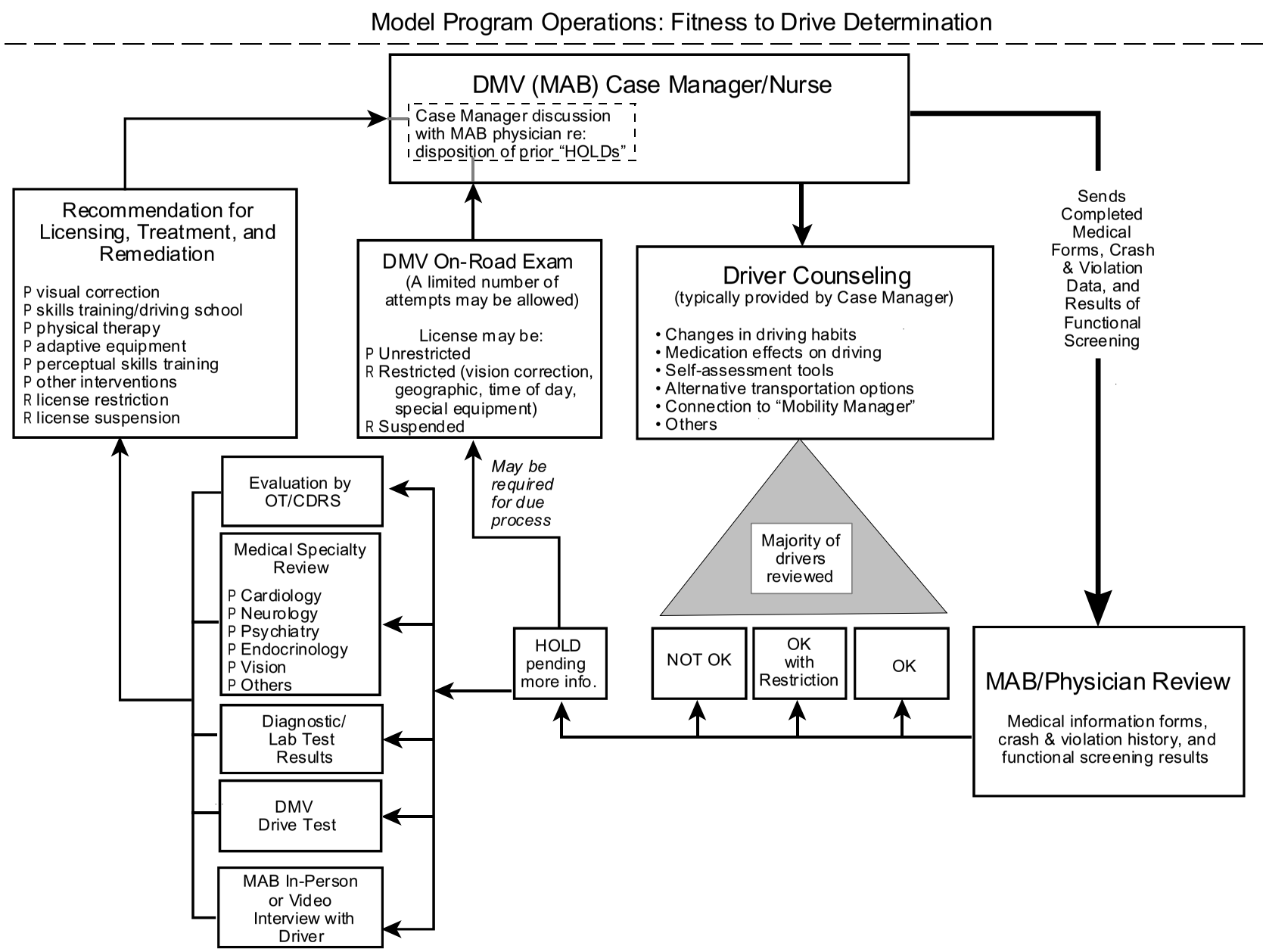

Figure 3. Model program operations: fitness to drive determination.

The program operations shown in figure 3 include a number of options for resolving cases where there is, upon first review, insufficient information for a determination of fitness to drive. One of the anticipated benefits to a DMV of performing functional screening is to reduce the number of cases where interviews or road tests are necessary to determine fitness to drive. In the Maryland pilot study, based solely on reviews of medical history reports and driver crash and violation data, MAB physicians judged 38 percent of referred drivers to be "*OK*" to drive and 22 percent to be "*not OK*" to drive, while 40 percent were put on "*HOLD*" status. When functional screening data were made available to the MAB physicians, those deemed "*OK*" to drive increased to 55 percent, those deemed "*not OK*" to drive increased to 29 percent, and the number of drivers put on "*HOLD*" status, pending more extensive assessment decreased to 15 percent of referrals. The pilot study thus demonstrated efficiencies resulting from functional screening whereby the number of drivers put on "*HOLD*" status was reduced by nearly 40 percent. This signifies a decrease both in the number of drivers needing an interview with an MAB physician and in the number of drivers needing a behind-the-wheel test to determine fitness to drive.

Nevertheless, certain individuals will remain on "*HOLD*" status after initial review of his/her case file by the MAB physician, and the recommended Model Program components provide for various avenues to resolve this need for more information. The driver may be required to come to the DMV for an in-person evaluation with a MAB physician, and/or, he or she may be required to take a road test. According to current practices, the costs associated with either/both of these information-gathering activities are borne by the DMV. In other cases, the MAB may request an outside evaluation by an occupational therapist (OT) or certified driver rehabilitation specialist (CDRS), or other medical specialists, including but not limited to cardiologists, neurologists, psychiatrists, endocrinologists, and ophthalmologists or optometrists. In some cases, an individual may be placed on "*HOLD*" status pending the results of a lab test or other diagnostic procedure needed for the reviewing physician to determine health status or the stability of a particular condition. Such lab tests could include measures of blood sugar, a cardiac stress test, blood pressure, renal function, etc. When this information is received, the "*HOLD*" may be released without any change in license status, a restriction may be recommended, or a need for further evaluation may be indicated.

The costs associated with the behind-the-wheel portion of an OT/CDRS evaluation are typically borne by the driver; that is, this cost is usually not reimbursable by health insurance. However, clinical/neuropsychological testing conducted as part of an OT/CDRS evaluation are commonly covered by insurance plans. Evaluations by vision specialists and subsequent visual corrections are similarly covered by health insurance providers, as are consultations with other medical specialists, and lab testing.

In some cases, an occupational therapist or other medical specialist will recommend driver skills re-training, adaptive equipment, or some other remedial treatment such as visual correction, physical therapy, or, in selected cases, perceptual skills (re-)training. The driver will then need to complete the remedial activity (often at his or her own expense), and provide evidence of completion to the Case Manager. Following discussion with the MAB physician, successful completion of the prescribed course of remediation may resolve the "*HOLD*." Or, further evidence of fitness as provided by, for example, a driving test, may still be required.

For those who are required to complete a driving test, several outcomes are possible. A recommendation may follow that the individual's license be unrestricted, or a need to restrict the

driver to a certain geographic area, a time of day, a type of equipment (i.e., a vehicle with hand controls, a spinner knob, a left-foot accelerator or brake, etc.), or visual correction (glasses or contacts) may be identified. A driver who fails a driving exam may be provided with a limited number of opportunities to retake the driving test, depending on the reasons for the initial failure. For example, persons who demonstrate that they are a safety hazard to themselves and others by crashing or almost crashing during the road test, and who have been recommended for license suspension by other medical specialists, are not likely candidates for a retest. However, a person who has undergone remediation after a road-test failure, or a person who fails due to stress and nervousness who otherwise appears fit to drive should be given the opportunity to retake a road test. A maximum of three (3) attempts is recommended as a reasonable accommodation for these individuals.

If an OT/CDRS judges a person unfit to drive and recommends driving cessation, this feedback must be provided to the DMV, so that a licensing decision can formalized. In some jurisdictions, a failure on the road test given by the OT/CDRS may serve as due process, and in others, a DMV-administered road test may be required before suspending or revoking a person's driving privileges. In the latter case, it is recommended that the OT/CDRS report patient road test results to a licensing agency for further testing, because physically and mentally unfit license holders often continue to drive despite medical advice against driving. As noted earlier and highlighted in figure 3, all persons faced with driving cessation will receive counseling under the Model Program, and will be connected to a mobility manager.

Referral to a vision care specialist for a clinical assessment should follow when an acuity and/or contrast sensitivity screen has been failed at the "prevention threshold" (see earlier discussion in the section on Screening and Assessment Techniques). Failure at the "intervention threshold" indicates a gross impairment, with an *immediate* need for ophthalmologic evaluation to determine the underlying medical condition(s) and prospects for remediation. When a progressive disease or condition is detected as the result of such assessment—for example, macular degeneration—a reassessment should be scheduled at an interval determined by the vision specialist, with reporting to the DMV as per the guidelines presented earlier in this document. At the discretion of the DMV and/or upon the recommendation of the examining specialist, a road test to measure actual driving skills may also be required at this time and/or prior to license renewal.

In the case of drivers found through functional screening to suffer perceptual-cognitive impairment, a neurological evaluation may be recommended to more precisely determine the extent of an individual's limitations, and whether he or she is aware of them. A person who has suffered head trauma, or is the victim of stroke or dementia may be unaware of the resulting deficits in perception, cognition, or judgment. These individuals cannot compensate for their deficits, and the potential for remediation may be very small. An OT or neurologist would be the likely professional to make this determination.

There may be a special concern among licensing officials with regard to Alzheimer's Disease (AD). Current research and clinical judgment are divided regarding the ability of people to drive safely following the onset of AD. Overall, the crash rate for AD patients is only slightly higher than that for drivers of all ages in the United States, and remains well below that of young adults aged 16 to 24 during the early stages of the disease. In the year 2000, the American

Academy of Neurology issued guidelines to help determine whether people with Alzheimer's disease should continue driving.[14]

The guidelines state that driving performance evaluations should be considered for people with slight cognitive impairment, or a Clinical Dementia Rating (CDR) of 0.5. This state is characterized by consistent slight forgetfulness that is "benign," or does not interfere with everyday activities. The guidelines recommend that these patients be reassessed every six months because of the likelihood that their level of dementia will increase to CDR 1 within a few years. At a CDR of 1, an individual experiences moderate memory loss that interferes with everyday activities, including moderate geographic disorientation, an inability to function independently in community affairs, and mild impairment in functioning at home. The judgment and problem-solving abilities of individuals with a CDR of 1 are moderately impaired. The American Academy of Neurology guidelines state that drivers with Alzheimer's Disease with a CDR of 1 or more should be advised not to drive. If a jurisdiction, through the MAB medical review process, grants restricted operating privileges on an individual-by-individual basis to drivers with a CDR of 1, this practice should reflect a successful road test result and require frequent follow-up evaluations to monitor the course of disease progression. With a CDR of 2, drivers pose a significant traffic safety risk and should not continue to operate a motor vehicle.

Finally, the Case Manager, after receiving the recommendation for licensing, treatment, and remediation from the medical specialists and others who evaluated the drivers placed on "*HOLD*" status confers with the MAB physicians to make a determination regarding their fitness to drive. This makes it imperative that the results of all evaluations performed by a driver's personal physician, other medical specialists, a physical or occupational therapist, or others be promptly reported to the Case Manager. If vehicle modifications for continuation of driving privileges are required, they must be identified.

The Model Program operations indicated in figures 2 and 3 should not be viewed as a rigid prescription for program implementation, and many details required to carry out program activities on a day-to-day basis have been omitted from this discussion. It is expected that each jurisdiction will tailor these guidelines to best suit their own needs. The related experience of NHTSA and jurisdictions to date suggests, however, that these operational components will be integral to an efficient and effective screening and evaluation program.

[14] Dubinsky, R.M., Stein, A.C., and Lyons, K. (2000). "Practice Parameter: Risk of Driving and Alzheimer's Disease (an Evidence-Based Review): Report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 2000, June 27; 54(12): 2205-11.

APPENDIX A: FUNCTIONAL ABILITIES ADDRESSED IN PILOT DRIVER SCREENING PROGRAMS

The particular functional changes at the center of identification and assessment programs now undergoing pilot testing in the U.S. and abroad can be listed and briefly described as follows.

- Reduced visual acuity -- pertains to the aspect of vision that is used to resolve fine detail; used to see roadway targets that have high brightness or color contrast with the surrounding background area, and which have sharply defined edges, such as letters on road signs.

- Reduced visual contrast sensitivity -- pertains to the aspect of vision that is used to see targets that do not differ greatly in brightness or color from the surrounding back-ground area and that may have "fuzzy" or ill-defined edges, such as the edge of the road where there is a worn/faded or missing edge stripe and the color of the shoulder is similar to the paved surface.

- Increased susceptibility to glare/slower glare recovery -- pertains to stray light entering the eye that masks or interferes with focal vision, and the length of time after exposure to the disabling effects of glare that roadway targets can be seen as well as before the glare was introduced; this commonly results at night from oncoming headlights or headlights viewed in rearview mirrors, but sun glare can produce similar problems during daytime driving.

- Reduced sensitivity to changes in angular size and motion -- pertains to judgments about how far away an object is and how fast it is moving—for example, a car approaching as you wait to turn left at an intersection; the accuracy of such judgments depends upon how quickly and accurately a person's brain can interpret changes in the size of the image that is formed on the retina at the back of the eye when his/her gaze is focused on a distant object.

- Poorer visual "pattern perception"/visualization of missing information -- pertains to an ability to extrapolate from the visual elements in a scene to "construct" a whole image from only partial information, as may be required to recognize a sign or other traffic control device, or to appreciate the safety threat represented by a vehicle or pedestrian that is partially obstructed (e.g., by a building or parked car) at the side of the road, but about to move into the driver's path.

- Less efficient visual search -- pertains to the speed with which a person can direct his/her gaze from one location to another where experience dictates that information important to the task at hand will be found, as when a driver scans the roadway scene ahead to look for a sign, landmark, or other directional information.

- Reduced area of visual attention -- pertains to that portion of the overall visual field where a person not only is capable of *seeing* an object, but also is likely to pay attention to it, and recognize and respond to the object in a brief enough time to avoid a crash if it is a traffic hazard; the risk of colliding with vehicles, pedestrians, and cyclists entering from the side of the road or at an intersection increases significantly as the area of visual attention shrinks.

- Impaired selective attention ability -- pertains to the ability—*on a continuing basis*—to filter out the less important events and information while driving and "home in" on just those few things that are most safety-critical at each instant; though not done on a conscious level, this is absolutely necessary for the anticipation of and effective response to hazards, so that an avoidable conflict does not become an emergency.

- Less efficient divided attention/slower attention switching -- pertains to the ability to monitor and respond effectively to multiple sources of information at the same time; for example, a driver entering a freeway must track the curvature of the ramp and steer appropriately, keep a safe distance behind the car ahead, and check for gaps in traffic on the highway, while at the same time accelerating just enough to permit a smooth entry into the traffic stream.

- Less efficient working memory processes -- pertains to a driver's ability to think about and recall information while driving that will be needed at a later time, without any lapses in safely controlling his/her vehicle; for example, being able to remember and apply a simple set of navigational instructions memorized before a journey while driving in heavy traffic.

- Loss of limb strength, flexibility, sensitivity, and/or range of motion -- pertains to quickly shifting (the right foot) from accelerator to brake when the situation demands, and applying correct pressure for appropriate speed control; also, these physical abilities are needed (for arm movements) to safely maneuver the car around obstacles.

- Reduced ability to rotate head/neck -- pertains to a driver's physical ability to orient his/her gaze in each direction from which a vehicle conflict may occur in a given situation; this includes the familiar "left-right-left" check before crossing an intersection, as well as looking over one's shoulder before merging with traffic or changing lanes.

APPENDIX B: LICENSE RENEWAL REQUIREMENTS (PASSENGER VEHICLE DRIVERS)

State	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Alabama	4-year renewal cycle (in-person). No tests for renewal. Minimum acuity 20/60 in one eye with/without corrective lenses. May not use bioptic telescopic lens to meet acuity standard. **No special requirements for older drivers.**
Alaska	5-year renewal cycle (mail-in every other cycle). No renewal by mail for drivers age 69+ and to drivers whose prior renewal was by mail. Vision test required at in-person renewal. Minimum 20/40 in one eye for unrestricted license. 20/40 to 20/100 needs report from eye specialist; license request determined by discretion. May use bioptic telescopic lens under certain conditions.
Arizona	12-year renewal cycle. At age 65, reduction of interval to 5 years. New photograph and vision test at renewal; no renewal by mail after age 70 (available to active duty veterans and dependents only). Minimum acuity 20/40 in one eye required; acuity of 20/60 restricted to daytime only. May not use bioptic telescopic lens to meet acuity standard
Arkansas	4-year renewal cycle. Vision test required at renewal, with minimum 20/40 required for unrestricted license. Acuity of 20/60 restricted to daytime only. Bioptic telescopes permitted under certain circumstances. **No special requirements for older drivers.**
California	5-year renewal cycle (may be mail-in for no more than 2 sequential cycles) with vision test and written knowledge test required. No renewal by mail at age 70. Minimum visual acuity is 20/200 (best corrected) in at least one eye, as verified by an optometrist or ophthalmologist. Bioptic lenses are permitted for driving, but may not be used to meet 20/200 acuity standard.
Colorado	10 year renewal cycle (mail-in every other cycle). At age 61, reduction in renewal to 5 years. No renewal by mail at age 66. Vision test required at renewal. Written test required only if point accumulations result in suspension (12 points in 12 mo., or 18 points in 24 mo., for non-minor and non-commercial drivers). Minimum acuity must be 20/70 in the better eye if worse eye is 20/200 or better; 20/40 if worse eye is worse than 20/200. Bioptic telescopes are permitted to meet acuity standard
Connecticut	4-year renewal cycle (in person). Vision test required at in-person. 20/40 required in better eye for unrestricted license; 20/50 to 20/70 restricted license; under some circumstances, a license may be issued when acuity is 20/200. No license may be issued to drivers using telescopic aids. Reduction of interval to 2 years may be requested by drivers age 65+.
Delaware	5-year renewal cycle (in-person). No tests required for renewal. Minimum acuity 20/40 for unrestricted license; restricted license at 20/50; beyond 20/50 driving privileges denied. Bioptic telescopes treated on case-by-case basis. **No special requirements for older drivers.**
District of Columbia	4-year renewal cycle (in-person). Unrestricted license for 20/40 acuity; 20/70 in better eye requires 140 E visual field for restricted license. At age 70, vision test required and physician signature attesting to physical and mental capability to drive; a medical report plus reaction test may also be required. At age 75 written knowledge and road tests may be required.
Florida	6-year renewal cycle for clean driving record; 4-year renewal cycle for unclean record. In-person renewal required every 3rd cycle. Vision test at in-person renewal. Must have 20/70 in either eye with or without corrective lenses. Monocular persons need 20/40 in fellow eye. Bioptic telescopes are not recognized to meet acuity standard. **No special requirements for older drivers.**
Georgia	4-year renewal cycle (in-person). Vision test required for renewal (within prior 6-month period). Acuity 20/60 in either eye with or without corrective lenses. Bioptic telescopes permitted for best acuity as low as 20/200, with restrictions. **No special requirements for older drivers.**
Hawaii	6-year renewal cycle for drivers ages 18 to 71 (in-person). Vision test required, with 20/40 standard for better eye. Bioptic telescopes permitted for driving, but not for passing vision test. Reduction of interval to 2 years for drivers age 72+.

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

State	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Idaho	4-year renewal cycle (mail-in every other renewal). Vision test required: 20/40 in better eye for no restrictions; 20/50 - 20/60 requires annual testing; 20/70 denied license. Use of bioptic telescopes is acceptable, but acuity must reach 20/40. Driving test may be required if examiner thinks it is needed. No renewal by mail after age 69.
Illinois	4-year renewal cycle for ages 21 to 80 (mail-in every other cycle for drivers with clean records and no medical report review requirements). Vision test at in-person renewal: 20/40 in better eye for no restrictions; 20/70 in better eye results in daylight only restriction. May have 20/100 in better eye and 20/40 through bioptic telescope. Written test every 8 years unless clean driving record. From ages 81 to 86, reduction of interval to 2 years. At age 87, reduction of interval to 1 year. No renewal by mail, vision test required, and on-road driving test required at age 75+.
Indiana	4-year renewal cycle (in-person). Vision screening at renewal, including acuity and peripheral vision. 20/40 in better eye for no restriction; restricted license for 20/50. Bioptic telescope lenses permitted for best acuity as low as 20/200, with some restrictions, if 20/40 achieved with telescope. At age 75 renewal cycle reduced to 3 years. (Mandatory drive test for persons age 75+ eliminated 1/19/00). Drive test required for persons with 14 points or 3 convictions in 12-month period.
Iowa	Renewal cycle of 2 years or 4 years at driver's option. Vision screening at renewal: 20/40 in better eye, with or without corrective lenses; 20/50 in better eye results in restricted license for daylight only; 20/70 in better eye results in restricted license for daylight only up to 35 mi/h. Bioptic telescopes are <u>not</u> permitted to meet acuity requirement. At age 70, renewal cycle is 2 years.
Kansas	6-year renewal cycle for ages 16-64 (in-person). Vision and knowledge test at renewal. Minimum acuity: 20/40 better eye; 20/60 better eye with doctor report; worse than 20/60 must demonstrate ability to operate vehicle safely and have safe record for 3 years. At age 65, renewal every 4 years.
Kentucky	4-year renewal cycle (in-person). No tests required for renewal. Minimum visual acuity 20/200 or better with corrective lenses in better eye; 20/60 or better using a bioptic telescopic device. **No special requirements for older drivers.**
Louisiana	4-year renewal cycle (mail-in every other cycle). Vision test at renewal. Minimum acuity 20/40 in better eye for unrestricted; 20/50 - 20/70 with restrictions; 20/70 – 20/100 possible restricted license; less than 20/100 in better eye - referred to Medical Advisory Board (MAB). No renewal by mail to drivers over age 70, or those with a conviction of moving violation in 2-year period prior to renewal.
Maine	6-year renewal cycle. At age 65, renew every 4 years. Vision screening test at renewal for age 40, 52, and 65; every 4 years after age 65. Minimum acuity 20/40 better eye without restrictions; 20/70 better eye with restrictions.
Maryland	5-year renewal cycle. Vision tests required for renewal (binocular, acuity, peripheral). Minimum acuity of at least 20/40 plus continuous field of vision at least 140E in each eye for unrestricted license; at least 20/70 in one or both eyes for restricted, but requires continuous field of view of at least 110E with at least 35E lateral to the midline of each side; 20/70-20/100 requires special permission from MAB. Medical report required for new drivers over age 70. (Maryland law specifies that age alone is not grounds for re-examination of older drivers).
Massachusetts	5-year renewal cycle (in-person). Vision screening at renewal: 20/40 better eye for unrestricted; 20/70 better eye for restricted; 20/40 through telescope, 20/100 through carrier. **No special requirements for older drivers** (Massachusetts law prohibits discrimination by reason of age for licensing issues.)
Michigan	4-year renewal cycle (mail-in every other cycle if free of convictions). Vision and knowledge test at renewal. Minimum acuity 20/40 better eye for unrestricted; 20/70 better eye with daylight only restriction; 20/60 if progressive abnormalities or diseases of the eye. **No special requirements for older drivers.**

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

State	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Minnesota	4-year renewal cycle. Vision test at renewal: 20/40 in better eye for no restrictions; 20/70 in better eye for speed limit restrictions; 20/100 better eye referred to driver evaluation unit. **No special requirements for older drivers.** (Minnesota law specifies that age alone is not justification for reexamination.)
Mississippi	4-year renewal cycle (in-person). Vision test at renewal: 20/200 best corrected without telescope; 20/70 with telescope. **No special requirements for older drivers.**
Missouri	6-year renewal cycle (in-person). At age 70, reduction in renewal cycle to 3 years. Vision test and traffic sign recognition test required at renewal. Minimum acuity: 20/40 in better eye for unrestricted; up to 20/160 for restricted.
Montana	8-year renewal cycle for ages 21-67. Vision test at renewal: 20/40 in better eye for no restrictions; 20/70 in better eye with restrictions on daylight and speed; 20/100 in better eye possible restricted license if need is shown. For ages 68-74, renewal cycle reduced to 1-6 years. At age 75, renewal cycle reduced to 4 years.
Nebraska	5-year renewal cycle. Vision test at renewal: Knowledge test if violations on record. Acuity 20/40 required in better eye, but 17 restrictions are used, depending on vision in each eye. **No special requirements for older drivers.**
Nevada	4-year renewal cycle (mail-in every other cycle, if qualified). Minimum acuity 20/40 in better eye. Bioptic telescopes permitted to meet acuity standard: 20/40 through telescope, 20/120 through carrier, 130E visual field. Vision test and medical report required to renew by mail at age 70
New Hampshire	4-year renewal cycle (in-person). Vision test at renewal: 20/40 better eye for unrestricted; 20/70 in better eye with restrictions. At age 75, road test required at renewal.
New Jersey	4-year renewal cycle (10-year in person digitized photo licenses will be implemented in 2003). Periodic vision retest: 20/50 better eye; 20/70 in better eye with restrictions. Bioptic telescope permitted to meet acuity standard. **No special requirements for older drivers.**
New Mexico	4- or 8-year renewal cycle. Drivers may not apply for 8-year license if they will reach the age of 75 during the last 4 years of the 8-year period. Vision test required for renewal; knowledge and driving test may be required Minimum acuity: 20/40 better eye; 20/80 better eye with restrictions.
New York	5-year renewal cycle. No tests for renewal. Minimum best corrected acuity 20/40 in one eye; 20/40 - 20/70 best corrected one eye requires minimum 140E horizontal visual field; 20/80 - 20/100 best corrected in one eye requires minimum 140E horizontal visual field plus 20/40 through bioptic telescopic lens. **No special requirements for older drivers.**
North Carolina	5-year renewal cycle (in-person). Vision and traffic sign recognition tests required for renewal. Acuity 20/40 in better eye required for unrestricted; 20/70 better eye with restrictions. Bioptic telescopes are <u>not</u> permitted for meeting acuity standard, but are permitted for driving. **No special requirements for older drivers, except that people age 60+ are not required to parallel park in the road test.**
North Dakota	4-year renewal cycle. Vision test required for renewal: 20/40 better eye for unrestricted; 20/70 in better eye with restrictions. Bioptic telescopes permitted to meet acuity standard: 20/130 in carrier, 20/40 in telescope, full peripheral field. **No special requirements for older drivers.**
Ohio	4-year renewal cycle. Vision test required for renewal: 20/40 better eye for unrestricted; 20/70 better eye with restrictions; bioptic telescopes permitted to meet acuity standards. **No special requirements for older drivers.**
Oklahoma	4-year renewal cycle (in person). No tests for renewal. Minimum acuity: 20/40 better eye for unrestricted; 20/100 better eye with restrictions. Bioptic telescopes <u>not</u> permitted to meet acuity standard, but may be used for driving. **No special requirements for older drivers.**
Oregon	8-year renewal cycle (mail-in every other cycle). Vision screening test once every 8 years at age 50+. Minimum acuity: 20/40 better eye for unrestricted; 20/70 better eye with restrictions. Bioptic telescopes <u>not</u> permitted to meet acuity standard, but may be used for driving.
Pennsylvania	4-year renewal cycle. Drivers age 65+ may renew every 2 years. Random physical examinations for all drivers age 45+; most selected are over age 65. Minimum acuity: 20/40 better eye for unrestricted; up to 20/100 combined vision with restrictions. Bioptic telescopes <u>not</u> permitted to meet acuity standards, but may be used for driving.

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

State	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Rhode Island	5-year renewal cycle. Vision test required for renewal: 20/40 better eye. At age 70, renewal cycle reduced to 2 years.
South Carolina	5-year renewal cycle (in-person). Renewal by mail if no violations in past 2 years, and license is not suspended, revoked, or canceled. Vision test and knowledge test required if > 5 points on record. Minimum acuity: 20/40 better eye for unrestricted; 20/70 in better eye if worse eye is 20/200 or better; 20/40 if worse eye is worse than 20/200. Bioptic telescopes not permitted to meet acuity standard, but may be used for driving. **No special requirements for older drivers.**
South Dakota	5-year renewal cycle. Vision test required for renewal: 20/40 better eye for unrestricted; 20/60 better eye with restrictions. **No special requirements for older drivers.**
Tennessee	5-year renewal cycle (mail-in every other cycle). Minimum acuity: 20/30 better eye; 20/70 better eye with restrictions; 20/200 better eye requires bioptic telescopes with 20/60 through the telescope. Bioptic telescopes are permitted to meet standard. No tests required for renewal. **No special requirements for older drivers.**
Texas	6-year renewal cycle (effective 01/01/02; staggered 4 to 6 years until 2002). Vision test required for renewal: 20/40 better eye; 20/70 better eye with restrictions. Bioptic telescopes are permitted to meet acuity standard, and driver must pass a road test. **No special requirements for older drivers.**
Utah	5-year renewal cycle (mail-in every other cycle if: no suspensions, no revocations, no convictions for reckless driving and no more than 4 reportable violations). Vision test required for drivers age 65+, every renewal. Minimum acuity: 20/40 for unrestricted; 20/100 in better eye with restrictions. Bioptic telescopes are not permitted to meet acuity standard.
Vermont	2-year or 4-year renewal cycle. Minimum acuity: 20/40 in better eye; bioptic telescopes are permitted to meet visual acuity standard, and driver must pass road test. No tests for renewal. **No special requirements for older drivers.**
Virginia	5-year renewal cycle (mail-in every other cycle unless suspended or revoked, 2+ violations, seizures/blackouts, DMV medical review indicator on license, failed vision test). Vision test required for renewal. Minimum acuity: 20/40 better eye for unrestricted; 20/200 with restrictions; bioptic telescopes are permitted with 20/200 through carrier, 20/70 through telescope. Knowledge and road test required if 2+ violations in 5 years. **No special requirements for older drivers.**
Washington	5-year renewal cycle (in-person). Vision test required for renewal. Minimum acuity 20/40 better eye; 20/70 better eye with restrictions. Bioptic telescopes are permitted to meet acuity standards. Other tests may be required if License Service Representative deems it necessary. **No special requirements for older drivers.**
West Virginia	5-year renewal cycle. Minimum acuity: 20/60 better eye; if worse than 20/60, optometrist or ophthalmologist must declare ability to be safe. Bioptic telescopes are not permitted to meet acuity standard, but may be used for driving. No tests required for renewal. **No special requirements for older drivers.**
Wisconsin	8-year renewal cycle (in person). Minimum acuity: 20/40 better eye; 20/100 better eye with restrictions. Bioptic telescopes are not permitted to meet acuity standards, but may be used for driving. Vision test required for renewal. **No special requirements for older drivers.**
Wyoming	4-year renewal cycle (mail-in every other cycle). Vision test required for renewal (for both mail in and in person). Minimum acuity; 20/40 better eye; 20/100 better eye with restrictions. Bioptic telescopes are permitted to meet acuity standard. **No special requirements for older drivers.**

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

Province	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Alberta	No mandatory retesting; medical review & vision test at age 75, 80, and every 2 years thereafter.
British Columbia	No mandatory retesting; medical review at age 80, and every 2 years thereafter.
Manitoba	Annual license renewal. No mandatory retesting; no periodic medical review. Minimum acuity of 6/12 (20/40) minus 2 in the better eye with or without correction. May drive with restrictions with acuity of 6/12 (20/40) minus 3, to 6/18 (20/60) minus 2 in the better eye. Telescopic lenses not eligible for any class of license. .Minimum horizontal field requirement of 120- with both eyes tested together or tested separately and results superimposed. Visual fields to be measured at or 10- above or below fixation. Standards exist for hemianopsia and quadtratic field defects; color perception; and diplopia. Drivers with depth perception and diabetic retinopathy impairments must meet visual acuity and field standards. Upon recommendation from a physician, mature drivers can be requested to complete medical, vision, or oral test.
New Brunswick	4-year renewal for passenger vehicle license (may be renewed by mail). No tests required for renewal. Minimum visual acuity (corrected) must be at least 20/40 in at least one eye. **No special requirements for older drivers.**
Newfoundland & Labrador	5-year renewal cycle (may be by mail if current photo is on file). No tests required for renewal. Drivers age 75 must present a medical exam form from their physician to renew their licenses. Drivers age 80 must provide a medical report every 2 years.
Northwest Territories	No mandatory retesting; medical review at ages 75, 80, and every 2 years thereafter.
Nova Scotia	No mandatory retesting; no periodic medical review; drivers over 65 involved in a collision must take a written and on-road test.
Nunavut	5-year renewal cycle (in person). No tests required for renewal unless medical concerns have been identified. .**No special requirements for older drivers.**
Ontario	5-year renewal cycle (in person). At age 80, renewal every 2 years. Mail-in renewal is an option for drivers with no testing requirements who have had photo taken within past 2 years. Mandatory written knowledge test, vision test, and participation in a 90-minute group education session on safe driving at age 80 and every two years thereafter; includes driver record review. Senior drivers may be required to pass a road test before being relicensed if they have an excessive number of demerit points showing on their record. Some drivers may be required to pass a road test before being re-licensed if, in the opinion of the instructor, they may represent a safety risk. Collision-involved drivers age 70+ who are convicted of a collision-related offense must take mandatory vision, knowledge, and road tests. Vision requirements include 20/40 acuity in better eye, with or without corrective lenses, and 120- peripheral vision. No periodic medical review requirement, however, under Section 203 of Highway Traffic Act physicians required to report any patient aged 16 and over with a medical condition that may make driving dangerous. Medical report may be required on a cyclical basis if there is evidence of a medical condition that may eventually interfere with safe operation of motor vehicle.
Prince Edward Island	3-year renewal cycle (may be renewed by mail, but regular renewal is in-person). No tests required for renewal. Minimum acuity for original license 20/40 in better eye. **No special requirements for older drivers.** Upon recommendation from the police, physician, or family member, mature drivers can be requested to complete medical, vision, or oral test.
Quebec	2-year renewal cycle (may be renewed by mail, but driver must come to a service center every 4 years to have a picture taken). At ages 75, 80, and every 2 years thereafter, drivers must present a medical examination and optometric report (with acceptable exam results) when renewing. No tests required for renewal, but a declaration of illness or impairment that has not been previously reported must be reported upon renewal. Visual requirements for licensing include 20/40 vision with or without glasses in at least one eye, and minimum field of vision of 120 degrees.

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

Province	2001 Licensing Renewal Requirements and Distinctions for Older Drivers*
Saskatchewan	Annual renewals required for all drivers (may be renewed by mail). No tests required for renewal unless driver's license indicates that an annual vision, road, or medical exam is required. When a license is issued or renewed, any medical condition that may affect a driver's ability to drive must be reported to SGI. If the license indicated that an annual medical exam report is required, that a medical report must be presented at the time of renewal. Minimum visual requirements for passenger vehicle driver license: 20/50 with both eyes examined together (aided or unaided); field of vision must measure a minimum of 120 degrees (both eyes measured together)**. No special requirements for older drivers.** Upon recommendation from the police, physician, or family member, mature drivers can be requested to complete medical, vision, or oral test.
Yukon	No mandatory retesting; medical review and vision test at age 70, every 2 years to age 80, annually thereafter.

*Information about each jurisdiction was obtained from one or more of the following sources: DMV licensing official, DMV website, DMV Driver's Manual, research report, Insurance Institute for Highway Safety.

APPENDIX C: AAMVA/NHTSA SURVEY OF STATES/PROVINCES ON AMODEL DRIVER SCREENING/EVALUATION PROGRAM@ DEVELOPMENT

(1) Is it your sense that new/expanded driver screening procedures, *if* implemented in your jurisdiction, should be applied to (a) *all* drivers over a specified age who apply for license renewal, (b) only a Ahigh risk@ subgroup of drivers, likely to include a disproportionate share of older persons, who are brought to the DMV=s attention through various referral mechanisms, or (c) both of these sets of drivers?

Check one only: a. n=6 (10%) b. n=28 (47%) c. n=26 (43%)

(2) Please base your responses to the following items on your answer to Question (1) above. Postponing considerations of the cost (of testing equipment and/or test administrators) and time required to conduct test procedures for drivers referred into a Model Screening/Evaluation Program, is it your sense that current policies and priorities in your Department would be make it feasible to:

a. Extend the practice of Agraduated licensing,@ which many states have applied to Aphase in@ full privileges for the novice driver, to the older driver as well, by implementing progressively more restrictive licensing actions as an individual=s capabilities suffer progressive decline?	YES 67%	NO 33%
Would this require a change in legislation? (of % responding YES)	65%	
b. Implement a community outreach/public education activity for drivers that would provide information on aging and safe driving practices, techniques for self testing (which could also encourage individuals to refer *themselves* into a screening/evaluation program), and, when needed, provide advice on transportation alternatives in the individual=s home area?	YES 85%	NO 15%
c. Implement screening/evaluation program activities wholly within the DMV, or privatize some or all license qualification assessments for passenger vehicles (assuming that standard, certified procedures are implemented uniformly throughout your jurisdiction)?	YES*	NO
DMV provides all screening activities	45%	_____
** Responses not mutually exclusive; 6 jurisdictions replied "YES" to the 1st 2 items; 1 replied "YES" to all 3 items* — *DMV provides some screening activities; some are privatized*	63%	_____
All screening activities are privatized	1%	_____
d. Modify existing vision test procedures for drivers who have been referred to the DMV for functional impairment screening, such that acuity is measured using new techniques, provided that they are more accurate and/or reliable?	YES 76%	NO 24%
e. Modify existing vision test criteria such that lower levels of performance (e.g., 20/80, 20/100, or worse) do not necessarily result in the loss of all driving privileges, but instead may result in restrictions (such as daylight only driving)?	YES 72%	NO 28%
f. Expand vision test procedures to include abilities which are not presently tested (dynamic visual acuity; contrast sensitivity; low luminance acuity) but which have been shown in research to be more strongly related to crash risk than the present (static) visual acuity measure?	YES 85%	NO 15%

g. Adopt criteria for functional capabilities *other than* vision as the basis for licensing action (restriction or revocation), which would include--though not necessarily be limited to--measures of attention, perception (of speed and distance relationships), memory and cognition, decision making, navigational problem solving, or Asituational awareness@?	YES 78%	NO 22%
h. Conduct tests to assess functional capabilities for individuals referred into a screening/evaluation program, regardless of when this occurs in the driver=s renewal cycle, i.e., without waiting until the end of the current cycle for removal or restriction of driving privileges if warranted by test results?	YES 97%	NO 3%
i. Conform to uniform (national/ North American) standards--to be developed-- for referral of drivers into a screening/evaluation program based on the diagnosis of medical conditions including, though not necessarily limited to, dementia (Alzheimer=s and other dementias); stroke; Parkinson=s disease; seizure disorders; diabetes; heart disease, arrhythmias, and related cardiovascular conditions.	YES 86%	NO 14%
j. Tailor retesting requirements (nature and frequency) for license renewal or retention of driving privileges to specific medical conditions (e.g., Alzheimer=s, Parkinson=s, diabetes), for physician referrals or self reports of medical conditions to the DMV ?	YES 92%	NO 8%
k. Refer drivers who are undiagnosed by a physician, but who are believed by family, friends, and/or others in the health care/social services fields to suffer functional impairment, into a screening/evaluation program, which would mandate subsequent functional tests with the potential for licensing action?	YES 90%	NO 10%
l. Implement a referral mechanism for functional screening/evaluation in which DMV counter personnel use a checklist to record a brief, structured set of observations, and/or question-and-answer responses, for members of the driving public who appear before them?	YES 64%	NO 36%
m. Tailor on-road examination procedures for drivers who have been screened for functional impairment, to the specific area of functional decline which places that individual at greater crash risk--i.e., administer road tests with varying content or areas of emphasis for varying impairments?	YES 78%	NO 22%

(3) With specific regard to the cost of new test procedures, to what extent would such costs have to be offset by savings in other Department activities within the short term (present or next fiscal year) to permit implementation? (Check one response):

52% a. Substantially or completely (100 percent, or close to it) regardless of expected payoffs in improved safety.
24% b. To a significant extent (50 percent or greater) but not completely, given a solid expectation of measurable safety benefits.
24% c. Only minimally, or not at all (less than 50 percent, down to zero) if significant safety benefits have been demonstrated in another state or a pilot program.

(4) With specific regard to the administration of functional testing requirements as addressed in this survey, what is the practical upper limit on the time of testing within your jurisdiction? (Check one response):

25% a. under 15 minutes
29% b. 15 to 30 minutes
25% c. 30 to 45 minutes
20% d. 45 minutes to 1 hour (or no limit)

APPENDIX D: AAMVA POLICY [*]

AAMVA Policy relevant to the screening and evaluation of driver license applicants and drivers is presented below:

01 UNIFORM LAWS

1.2 Uniform Vehicle Code

AAMVA recognizes the importance of, and need for, uniformity in motor vehicle laws and procedures. In accordance with this recognition, we endorse the *Uniform Vehicle Code* as a statutory guide and recommend its adoption in each jurisdiction.

AAMVA pledges its support and cooperation to the National Committee on Uniform Traffic Laws and Ordinances in its efforts to maintain and update the *Uniform Vehicle Code* so that the *Code* may continue to reflect the best in motor vehicle and driver control and regulation. AAMVA believes that the experience and expertise of member administrators and chiefs of enforcement can be of great benefit to the National Committee in continuing this effort.

03 DRIVER EDUCATION/TESTING

3.4 Driver License Examining

Examination Content

AAMVA believes that the drivers license examination can be utilized as an effective highway safety tool, if it is administered in a comprehensive, professional manner. The Association recommends that the following be included in such an examination:

1 A test for visual acuity, as well as other appropriate vision testing, with referral to a Medical Advisory Board, if needed;

2 Physical screening to record any obvious physical impairments that might inhibit an applicant's ability to operate a motor vehicle safely;

3 A test to determine an applicant's knowledge of road signs and signals;

4 A test to determine an applicant's knowledge of traffic laws and/or safe driving practices;

5 An actual road test, in which the applicant is required to demonstrate general driving ability, including backing, turning, parking, observance of signs, signals, and traffic laws, as well as the ability to control and manipulate the vehicle, and in the type(s) of vehicle(s) to be driven.

Amended 1983

[*] The opinions and recommendations expressed in APPENDIX D are those of AAMVA and not necessarily those of the United States Department of Transportation or National Highway Traffic Safety Administration.

Examining Procedures

AAMVA recommends that uniform examining standards, policies and procedures be established by each state or provincial licensing agency. It further recommends that all examinations be administered by qualified personnel, with adequate time scheduled for a comprehensive and complete examination for each applicant. Results of all drivers licensing examinations should be reported on a detailed, standard form.

3.7 Renewal Examination

AAMVA recommends periodic reexamination of all drivers, at least once each four years. It urges that such a reexamination include a visual screening test, and where appropriate, a written and/or driving test.

Adopted 1982

The Association also urges that drivers whose records show a pattern of either violations and/or accidents be given a diagnostic-type reexamination, as a means for confirming a particular driving problem, as well as to prescribe driver improvement programming to ameliorate this deviant driver behavior.

04 MEDICAL ADVISORY BOARD

04.1 Medical Reporting

AAMVA recommends that state and provincial licensing agencies cooperate fully with organizations and individuals representing the medical profession, state health agencies, the Veteran's Administration, and other appropriately interested entities, to encourage reporting to drivers license agencies the presence of any physical and/or mental disabilities that might inhibit an individual's ability to operate a motor vehicle in a safe manner. in order that appropriate remedial action can be initiated.

AAMVA endorses *Functional Aspects of Driver Impairment: A Guide for State.Medical Advisory Boards*, developed by the Association, in cooperation with the National Highway Traffic Safety Administration (NHTSA), utilizing the medical profession and health safety specialists—as containing the appropriate guidelines for medical advisory board reporting of driver impairment.

AAMVA urges member-jurisdictions not to license those persons who require telescopic devices to meet minimum visual acuity standards established by the jurisdiction.

Amended 1983

04.2 Motor Vehicle Trauma As A Major Public Health Problem

AAMVA recognizes motor vehicle-related trauma as a major public health problem requiring leadership by the medical community, in concert with highway safety professionals, to ameliorate it. The Association resolves to join with the Association for the Advancement of Automotive Medicine (AAAM) in establishing a coalition of medical and non-medical organizations from the public and private sectors to develop a broad based public health approach to reducing motor-related trauma.

APPENDIX E: PROVISIONS OF THE UNIFORM VEHICLE CODE AFFECTING DRIVER LIMITATIONS

Introduction: Responsibility for driver licensing control resides with the department authorized to issue licenses. State statutes and departmental regulations provide the legal framework for establishing the licensing standards necessary to discharge this responsibility. In driver licensing, the standards guide the department in deciding if an applicant has the qualifications to operate a motor vehicle. In developing the licensing standards, the department must take into consideration the need to protect the public from unsafe drivers. This need is reflected in the licensing standards that enable the department to reject the applicant who fails to meet those standards and is considered as not qualified to drive a motor vehicle.

If an applicant meets the standards that have been set, the department would issue a license to drive such that person clearly is qualified. On the other hand, should an applicant with a physical or mental limitation (handicap) be granted a license if his/her qualifications *are* acceptable except for failing to meet the standards relating to his/her limitation (handicap)? What are the standards that determine whether a limitation prevents the safe operation of a motor vehicle? The following laws are taken from Chapter 6- Drivers' Licenses, of the Uniform Vehicle Code (National Committee on Uniform Traffic laws and Ordinances, 2000).

Original Application for a License: The department is authorized to gather information believed necessary for determining applicant competency as set for forth in UVC §6-107(b) - Application for License or Instructional Permit:

> (b) Every application shall state the applicant's full name, date, place of birth, sex and residence address of the applicant, and briefly describe the applicant. It also shall state whether the applicant has been licensed as a driver, and if so, when and by what state or country; whether any such license has ever been suspended or revoked, and if so, when and by what state or country; and whether an application has ever been refused; and if so, the date of and reason for such refusal; and such other information as the department may require to determine the applicant's identity, competency and eligibility.

Examination of Original Applicant: The department's evaluation of the qualifications of an original applicant is normally based on the results of the examinations required under UVC §6-110(a) -Examination of Applicants:

> (a) The department shall examine every applicant for a driver's license. Such examination shall include a test of the applicant's eyesight, ability to read and understand official traffic control devices, knowledge of safe driving practices and the traffic laws of this State, and shall include an actual demonstration of ability to exercise ordinary and reasonable control in the operation of a vehicle or combination of vehicles of the type covered by the license classification or endorsement which the applicant is seeking. The examination may also include such further physical and mental examinations as the department finds necessary to determine the applicant's fitness to operate a motor vehicle safely upon the highways.

License Denial: The department may disqualify persons with limitations under UVC §6-l 03(b)3./4./6.:

> (b) *Ineligibility*- The department shall not issue any driver's license to, nor renew the driver's license of, any person:
>
> 3). Who is an habitual user of alcohol or any drug to a degree rendering such person incapable of safely driving a motor vehicle;
> 4). Who has previously been adjudged to be afflicted with or suffering from any mental disability or disease and who has not at the time of application been restored to competency by the methods provided by law;
> 6). When the commissioner has good cause to believe that such person by reason of physical or mental disability would not be able to operate a motor vehicle safely.

Reexamination for Renewal Applicants: The department is authorized to reexamine any licensed driver prior to renewal prescribed under UVC §6-110 (relating to original applicants) under UVC §6-116(b) -Expiration and renewal of license; reexamination required:

> (b) The department shall require every person applying for renewal of a driver's license to take and successfully pass a test of eyesight and knowledge of the traffic laws of this State. The department may require any applicant to take and successfully pass such additional tests as the department may find reasonably necessary to determine the applicant's qualification according to the class of license or license endorsement applied for, and the examination may include any or all of the other tests required or authorized upon original application by § 6-110.

Defining Reportable Disorders and Disabilities: The Code places the responsibility for defining disorders and *disabilities* with the State medical agency or Medical Advisory Board under UVC §6-120(a) -Reports by physicians and vision specialists (ophthalmologists and optometrists):

> (a) The (State department of health) shall define disorders characterized by lapses of consciousness or other mental or physical disabilities affecting the ability of a person to drive safely for the purpose of the reports required by this section.

Physician Reports: Physicians are required to submit reports to the department of persons suffering from disabilities that could impair their ability to operate a motor vehicle under UVC §6-120(b)(c) -Reports by physicians and vision specialists (ophthalmologists and optometrists):

> (b) All physicians and other persons authorized to diagnose or treat disorders and disabilities defined by the (State department of health) shall report to that department, in writing, the full name, date of birth and address of every person over 15 years of age diagnosed as having any such specified disorder or disability within 10 days.
>
> (c) The (State department of health) shall report to the department the names, dates of birth and addresses of all persons reported as having any such specified disorder or disability.

Physician Reports Confidential: Reports required by physicians are confidential as prescribed under UVC §6-l20(d)(e) -Reports by physicians and vision specialists (ophthalmologists and optometrists):

> (d) The reports required by this section shall be confidential and shall be used solely for the purpose of determining the qualifications of any person to drive a motor vehicle on the highways of this State. No civil or criminal action may be brought against any person or agency who provides the required information.
>
> (e) No report forwarded under the provisions of this section shall be used as evidence in any civil or criminal trial nor in any proceeding under § 6-219.

Medical Advisory Boards ("Health Advisory Boards" per revised UVC-1987): Medical Advisory Boards are authorized to assist the licensing agency under UVC §6-119(a) -Health advisory board:

> (a) There shall be a health advisory board consisting of ___members appointed by the commissioner with the assistance of the (State department of public health).

Advising on Medical Criteria and Vision Standards: Medical Advisory Boards will have the function of advising the commissioner of motor vehicles with respect to medical criteria and vision standards for driver licensing under UVC §6-119(b) -Health advisory board:

> (b) The board shall advise the commissioner on medical criteria and vision standards relating to the licensing of drivers under the provisions of this chapter.

Reviewing Individual Cases: Although the department has the final authority on deciding if a license should be issued, the report of the Medical Advisory Board will be the determining factor. The authority for the department to obtain the advice is UVC 6-119(c) -Health advisory board:

> (c) The department, having cause to believe that a licensed driver or applicant may not be physically or mentally qualified to be licensed, may obtain the advice of the board. The board may formulate its advice from records and reports or may require an examination and report to be made by one or more members of the board or any other qualified person it may designate. The licensed driver or applicant may have a written report forwarded to the board by a physician of driver or applicant's choice, and it shall be given due consideration by the board.

Liability limited: Members of the Medical Advisory Board are not liable for their performance under UVC 6-119(d) -Health advisory board:

> (d) Members of the board and other persons making examinations shall not be held liable for their opinions and recommendations presented pursuant to subsection (c).

MAB Reports Confidential: Reports received or made by the board, or its members, are confidential UVC 6-119(e) -Health advisory board:

(e) Reports received or made by the board, or its members, for the purpose of assisting the department in determining whether a person is qualified to be licensed are for the confidential use of the board or the department and may not be divulged to any person or used as evidence in any trial, except that the reports may be admitted in proceedings under § 6-212 and § 6-219, and any person conducting an examination pursuant to subsection (c) may be compelled to testify concerning such person's observations and findings in such proceedings.

Reexamination for Cause: The department is authorized to reexamine any licensee whenever there is cause to believe that the licensee is incompetent or otherwise not qualified to drive under UVC6-209(a) -Department may require reexamination:

The department, having good cause to believe that a licensed driver is incompetent or otherwise not qualified to be licensed, may upon at least five-days written notice to the licensee, require such person to submit to an examination. Upon the conclusion of such examination, the department shall take action as may be appropriate and may suspend or revoke the license of such person or permit such person to retain such license, or issue a license subject to restrictions as to the type or class of vehicles that may be driven. Refusal or neglect of the licensee to submit to such examination shall be grounds for suspension or revocation of such person’s license.

APPENDIX F: AMERICAN MEDICAL ASSOCIATION COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS REPORT ON IMPAIRED DRIVERS

December 1999 Ethical and Judicial Affairs Report – 1

REPORTS OF COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS

The following reports, 1-5, were presented by Herbert Rakatansky, MD, Chair:

1. IMPAIRED DRIVERS AND THEIR PHYSICIANS HOUSE ACTION: RECOMMENDATIONS DOPTED AND REMAINDER OF REPORT FILED

INTRODUCTION

At the Interim Meeting in 1996, the House of Delegates referred Resolution 216, questioning the ethical implications of requiring emergency department physicians to report impaired drivers, to the Board of Trustees. At the Interim Meeting in 1997, the House of Delegates adopted Resolution 510, which asked the AMA to study physicians' legal and ethical obligations with respect to reporting physical and mental conditions which may impair a patient's ability to drive.

In this report, the Council briefly addresses state laws for reporting impaired drivers and focuses on the ethical obligations of physicians when faced with patients whose driving is impaired by physical and mental conditions.

BACKGROUND

Automobile crashes are the third leading cause of death and injury in the United States with 40,000 to 50,000 people killed in about two million accidents per year. Alcohol and speeding are two prevailing factors in motor vehicle crashes but inattentiveness, fatigue, and sleepiness are also primary contributing factors. All of these factors can arise from a variety of recognized medical conditions.

Physicians are in a unique position to anticipate the impact of physical and mental conditions on driving impairment. This position of knowledge also carries implications for intervention that pose ethical challenges to the physician. Motivated by a respect for the individual and a desire to promote patient autonomy, physicians traditionally have allowed the patient to make the ultimate decision whether to continue driving. The decision not to interfere with the patient's decision to drive also may derive from a physician's commitment to a patient's well-being. The privilege of driving is a source of freedom and empowerment for many individuals. Removing this privilege has its risks. The loss of the ability to be independently mobile can be a devastating psychological blow for an elderly patient. It also may restrict a patient's access to needed medical and social services or to employment venues.

STATE REPORTING LAWS

Virtually all states have established policies for identifying drivers with physical or mental impairments. Mandatory reporting laws for intoxicated drivers are not uncommon. A few states have mandatory reporting laws with respect to a specific set of disorders (e.g. Delaware, New Jersey, and Nevada require reporting for epilepsy; California, for dementia). The majority of states provide merely an opportunity for physicians to report on a permissive basis.

Although mandatory reporting laws leave physicians with little discretion, permissive reporting laws may leave physicians with little guidance and more vulnerable to legal liability. On the one hand, if the physician does report a medical impairment to driving authorities, the patient may be concerned about the breach of confidentiality. On the other hand, if the physician fails to report a medical impairment, the victim of the patient's reckless driving or the victim's family may hold the physician responsible for failure to report.

The purpose of this report is not to debate the advantages and disadvantages of mandatory versus permissive reporting laws. Whether permissive or mandatory, statutes should uphold the best interests of patients and

community, and should safeguard physicians from liability when reporting in good faith. Physicians should work with their state medical societies to create appropriate protections.

ISSUES OF CONFIDENTIALITY

The obligation to protect a patient's confidentiality places the physician in a particularly difficult situation when considering whether to report driving impairments. Confidentiality is a cornerstone of the patient-physician relationship. It allows people to discuss sensitive issues openly with their physicians, thus enabling the physicians to provide appropriate medical care.

Confidentiality protections, however, are not absolute and exceptions do exist. Opinion 5.05, "Confidentiality," of the Council on Ethical and Judicial Affairs states: "The obligation to safeguard patient confidences is subject to certain exceptions which are ethically and legally justified because of overriding social considerations." Physicians are custodians of the public trust and have a duty to warn society about certain public health hazards. For example, physicians have a legal duty in some situations to warn identifiable third parties who are the subjects of serious threats of harm. In addition, physicians are commonly required by statute or ordinance to report cases of communicable diseases, or gunshot and knife wounds. These general exceptions identify the limits of confidentiality and provide a basis for deriving additional duties on the part of physicians to protect the public.

THE PHYSICIAN'S ROLE WITH RESPECT TO DRIVING IMPAIRMENTS

Physicians have an ethical responsibility to assess patients' physical or mental impairments that might adversely affect driving abilities. Each case must be evaluated separately since not all impairments may give rise to an obligation on the part of the physician. There are factors the physician must consider. First, the physician must be able to identify and document physical or mental impairments that clearly relate to the ability to drive. Second, the driver must pose a clear risk to public safety. While these guidelines may assist physicians in determining which patients raise serious concerns, they may not apply to all physicians and the circumstances under which they work. For instance, physicians who only treat patients on a short-term basis *(i.*e., emergency physicians, trauma or related surgical subspecialty physicians) may not be in a position to evaluate either the extent or the effect of the impairment. Physicians ultimately must use their best judgement when determining when to report. Since there may be few clear-cut standards or valid measures to assess driving competency at the physician's immediate disposal, the determination of the inability to drive safely should be made by the state's Department of Motor Vehicles.

Before reporting is appropriate, however, there are a number of alternatives the physician might pursue. A tactful but candid discussion with the patient and family about the risks of driving is of primary importance. In addition, depending on the patient's medical condition, a physician may suggest to the patient that he or she seek further treatment, such as substance abuse treatment or occupational therapy. Physicians may also encourage the patient and the family to decide on a restricted driving schedule, such as shorter and fewer trips, driving during non-rush-hour traffic, daytime driving, and/or driving on slower roadways if these mechanisms would alleviate the danger posed. Efforts made by physicians to inform patients and their families, advise them of their options, and negotiate a workable plan may render reporting unnecessary.

There may be situations, however, where clear evidence of substantial driving impairment implies a strong threat to patient and public safety, and where the physician's advice to discontinue driving is ignored. In these unusual cases, t is desirable and ethical for physicians to notify the Department of Motor Vehicles about the medical conditions that may impair safe driving to enable the Department of Motor Vehicles to determine whether or not the patient can continue to drive. Physicians should disclose to the patient this responsibility to report and ensure that he or she understands. In fulfilling this duty, physicians should protect patient confidentiality by ensuring that only the minimal amount of pertinent information is released and that it is secured through proper channels. This reporting is for the protection of the patient and the community. This report does not address the issues of reporting medical information for the purpose of punishment or criminal prosecution.

CONCLUSION

The problem of impaired drivers illustrates the fundamental conflict between the responsibility physicians have to society and their responsibility to individual patients. Upholding the ethical obligation to protect the public may, in part, entail reporting patients who suffer from impairments that could limit their ability to drive safely. Furthermore,

the patient who suffers from a driving-related impairment and continues to operate an automobile is a danger to himself or herself. By reporting such patients, the physician is protecting not only the public, but also the patient.

RECOMMENDATIONS

The Council on Ethical and Judicial Affairs recommends that the following statements be adopted and that the remainder of this report be filed:

The purpose of this report is to articulate physicians' responsibility to recognize impairments in patients' driving ability that pose a strong threat to public safety and which ultimately may need to be reported to the Department of Motor Vehicles. It does not address the reporting of medical information for the purpose of punishment or criminal prosecution.

1. Physicians should assess patients' physical or mental impairments that might adversely affect driving abilities. Each case must be evaluated individually since not all impairments may give rise to an obligation on the part of the physician. Nor may all physicians be in a position to evaluate the extent or the effect of an impairment *(e.*g., physicians who treat patients on a short-term basis). In making evaluations, physicians should consider the following factors:

    a) the physician must be able to identify and document physical or mental impairments that clearly relate to the ability to drive;
    b) the driver must pose a clear risk to public safety.

2. Before reporting, there are a number of initial steps physicians should take. A tactful but candid discussion with the patient and family about the risks of driving is of primary importance. Depending on the patient's medical condition, the physician may suggest to the patient that he or she seek further treatment, such as substance abuse treatment or occupational therapy. Physicians also may encourage the patient and the family to decide on a restricted driving schedule, such as shorter and fewer trips, driving during non-rush-hour traffic, daytime driving, and/or driving on slower roadways if these mechanisms would alleviate the danger posed. Efforts made by physicians to inform patients and their families, advise them of their options, and negotiate a workable plan may render reporting unnecessary.

3. Physicians should use their best judgement when determining when to report impairments that could limit a patient's ability to drive safely. In situations where clear evidence of substantial driving impairment implies a strong threat to patient and public safety, and where the physician's advice to discontinue driving privileges is ignored, it is desirable and ethical to notify the Department of Motor Vehicles.

4. The physician's role is to report medical conditions that would impair safe driving as dictated by his or her state's mandatory reporting laws and standards of medical practice. The determination of the inability to drive safely should be made by the state's Department of Motor Vehicles.

5. Physicians should disclose and explain to their patients this responsibility to report.

6. Physicians should protect patient confidentiality by ensuring that only the minimal amount of information is reported and that reasonable security measures are used in handling that information.

7. Physicians should work with their state medical societies to create statutes that uphold the best interests of patients and community, and that safeguard physicians from liability when reporting in good faith.

APPENDIX G: EDUCATIONAL MATERIAL FOR THE GENERAL DRIVING PUBLIC

DON=T IGNORE THE WARNING SIGNS

A friend or family member has expressed concern about your driving.

You sometimes get lost while driving on routes that were once familiar.

You have been pulled over by a police officer and warned of poor driving behavior, regardless of whether or not you received a ticket.

You have had several moving violations, near misses, or actual crashes in the past three years.

Your doctor or other health care giver has advised you to restrict or stop driving.

C C

Listen to what people tell you who know you best and care the most about you.

Discuss driving with your doctor--he or she can evaluate the interactions and side effects of all the medications you may be taking.

Refresh your knowledge of safe driving practices and learn about new traffic control & roadway design features through a mature driver class.

Begin planning for alternative ways of meeting your mobility needs. Now is the time to learn about mobility options in your community -- try them out...see what works best for you.

SELF AWARENESS: THE KEY TO SAFE DRIVING

While we all want to keep driving for as long we can, none of us wants to be a threat to ourselves or to others because we are no longer able to drive safely. A leading cause of accidental death among older persons is automobile crashes.

C C

It=s important to remember that most seniors *are* capable, and have a lifetime of valuable driving experience. Decisions about a person=s ability to drive should never be based on age alone.

C C

Fortunately, most seniors take appropriate steps when they detect a problem with their driving. But it=s not always obvious when a general health problem, vision problem, or a side effect of medications will lead to a driving impairment.

C C

Self awareness is the key. People who can accurately assess their fitness to drive can adjust their driving habits, and stay safe on the road. They will retain the personal mobility that comes with driving, while limiting the risks to themselves and to others.

C C

This brochure can increase your awareness about different problems that lead to unsafe driving. It also gives you tips to help keep you behind the wheel. For more information, contact:

To find a driver rehabilitation specialist in your area:

$Association for Driver Rehabilitation Specialists (ADED)
(608) 884-8833, www.driver-ed.org

$American Occupational Therapy Association
(301) 652-2682, www.aota.org

To find a mature driver education class in your area:

$AARP/55-Alive. 1-888-AARP-NOW (1-888-227-7669)

$ AAA Safe Driving for Mature Drivers
(Call your local AAA club for availability of classes)

For information about benefits & services for older persons provided by the Agency on Aging in your area:

$ Eldercare Locator 1-800-677-1116
State contact info: www.aoa.gov/aoa/pages/state.html

How Is Your Driving Health?

A Self-Awareness Checklist

&

Tips to Help You Drive Safely Longer

A product promoting *Safe Mobility for Life*
from the Maryland Research Consortium on older drivers.

VISION

Good driving health begins with good vision. With declining vision, your responses to signals, signs, and changing traffic conditions become slower, increasing your crash risk.

Warning Signs

$ You have problems reading highway or street signs, or recognizing someone you know across the street.

$ You have trouble seeing lane lines & other pavement markings; curbs & medians; and other vehicles & pedestrians, especially at dawn or dusk, and at night.

$ You are experiencing more discomfort from the glare of oncoming headlights at night.

Tips

Make sure your corrective lenses have a current prescription, and always wear them. If you lose or break your glasses, don=t rely on an old pair; replace them right away with your new prescription.

Do not wear sunglasses or tinted lenses at night. This reduces the amount of light that reaches your eyes, and makes driving much more hazardous.

Keep your windshield and headlights clean, and make sure your headlight aim is checked when your vehicle is inspected.

Sit high enough in your seat so that you can see the road within 10 feet in front of your car. This will make a big difference in reducing the amount of glare you experience from opposing headlights at night. Use a cushion if your car seats don=t have vertical adjustment.

People age 61 and older should see an optometrist or ophthalmologist every year to check for cataracts, glaucoma, macular degeneration, diabetic retinopathy, and other conditions for which we are at greater risk as we grow older.

PHYSICAL FITNESS

Diminished strength, flexibility, and coordination can have a major impact on your ability to control your vehicle in a safe manner.

Warning Signs

$ You have trouble looking over your shoulder to change lanes, or looking left & right to check traffic at intersections.

$ You have trouble moving your foot from the gas to the brake pedal, or turning the steering wheel.

$ You have fallen down to the floor or ground C *not counting a trip or stumble* C once or more in the previous year.

$ You walk less than 1 block per day.

$ You can't raise your arms above your shoulders.

$ You feel pain in your knees, legs, or ankles when going up or down a flight of stairs (10 steps).

Tips

With your doctor=s approval, do some stretching exercises, and start a walking program. Walk around the block, or in a shopping mall. Also, check your local health clubs, YMCAs, senior centers, community colleges, and hospitals for fitness programs geared to the needs of seniors.

Get examined by a podiatrist if you have pain or swelling in your feet. If you have pain or stiffness in your arms, legs, or neck, your doctor may prescribe medication and/or physical therapy.

An occupational therapist or a *certified driving rehabilitation specialist* may be able to prescribe special equipment for your car to make it easier to steer and to use your pedals.

Eliminate your driver=s side blind spot by re-aiming your mirror. First, lean your head against the window, *then* adjust your mirror outward so that when you look at the inside edge you can barely see the side of your car. *If* you use a wide-angle mirror, get *lots* of practice judging distances to other cars before using it in traffic.

ATTENTION AND REACTION TIME

Driving often requires quick reactions to safety threats. As we grow older, it becomes more difficult to divide attention and to make rapid responses.

Warning Signs

$ You feel overwhelmed by all of the signs, signals, markings, pedestrians, and other vehicles that you must pay attention to at intersections.

$ Gaps in traffic are harder to judge, making it more difficult to turn left at intersections, or to merge with traffic when turning right.

$ You take medications that make you drowsy.

$ You often get lost or become disoriented.

$ You aren=t confident that you can handle the demands of high speeds or heavy traffic volumes.

$ You are slower in recognizing cars coming out of driveways or side streets, or realizing that another car has slowed or stopped ahead of you.

Tips

Plan your route. Drive where you are familiar with the road conditions and traffic patterns.

Drive during the day, and avoid rush hours.

A passenger can serve as a Asecond pair of eyes.@ But don=t get distracted in conversation!

When approaching intersections, remember to stay alert for cars and pedestrians entering from the side unexpectedly.

Leave enough distance between you and the car ahead to react to a sudden stop, but understand that *too* large a gap will invite others to cut in front of you in heavy traffic. A gap of 3 seconds or more is most desirable, conditions permitting. Look for a tree, sign, etc. When the car ahead of you passes this point count A1001, 1002, 1003.@ If you can count to 1003 by the time you get to the same point, this equals a 3-second gap.

APPENDIX H: FORMS SENT TO DRIVERS BY MARYLAND MAB CASE MANAGER TO COLLECT HEALTH AND MEDICAL INFORMATION

MOTOR VEHICLE ADMINISTRATION Department of Transportation 6601 Ritchie Highway, N. E. Glen Burnie MD 21062	HEALTH INQUIRY COVER PAGE Driver Control Division	Health Inquiry Package Questions? Please Call: *1-410-768-7361* *TTY For the Deaf 1-800-492-4575*

NOTICE DATE

DUE DATE FOR ALL FORMS

The Motor Vehicle Administration has received information that indicates you may have a medical condition that could affect your ability to drive safely. Three forms are enclosed. When properly completed, these forms often allow our Medical Advisory Board (MAB) to make an evaluation about your fitness for driving. These forms are:

1). Medical Advisory Board Health Questionnaire: your medical history and your understanding of your overall situation are most valuable in helping us develop an accurate appreciation of your condition. Your completed questionnaire will be reviewed carefully by at least one MAB doctor. Please be candid; the information you provide will be treated with the professional confidentiality appropriate to any personal medical communication. All MAB doctors and all members of the administrative staff which supports them are bound by their own ethical standards and the Maryland Vehicle Law (paragraph 16-118(d)) to ensure the contents of MAB records are used only to determine qualification to drive and are never disclosed to others. We must use this questionnaire in our review of the great variety of clinical problems evaluated by the MAB – medical, surgical, psychiatric, substance abuse, and so forth; it also may be used in driver safety research projects. Some of the questions might seem unrelated to your situation, but these often turn out to be important for us, so we hope you will be willing to answer all of the questions.

2). Consent for Release of Confidential Information: please provide the name, address, and phone number of both your primary care physician and other doctors or treatment providers who've been involved in your care so we'll be able to contact them if that should become necessary.

3). Physician's Report: we hope your doctor will explain your clinical condition on this form in sufficient detail to enable the MAB to estimate the risk, if there is any, to highway safety. Please fill out Section 1 and then ask your doctor to complete the form and return it to us within two weeks of the date our letter was sent to you. If you and your doctor prefer, you may enclose the completed Physician's Report with the other forms you return to us. If you feel our understanding of your condition will require information from more than one physician, you may reproduce the form enclosed or, you may contact your Case Manager and additional forms will be sent to you.

4). Driver Safety Screening: as part of the review process, we will conduct several Driver Safety Screening tests. Please contact [redacted] at (410) [redacted] who will schedule the screening at one of our MVA full-service offices. Following the screening and review of all medical documentation, you will be further advised.

Please respond promptly. Our commitment to highway safety requires when a driver fails to provide the information requested by the due date, we must render a conservative decision about suspension of the driving privilege. If a suspension is necessary, the right to appeal the decision and the process for doing so will be explained.

CASE MANAGER DATE TELEPHONE

MVA Motor Vehicle Administration 6601 Ritchie Highway, N.E. Glen Burnie, MD 21062 TTY For The Deaf 1-800-492-4575	**CONSENT FOR THE RELEASE OF CONFIDENTIAL INFORMATION**	*DIVISION OF DRIVER CONTROL* *MEDICAL REVIEW SECTION* *(410) 768-7361*

PLEASE FURNISH COMPLETE NAMES AND ADDRESSES BELOW

NOTICE DATE_____

SOUNDEX NUMBER_____

DC-5

This Administration is in receipt of information which indicates that you may have a physical, mental, or chemical dependency problem which might affect your ability to safely operate a motor vehicle. We are requesting that you furnish to the Motor Vehicle Administration (MVA) the names of all doctors, hospitals, alcohol and drug clinics, and other programs where you have received treatment or have been monitored and that you execute this authorization for release of medical records and data pertaining to the same.

The purpose for this authorization is to enable the Motor Vehicle Administration to obtain relevant medical data pertaining to its evaluation of your ability to safely operate a motor vehicle. All medical data obtained under this authorization will be kept CONFIDENTIAL and will only be used for those purposes set out in Section 16-118 of the Transportation Article of the Annotated Code of Maryland.

This authorization is to be completed and returned by _____

RELEASE FOR MEDICAL INFORMATION

By execution of this authorization, _____gives permission to

PRINTED NAME (Primary Care/Family Practice/Internist)	ADDRESS	NATURE OF TREATMENT	TELEPHONE NUMBER
PRINTED NAME (Other treatment facility or program)	ADDRESS	NATURE OF TREATMENT	TELEPHONE NUMBER
PRINTED NAME (Other treatment facility or program)	ADDRESS	NATURE OF TREATMENT	TELPEHONE NUMBER
PRINTED NAME (Other treatment facility or program)	ADDRESS	NATURE OF TREATMENT	TELEPHONE NUMBER

to release to the Motor Vehicle Administration all information relative to treatment for a physical, mental, or chemical dependency problem (attendance, treatment, participation, prognosis, rehabilitation).

This authorization will expire on _____ .

This authorization may be withdrawn any time except to the extent that information has already been released in reliance thereon.

Signed: _____ Date: _____

Social Security Number: _____ Telephone Number: _____

If you are a minor, your parent or legal guardian must sign as a witness.) Witness: _____

NOTE: The above-named individual, not MVA, is responsible for any cost incurred as a result of requests made for medical information.

If you have any questions, please contact the Medical Review Section at the above-listed address.

PROHIBITION OF REDISCLOSURE: THIS ADMINISTRATION IS PROHIBITED FROM MAKING ANY FURTHER DISCLOSURES OF INFORMATION FROM RECORDS WHOSE CONFIDENTIALITY IS PROTECTED BY THE MARYLAND MOTOR VEHICLE LAW GOVERNING MEDICAL ADVISORY BOARD CASES AND BY FEDERAL LAW, EXCEPT WITH SPECIFIC WRITTEN CONSENT OF THE PERSON TO WHOM IT PERTAINS OR AS OTHERWISE PERMITTED BY FEDERAL REGULATIONS. A GENERAL AUTHORIZATION FOR THE RELEASE OF MEDICAL OR OTHER INFORMATION IS NOT SUFFICIENT FOR THIS PURPOSE.

DC-88 (11-98)

Medical Advisory Board
Health Questionnaire

The Medical Advisory Board (MAB) of the Maryland Motor Vehicle Administration has been asked to review your medical status as it relates to driving. A comprehensive medical history is needed for this assessment. Please complete this questionnaire carefully, as instructed below, for our Medical Advisory Board physicians' review.

INSTRUCTIONS

1. Please print all information legibly.
2. Mark the appropriate YES or NO box in the following manner: [X]
3. Use the following format for questions requiring a date: MM / DD / YYYY. For example: 11/26/2000
4. Please answer each question to the best of your ability. Space has been provided on the form for you to write additional information or comments you believe would help us understand your medical condition.
5. All medical information will be kept confidential, as in the traditional doctor/patient relationship, and used only to assess driving safety.
6. At the end of this form you will be asked to certify by your signature that the information you provided is true and complete to the best of your knowledge and belief.

SECTION A

DRIVER LICENSE IDENTIFICATION NUMBER	SOCIAL SECURITY NUMBER (OPTIONAL)	TODAY'S DATE
___-___ ___ ___-___ ___ ___-___ ___ ___ ___-___ ___ ___	___ ___ ___-___ ___-___ ___ ___ ___	___/___/___

LAST NAME	FIRST	MIDDLE	FORMER

DATE OF BIRTH	SEX (Circle)	MARITAL STATUS (Circle)
___/___/___	M F	SINGLE MARRIED DIVORCED SEPARATED WIDOWED
HEIGHT	**WEIGHT**	**ETHNICITY (OPTIONAL) (Circle)**
		WHITE BLACK HISPANIC ASIAN NATIVE AMERICAN OTHER

EDUCATION (Circle highest grade completed)				RELIGION PREFERENCE (OPTIONAL) (Circle)
1 2 3 4 5 6 7 8	9 10 11 12	1 2 3 4	1 2 3 4 >4	Catholic Protestant Jewish Muslim Other None
ELEMENTARY	HIGH	COLLEGE	POST GRADUATE	

MILITARY SERVICE (Circle)	HONORABLE DISCHARGE (Circle)	SERVICE OUTSIDE USA (Circle)	DATES OF ACTIVE SERVICE	HOW MANY YEARS HAVE YOU HAD A DRIVER'S LICENSE?
YES NO	YES NO	YES NO	___/___ – ___/___	

REASON FOR MEDICAL ADVISORY BOARD REVIEW

LEISURE ACTIVITIES	LIST INTERESTS OR HOBBIES

SECTION B

1. Are you currently (Circle)

   Employed Unemployed Retired Disabled

   1a. If employed, list occupation(s)

   _____

   1b. How long in current position(s)? _____

   1c. If unemployed, retired, or disabled list last occupation(s).

   _____

YES NO

2. ☐ ☐ Do you want to remain at your present job?

YES NO

3. ☐ ☐ Are you currently in school?

   If yes (Circle) Full-time Part-time

4. ☐ ☐ Is your current financial situation a problem or are you having an increasing number of financial problems?

5. Annual Income ($)

   ☐ Under 7,500 ☐ 25,000 – 49,999

   ☐ 7,500 – 14,999 ☐ 50,000 – 75,000

   ☐ 15,000 – 24,999 ☐ Over 75,000

Work History (Example cook, plumber, engineer, etc.) Start with most recent job, including military	Length of Time	Check if your current and previous work have involved any of the following. A Chemical or Solvents	B Fumes (metal, welding, chemical)	C Shift Work	D Other Hazardous Substances
1.					
2.					
3.					
4.					

SECTION C

Please complete the chart below. Provide information about you, your spouse and your blood relatives, including those who have died.

Relationship	Please place check mark here if deceased	Current age or age at death if deceased	AIDS	Alcoholism (addiction) or Alcohol Abuse	Anxiety Disorders	Blackouts (fainting, passing out)	Cancer or Leukemia	Congenital abnormality (e.g., blood vessel, bone, muscle)	Dementia, Alzheimer's, memory loss	Depression	Diabetes ("sugar")	Drug Abuse or Drug Addiction	Epilepsy (convulsion, "fits", seizures)	Hypoglycemic Attacks (fainting from low blood sugar)	Kidney Disease	Narcolepsy (falling asleep unpredictably)	Psychotic Disorders (e.g., schizophrenia, manic-depression)	Sleep Apnea	Hearing Loss (deafness) before age 55	Heart Attack/angina (severe chest pain) before age 55	Hypertension (high blood pressure) before age 55	Stroke (brain infarction or hemorrhage) before age 55	Other important conditions? Explain.
You	■																							
Your spouse																								
Children																								
1																								
2																								
3																								
4																								
Your mother																								
Your mother's mother																								
Your mother's father																								
Your father																								
Your father's mother																								
Your father's father																								
Brothers and sisters																								
1																								
2																								
3																								
Other relatives																								
1																								
2																								
3																								

SECTION D

Have you taken any of the following medications regularly in the last 12 months?

1. ☐ YES ☐ NO Aspirin-like agents (including Ascriptin, Bufferin, Anacin, or other medicine containing Aspirin).
   1a. If yes, for what purpose? _____
2. ☐ YES ☐ NO Allergy/asthma medicine (including seasonal)
3. ☐ YES ☐ NO Blood pressure medicine
4. ☐ YES ☐ NO Blood thinner (anti-coagulant)
5. ☐ YES ☐ NO Diuretics (water pills)
6. ☐ YES ☐ NO Insulin for diabetes
   6a. Date of last blood sugar test ____ / ____ / ____
   6b. Test Results: Hgb1c _____ Glucose _____
7. ☐ YES ☐ NO Oral medicine for diabetes
8. ☐ YES ☐ NO Medicine for seizures or convulsions
9. ☐ YES ☐ NO Heart medicine (Nitroglycerin, Inderal, etc.)
10. ☐ YES ☐ NO Tranquilizers, Anti-anxiety/nerve pills
11. ☐ YES ☐ NO Lithium
    11a. Date of last blood lithium test ____ / ____ / ____
    11b. Test Results _____
12. ☐ YES ☐ NO Anti-depressants
13. ☐ YES ☐ NO Antabuse
14. ☐ YES ☐ NO Are you allergic to any medications such as penicillin?
    If yes, list _____
15. *List names of all medicines taken regularly (at least once a week). Please check labels on containers.*
    15a. _____
    15b. _____
    15c. _____
    15d. _____
16. What surgical operations have you had?
    16a. Condition _____
    16b. Year _____
    16c. Condition _____
    16d. Year _____
17. Primary Care Physician _____
    17a. Phone Number (_____) _____

SECTION E

Have you ever had

1. ☐ YES ☐ NO Temporary loss of vision in either eye?
2. ☐ YES ☐ NO Glaucoma (high pressure in the eye)?
3. ☐ YES ☐ NO Cataracts?
4. ☐ YES ☐ NO Double vision?
5. ☐ YES ☐ NO Serious eye injury? Date ____/____/____
6. ☐ YES ☐ NO Eye surgery? Date ____/____/____
7. ☐ YES ☐ NO Blindness in either eye?
   7a. Age of onset _____
8. ☐ YES ☐ NO Loss of side (peripheral) vision?

During the past 12 months have you had

9. ☐ YES ☐ NO Frequent eye infections or conjunctivitis (pink eye)?
10. ☐ YES ☐ NO Frequent itching, burning, redness of the eyes, or swelling of the eyelids?
11. ☐ YES ☐ NO Any unusual difficulty seeing in reduced light (night vision)?
12. ☐ YES ☐ NO Do you wear eyeglasses/contacts to drive?
    12a. If you wear contact lenses, check
    ☐ Hard ☐ Soft
13. ☐ YES ☐ NO Any other eye problems not covered above?
    13a. If yes, please describe _____

SECTION F

Have you ever had

1. ☐ YES ☐ NO High blood pressure?
2. ☐ YES ☐ NO Heart trouble, murmur, or rheumatic/scarlet fever?
3. ☐ YES ☐ NO A heart attack?
   3a. Year(s) _____
4. ☐ YES ☐ NO Palpitations (pounding, fluttering) of your heart other than when you were upset, excited, or exercising?
5. ☐ YES ☐ NO A stroke?
   5a. Year(s) _____
6. ☐ YES ☐ NO Shortness of breath on mild physical activity (e.g., going up one flight of stairs)?
7. ☐ YES ☐ NO Breathing difficulty when lying down without a pillow?
8. ☐ YES ☐ NO Phlebitis (inflamed or sore veins in your legs)?
   8a. Year(s) _____
9. ☐ YES ☐ NO Tightness, pain, heaviness, squeezing, or pressure around your heart (angina)?
10. ☐ YES ☐ NO A pacemaker/defibrillator?
    10a. Date implanted ____ / ____ / ____

SECTION G

Have you ever had

1. ☐ YES ☐ NO Epilepsy, convulsions, seizures, or blackout spells?
   1a. Date last attack ____ / ____ / ____
   1b. Number of attacks in the past 12 months _____
2. ☐ YES ☐ NO Weakness in your arms or legs?
3. ☐ YES ☐ NO Shaking, tremors, or trembling of your hands?
4. ☐ YES ☐ NO Severe headaches?
5. ☐ YES ☐ NO A head injury resulting in unconsciousness?
   5a. Date ____ / ____ / ____
6. ☐ YES ☐ NO Fainting, dizzy spells, or unconsciousness?
7. ☐ YES ☐ NO Slurred speech or difficulty writing or buttoning your clothes?
8. ☐ YES ☐ NO Difficulty walking or keeping your balance?
9. ☐ YES ☐ NO Any other neurologic problems not covered above? If yes, please describe
   9a. Condition _____
   9b. Date of Onset ____ / ____ / ____
   9c. Treating Physician _____
   9d. Phone Number (_____) _____

SECTION H

YES NO Have you ever had

1. ☐ ☐ Pain in your neck?
2. ☐ ☐ Pain in your upper extremities?
3. ☐ ☐ Pain in your lower extremities?
4. ☐ ☐ Amputation?
   4a. If yes, what part of body? _____
5. ☐ ☐ Numbness, weakness, or tingling of your fingers, hands, legs?
6. ☐ ☐ Pain in your hands, wrists, forearms – particularly when grasping?
7. ☐ ☐ Need for a crutch, cane, walker, or wheelchair?
8. ☐ ☐ Any other hand or joint problems not covered above?
   8a. If yes, please describe _____

SECTION I

YES NO

1. ☐ ☐ Have you experienced any changes in your mood or feelings that interfere with any of your activities?
2. ☐ ☐ Do you have trouble controlling your anger?
3. ☐ ☐ Have you ever started a fight where you or someone else got hurt?
4. ☐ ☐ Do you have or have you ever had feelings that life is not worth living?
   4a. Date ____ / ____ / _____
5. ☐ ☐ Have you ever attempted suicide?
   5a. Date ____ / ____ / _____
   5b. What did you do? _____
6. ☐ ☐ Are you sometimes tense, nervous, anxious, or depressed?
7. ☐ ☐ Have you noticed a change in your ability to remember things?
8. ☐ ☐ Have you had any recurrent problem(s) sleeping in the last 12 months?
9. ☐ ☐ Have you ever been so angry you wanted to kill someone?
10. ☐ ☐ Have you received any counseling?
    10a. For what? _____
    10b. Date Began ____ / ____ / _____
    10c. Date Ended ____ / ____ / _____

SECTION J

YES NO

1. ☐ ☐ Do you use alcohol? If yes, check all that apply
   1a. ☐ beer
   1b. ☐ wine
   1c. ☐ liquor
2. Date of your last drink of alcohol? Date ____ / ____ / _____
3. ☐ ☐ Do you use illicit drugs? If yes, do you use them
   3a. ☐ daily
   3b. ☐ weekly
   3c. ☐ occasionally
   3d. ☐ rarely
4. Date of your last illicit drug use? Date ____ / ____ / _____
5. ☐ ☐ Do you usually feel there is a good reason for the occasions when you drink heavily or use drugs?
6. ☐ ☐ Did you ever wake up on "the morning after" drinking or using drugs and discover that you could not remember part of the evening before, even though your friends tell you that you did not "pass out"?
7. ☐ ☐ Have you noticed an increase in the frequency of your memory "blackouts"?
8. ☐ ☐ Are you able to "drink your friends under the table"?
9. ☐ ☐ Are you able to handle a larger quantity of drugs now than when you first started to use?
10. ☐ ☐ When you are sober, do you sometimes regret things you have said or done while drinking?
11. ☐ ☐ Have you tried switching brands or following different plans for controlling your drinking or drug use?
12. ☐ ☐ Have you sometimes failed to keep the promises you have made about controlling or cutting down on your drug use?
13. ☐ ☐ Do you sometimes feel guilty about your drug use?
14. ☐ ☐ Are you irritated when your family or friends discuss your drug use with you?
15. ☐ ☐ Have you ever tried to control your drinking or drug use by making a change in jobs or moving to a new location?
16. ☐ ☐ Are you having an increasing number of financial problems?
17. ☐ ☐ Are you having an increasing number of work problems?
18. ☐ ☐ Have you ever had an alcohol-related traffic arrest?
    18a. If yes, number of times? _____
19. ☐ ☐ Do you consider yourself an addicted person, an abuser, or a person with a problem with the use of mood-altering chemicals, including alcohol?
20. ☐ ☐ Are you a recovering alcoholic or drug addict?
21. ☐ ☐ Have you received treatment for alcohol or drug dependence?
22. ☐ ☐ Have you ever had to be detoxified for alcohol or drug use?
    22a. Where? _____
    22b. Date ____ / ____ / _____
23. ☐ ☐ Have you ever been an inpatient for drug or alcohol dependence?
    23a. Where? _____
    23b. Date ____ / ____ / _____
24. ☐ ☐ Have you ever been treated in an outpatient program for drug or alcohol dependence?
    24a. Where? _____
    24b. Date ____ / ____ / _____
25. ☐ ☐ Have you ever heard of Alcoholics Anonymous (AA) or Narcotics Anonymous (NA)?
26. ☐ ☐ Have you ever attended an Alcoholics Anonymous, Narcotics Anonymous, or other type of self-help group meeting?
27. ☐ ☐ Have you ever had an AA or NA sponsor?

SECTION J (Continued)

Directions **Questions 28-37 refer to the last 12 months. Please check the appropriate box**

28. How often do you have a drink containing alcohol?
- ☐ 4 or more times a week
- ☐ 2 to 3 times a week
- ☐ 2 to 4 times a month
- ☐ Monthly or less
- ☐ Never

29. How many drinks containing alcohol do you have on a typical day when you are drinking?
- ☐ 10 or more
- ☐ 7-9
- ☐ 5 or 6
- ☐ 3 or 4
- ☐ 1 or 2

30. How often do you have six or more drinks on one occasion?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

31. How often during the last year have you found that you were not able to stop drinking once you had started?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

32. How often during the last year have you failed to do what was normally expected from you because of drinking?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

33. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

34. How often during the last year have you had a feeling of guilt or remorse after drinking?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

35. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
- ☐ Daily or almost daily
- ☐ Weekly
- ☐ Monthly
- ☐ Less than monthly
- ☐ Never

36. Have you or someone else been injured as a result of your drinking?
- ☐ Yes, during the last year
- ☐ Yes, but not in the last year
- ☐ No

37. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?
- ☐ Yes, during the last year
- ☐ Yes, but not in the last year
- ☐ No

Directions **Questions 38-41 refer to the last 12 months**

38. Have you felt you should cut down on your drinking?
- ☐ Yes
- ☐ No

39. Have people annoyed you by criticizing your drinking?
- ☐ Yes
- ☐ No

40. Have you felt bad or guilty about your drinking?
- ☐ Yes
- ☐ No

41. Have you had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye opener)?
- ☐ Yes
- ☐ No

Directions **Questions 42-49a refer to the last 12 months. Please check the appropriate box**

42. Has your use of alcohol sometimes kept you from fulfilling important obligations at work, school, or home?
- ☐ Yes
- ☐ No

43. Have you sometimes used alcohol in potentially hazardous situations, like driving an automobile or a boat, operating machinery, climbing, walking in traffic, using a knife, or swimming?
- ☐ Yes
- ☐ No

44. Have you noticed that you have to use more alcohol than you needed when you first started drinking to get the same effect, or that the same amount of alcohol affects you less than it did earlier?
- ☐ Yes
- ☐ No

45. Have you sometimes used alcohol in larger amounts or over a longer period than you had intended?
- ☐ Yes
- ☐ No

46. Has there been a period of time when you wanted to cut down or control your use of alcohol, or have you made efforts to do so but found you were unsuccessful?
- ☐ Yes
- ☐ No

47. Have you spent a lot of time using alcohol, trying to obtain alcohol, or recovering from the effects of alcohol?
- ☐ Yes
- ☐ No

48. Have you reduced your participation in, or given up, social, occupational, or recreational activities because of alcohol use?
- ☐ Yes
- ☐ No

SECTION J (Continued)

49. Have you been aware of any physical or psychological problem(s) that is likely to have been caused or made worse by alcohol use?
- ☐ Yes
- ☐ No

49a. If you answered "yes" to Question 49, did you continue to use alcohol after realizing the connection between it and the physical or psychological problem(s)?
- ☐ Yes
- ☐ No

Directions **Questions 50-52a refer to your entire lifetime, not just the last 12 months**

50. Has alcohol ever contributed to social or interpersonal problems in your family, with your friends, with people at work, or at school?
- ☐ Yes
- ☐ No

50a. If you answered "yes" to Question 50, did you continue to use alcohol after becoming aware it was contributing to the problem(s)?
- ☐ Yes
- ☐ No

51. Other than your recent alcohol-related driving offense, has alcohol ever caused any legal problem(s) for you?
- ☐ Yes
- ☐ No

52. If you have ever experienced a problem after stopping or cutting down on your use of alcohol, please place a check beside the applicable symptom(s) in the following list. (Check all that apply)
- ☐ Nervousness or anxiety
- ☐ Agitation
- ☐ Heavy sweating or rapid heartbeat
- ☐ Tremor (shaking) of your hands
- ☐ Difficulty sleeping
- ☐ Nausea or vomiting
- ☐ Seeing, feeling, or hearing things you felt weren't real
- ☐ Having a seizure or epileptic "fit"

52a. Have you ever used alcohol to keep from having any of the symptoms listed in Question 52 or to make them go away?
- ☐ Yes
- ☐ No

SECTION K

For Questions 1-11, please circle T for TRUE and F for FALSE.

Some questions pertain to what you expect to happen when you drink alcohol and should be answered regardless of whether you are currently drinking or not.

		True	False
1.	I smoke or use tobacco products	T	F
2.	I have no problem telling a companion that he/she has done something to hurt my feelings	T	F
3.	I like people who are sharp and witty even though they may sometimes hurt other peoples' feelings	T	F
4.	I have been arrested for crimes other than drinking and driving	T	F
5.	A family member was arrested for drinking and driving	T	F
6.	I have no trouble sleeping or staying asleep	T	F
7.	I feel that I have lived the right kind of life	T	F
8.	I am probably not capable of slapping someone, even when I lose my temper	T	F
9.	I hardly ever drink more than I plan to	T	F
10.	I was referred for a liver test, or a blood test for liver enzymes	T	F
11.	I skipped school as a child	T	F

For Questions 12-15, please answer by writing in your response on the line provided next to each question.

Questions 12 and 13 refer to current drinking habits. If you are no longer drinking then you should reflect that in these questions.

Questions 14 and 15 should be answered according to what you believe would happen if you were drinking.

12. How many days of the week do you usually drink? **If you drink less than once a week put in a 1** _____
13. When you are drinking, how many drinks do you usually have? _____
14. What is the largest number of drinks you ever consumed in a 24-hour period. (One drink = a 12 ounce beer, or a one ounce shot of liquor, or a mixed drink, or a 4 ounce glass of wine, or a 12 ounce wine cooler.) _____
15. How many drinks does it take before you begin to feel the effects of alcohol? _____

SECTION K (Continued)

Listed below are a few statements about your relationships with others.

For Questions 16-18, please circle the number to indicate how much each statement is TRUE or FALSE to you.

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
16.	I am always courteous even to people who are disagreeable.	1	2	3	4	5
17.	I sometimes feel resentful when I don't get my way.	1	2	3	4	5
18.	No matter whom I'm talking to, I'm always a good listener.	1	2	3	4	5

SECTION L

YES NO

1. ☐ ☐ Have you ever been arrested for a non-traffic related offense?
   - 1a. If yes, reason _____
   - 1b. Date ___/___/___
   - 1c. If yes, reason _____
   - 1d. Date ___/___/___
2. ☐ ☐ Are you currently on parole or probation?
   - 2a. Reason _____
   - 2b. Expiration Date ___/___/___
3. ☐ ☐ Are you required to see your parole or probation officer? If yes
   - 3a. Name _____
   - 3b. Phone (_____) _____

YES NO

4. ☐ ☐ Have you ever been incarcerated?
   - 4a. For what reason? _____
   - 4b. Dates From ___/___/___ To ___/___/___
   - 4c. For what reason? _____
   - 4d. Dates From ___/___/___ To ___/___/___
5. ☐ ☐ Have you had legal problems related to the use of alcohol or drugs?
6. ☐ ☐ Are you presently in the Drinking Driver Monitoring Program (DDMP)?
   - 6a. Expiration date of monitoring ___/___/___
   - Name and Phone of DDMP monitor
   - 6b. Name _____
   - 6c. Phone (_____) _____

I certify that the information I have provided is true and complete to the best of my knowledge and belief.

_____ (_____) _____ ___/___/___

YOUR SIGNATURE (THIS QUESTIONNAIRE MUST BE SIGNED) TELEPHONE NUMBER

OFFICIAL USE ONLY

PROHIBITION ON REDISCLOSURE

This information is confidential and is protected by the Maryland Motor Vehicle Law governing Medical Advisory Board cases and by Federal regulations (42 CFR Part 2) which prohibits anyone from making further disclosure of it without the specific written consent of the person to whom it pertains, or as otherwise permitted by such regulations. A general authorization for the release of medical or other information is NOT sufficient for this purpose.

_____
HX REVIEWED BY

_____
DATE

☐ MD ☐ CASE REVIEW ☐ M.R. STAFF

MVA
Motor Vehicle Administration

For more information, please call: **1-800-638-8347** (touch tone calls only), **1-800-950-1MVA (1682)** (to speak with a customer service representative), From Out-of-State: **1-301-729-4550**, TDD for the hearing impaired: **1-800-492-4575**. Visit our website at: **www.marylandmva.com**

MVA Motor Vehicle Administration 6601 Ritchie Highway N.E. Glen Burnie, MD 21062	**PHYSICIAN'S REPORT** Division of Driver Control	**PHYSICIAN'S REPORT** Questions? Please call: **1-410-768-7361** TTY For the Deaf: 1-800-492-4575

For Office Use Only. Requested By: _____ **Date Requested** _____ **Reason:** _____

TO THE DRIVER/APPLICANT:

If you are currently being treated by a physician or have been seen by a physician in the last 12 months, please **COMPLETE SECTION 1 (BELOW) ONLY**; then have your physician complete the rest of this form. This PHYSICIAN'S REPORT should be returned to us in the enclosed pre-addressed envelope along with other forms that may be requested in the cover letter that accompanied this form. (Payment for any examination, if necessary, and the preparation of this form is YOUR responsibility.)

ALL medical data obtained will be kept **CONFIDENTIAL** and will be used only to determine your qualifications to drive as set out in Section 16-118 of the Transportation Article of the Annotated Code of Maryland.

SECTION 1: GENERAL INFORMATION (To be completed by driver/applicant)

(Please Type or Print)

DRIVER/APPLICANT'S NAME: _____ (LAST) _____ (FIRST) _____ (MIDDLE)

ADDRESS: _____ (STREET) _____ (CITY) _____ (STATE) _____ (ZIP)

DATE OF BIRTH _____ (MO./DAY/YEAR) PHONE NUMBERS: _____

DRIVER'S LICENSE NUMBER: _____ SOCIAL SECURITY NUMBER: _____

TO THE PHYSICIAN:

Your patient may have a medical or physical condition which requires review by the Medical Review Section and/or Medical Advisory Board. **Please complete this PHYSICIAN'S REPORT** and **return it** to this Administration along with your patient's **completed HEALTH QUESTIONNAIRE** and any other required forms in the envelope provided. Please complete all areas that pertain to your patient. If you have any questions, you may contact the Medical Review Section at the above-listed phone number. **If this information is not returned to our office, as specified in our cover letter to your patient, his/her license/privilege to drive may be subject to suspension.**

(Sections 2 through 8 to be Completed by Physician)

SECTION 2: HISTORY

Have you treated the above-named person or referred him/her to another health care provider for any of the following conditions in the last 2 years? Please clarify any "yes" answers in the **comment** section that follows these questions.

	CIRCLE ONE	DATE
1. Motor Vehicle Accident	YES NO	_____
2. Driver's License Revocation, Suspension, Cancellation	YES NO	_____
3. Blackout Spells, Dizzy Spells, Epilepsy, Seizures, Loss of Consciousness	YES NO	_____

Date of Last Episode _____

	CIRCLE ONE:	DATE:
4. Other Neurological Impairments	YES NO	_____
5. Head Trauma/Brain Surgery	YES NO	_____
6. Nervousness	YES NO	_____
7. Depression/Confusion/Other Psychiatric Disorders	YES NO	_____
8. Memory Impairment	YES NO	_____
9. Alcoholism	YES NO	_____
10. Visual Impairment/Eye Disease	YES NO	_____
11. Drug Abuse	YES NO	_____
12. Hearing Impairment	YES NO	_____
13. Amputations/Missing Extremities/Prosthesis	YES NO	_____
14. Other Orthopedic Impairments	YES NO	_____
15. High Blood Pressure	YES NO	_____
16. Stroke	YES NO	_____
16. Heart Disease/Cardiovascular Impairments	YES NO	_____
17. Diabetes	YES NO	_____
18. Other Diseases/Ailments/Complications: List Below	YES NO	_____

Comment: (Please type or print)

SECTION 3: PHYSICAL, NEUROLOGICAL AND/OR PSYCHIATRIC EXAMINATIONS

Note POSITIVE Findings Only

1.
2.
3.
4.
5.

Status/level of impairment (e.g. facial droop, paraparesis, ambulatory, wheel chair bound, etc.)

SECTION 4: CURRENT DIAGNOSIS AND MEDICATIONS

LIST CURRENT DIAGNOSIS	CURRENT MEDICATIONS
1.	
2.	
3.	
4.	

SECTION 5: LABORATORY

List positive laboratory results that support diagnosis above [blood count, blood chemistry, EKG, X-ray, etc.]. (Please type or print)

SECTION 6: RESULTS OF TREATMENT TO DATE

1.____ Poor 2.____ Fair 3.____ Good 4.____ Excellent

5. Comment: (Please type or print)

SECTION 7: PROGNOSIS

1.____ Poor 2.____ Fair 3.____ Good 4.____ Excellent

5. **Comment:** (Please type or print)

SECTION 8: PHYSICIAN'S CERTIFICATION

1. Description of Limitation(s) -- include any effect this impairment may have on the patient's ability to safely operate a motor vehicle. (Please type or print)

2. Patient is reliable in taking medications: ____ YES ____ NO

3. Patient's seizures/medical condition is controlled: ____ YES ____ NO

4. Patient has been under my care for: (how long?)

5. In my professional opinion, this person is physically/mentally capable of safely operating a motor vehicle at this time: ____ YES ____ NO

6. **Comment:** (Please type or print)

7. Name of Physician (Print or Type):

8. Physician's Address: _____ Phone No. _____

9. Physician's License Number: _____ 10. Specialty _____

11. **Physician's Signature:** _____ 12. **Date:** _____

DOT HS 809 581
May 2003

U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

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