**Maryland Department of Transportation**
**The Secretary's Office**

**Martin O'Malley**
Governor

**Anthony G. Brown**
Lt. Governor

**James T. Smith, Jr.**
Secretary

January 7, 2014

The Honorable Edward J. Kasemeyer
Chair, Senate Budget and Taxation Committee
3 West Miller Senate Building
Annapolis MD 21401-1991

The Honorable Norman H. Conway
Chair, House Appropriations Committee
131 Lowe House Office Building
Annapolis MD 21401-1991

Dear Chairmen:

Please see the attached report concerning *Older Driver Safety*. This final report was prepared in response to language set forth in the 2012 Joint Chairmen's report, page 42. The draft version of this report was delivered as required in December 2012. The language directs:

> *"The Motor Vehicle Administration (MVA) should submit a report to the committees that analyzes the issues arising from older drivers. An interim report should be submitted by January 1, 2013, and a final report by January 1, 2014. Specifically, the report should analyze:*
>
> - *past statistics and projected trends of older drivers for the United States and Maryland, including crash involvement with injuries or fatalities and demographics of older drivers;*
> - *a review of completed and ongoing research studies on older driver crash involvement and cognitive, physical, and other age-related changes affecting driving;*
> - *a review of programs to keep older drivers safe, including existing driver rehabilitation, education methods, and their reported effectiveness. The review should identify the availability of such programs and methods in Maryland;*
> - *identification of the expected benefits to road safety of additional screening and testing for older drivers, including benefits to pedestrians and bicyclists;*
> - *the feasibility of requiring the use of MVA's existing functional capacity test to more drivers by demographic group as part of the periodic license renewal process; and*

- *the cost and operational impact to the administration of implementing screening mechanisms and driver testing for older drivers."*

If you should need additional information, please contact Mr. John Kuo, MVA Administrator, at 410-768-7295. Of course, please do not hesitate to contact me directly.

Sincerely

James T. Smith, Jr.
Secretary

cc: The Honorable Michael E. Busch, Speaker, Maryland House of Delegates
The Honorable Thomas V. "Mike" Miller, Jr., President, Maryland Senate
Members of the Budget Committees
Mr. John Kuo, Administrator, MVA

A Report to the Maryland General Assembly
Senate Budget and Taxation Committee
and
House Appropriations Committee

concerning

# Older Driver Safety Study - Final Report
(2012 Joint Chairmen's Report, page 42)

The Motor Vehicle Administration
The Maryland Department of Transportation

January 2014

Older Driver Safety Study - Final Report
(2012 Joint Chairmen's Report, page 42)

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Older Driver Safety Study - Final Report
(2012 Joint Chairmen's Report, page 42)

# I. Introduction

This final report was prepared in response to language contained in the Joint Chairmen's Report, page 42, as part of SB 150, Chapter 148, Acts of 2012. Specifically, the language directs:

> *"The Motor Vehicle Administration (MVA) should submit a report to the committees that analyzes the issues arising from older drivers. An interim report should be submitted by January 1, 2013, and a final report by January 1, 2014. Specifically, the report should analyze:*
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> - *a review of programs to keep older drivers safe, including existing driver rehabilitation, education methods, and their reported effectiveness. The review should identify the availability of such programs and methods in Maryland;*
> - *identification of the expected benefits to road safety of additional screening and testing for older drivers, including benefits to pedestrians and bicyclists;*
> - *the feasibility of requiring the use of MVA's existing functional capacity test to more drivers by demographic group as part of the periodic license renewal process; and*
> - *the cost and operational impact to the administration of implementing screening mechanisms and driver testing for older drivers."*

# II. Executive Summary of Interim and Transition

The Motor Vehicle Administration (MVA) worked with the National Study Center at the University of Maryland School of Medicine, Baltimore, to comprehensively review demographic and driver safety statistics for various driving segments by age. The Interim Report demonstrated that Maryland's driving population is aging, with the largest increases in two age groups: 55-69 years old, and 80 and over. The data indicates that, as a unique segment, drivers over the age of 65 do not pose a significant public safety risk when compared with other age segments. Maryland data for 2009-2011 shows drivers over 65 accounted for about 7 percent of

all drivers involved in crashes compared with drivers age 16-24, who made up 23 percent of all drivers involved in crashes. Unfortunately, good data on the crash rate vehicle mile traveled (VMT) is not available, as national VMT data does not include essential demographic data, such as age. Therefore, it was difficult to get a complete picture on the safety risks posed by older drivers. The Interim Report concluded that the systems currently in place to review drivers with various medical conditions are adequate. However, the Interim Report stressed the need for additional outreach efforts to our referring partners in order to increase the number of referrals that are made to the MVA.

This Final Report examines the existing research in this area, as well as the best practices as outlined in the draft *National Highway Traffic Safety Administration (NHTSA) Guidelines, Highway Safety Program Guideline No. 13, Older Driver Safety*, released in December of 2013.

## A. Current Medical Review Process

The Interim Report examined the extensive medical review process currently in place at the MVA. Each case is started when a customer is referred to the Driver Wellness and Safety Division (DW&S). The MVA accepts referrals from any source. The most prominent referral sources are law enforcement, clinicians, the court system, friends or family, and drivers who self-report.

Each case is handled individually, based on the facts presented and the credibility of the report. Each case referral is assigned to a nurse case manager who gathers medical information and makes a recommendation. The MVA's Medical Advisory Board (MAB), comprised of physicians from different medical specialties, may also be consulted. There are many tools that can be used by DW&S and the MAB to evaluate the abilities of a referred driver.

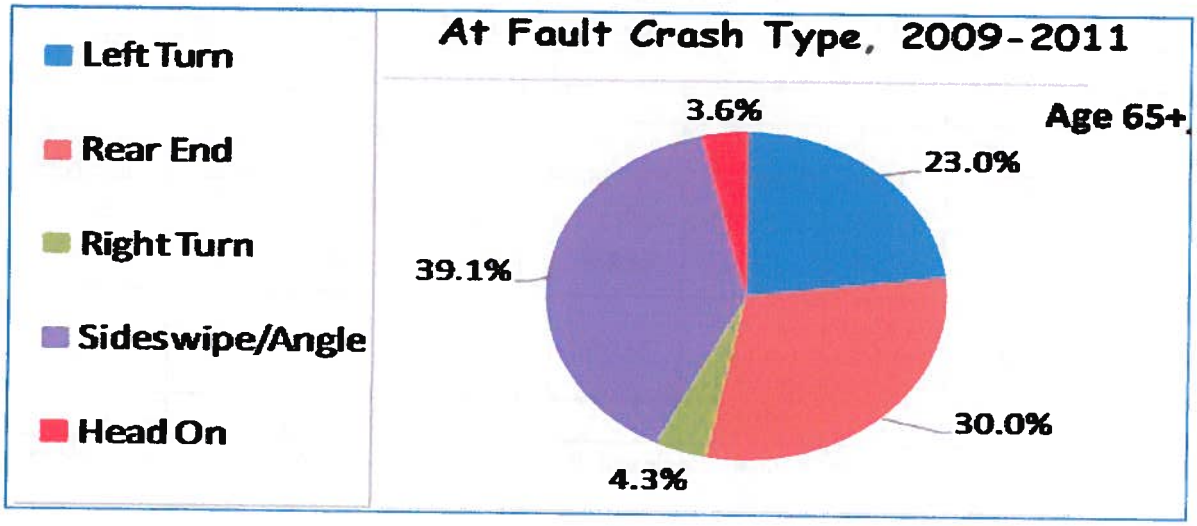
These evaluation tools include a Functional Capacity Screening Test (FCT), which is a screening administered through a computer guided touch screen that assesses basic visual, cognitive, and physical abilities required to safely operate a motor vehicle. The MVA may also require an occupational therapist evaluation, which is performed behind the wheel with a Certified Occupational Therapist evaluating the actual driving skills of the referred driver. Other tools include requiring additional driver training with a Certified Driver Rehabilitation Specialist (CDRS) to teach strategies for mitigating medical issues when driving, such as using adaptive equipment like a spinner knob, left foot accelerator, or hand controls.

The MVA strives to tailor individual solutions to customers' driving related medical conditions. After a thorough evaluation, using the appropriate evaluative tools, the MVA may place restrictions on a driver's license that assist the driver in the safe operation of a motor vehicle, or may suspend the driver's license.

## B. Statistical Overview

The Interim Report included information on Maryland's crash and citation data for older drivers for the years 2009 through 2011. For statistical purposes, older drivers are defined as 65 years of age and above. As previously stated, this data does not suggest that older drivers, as a unique segment, pose a significant public safety risk. While the number of older drivers continues to grow, the total number of crashes caused and the total crash rate per licensed driver is lower than any other age demographic. In addition, older drivers are much less likely to be cited for risky driving behaviors.

However, the percentage of crashes where the driver is deemed at fault increases with age, which is perhaps an indication of diminished driving skills. We do know that the usual causes for younger driver crashes are generally not in play for older drivers, as speed, impairment and aggression accounted for less than 10 percent of the at-fault crashes for older drivers. At-fault crashes are designated as such by law enforcement and only account for a small portion of total crashes. Many of these crashes determined to be at-fault were at intersections and involved sideswipes (39 percent) and left turns (23 percent). In fact, the proportion of intersection crashes increases with age, and among those ages 75-89, more than one-third occurred in an intersection. Another interesting anomaly is that a higher proportion of older driver at-fault crashes resulted in a fatality (2 percent for ages 75+ vs. 0.4 percent for ages 16-20), which may be attributable to frailty of the human body as we age.



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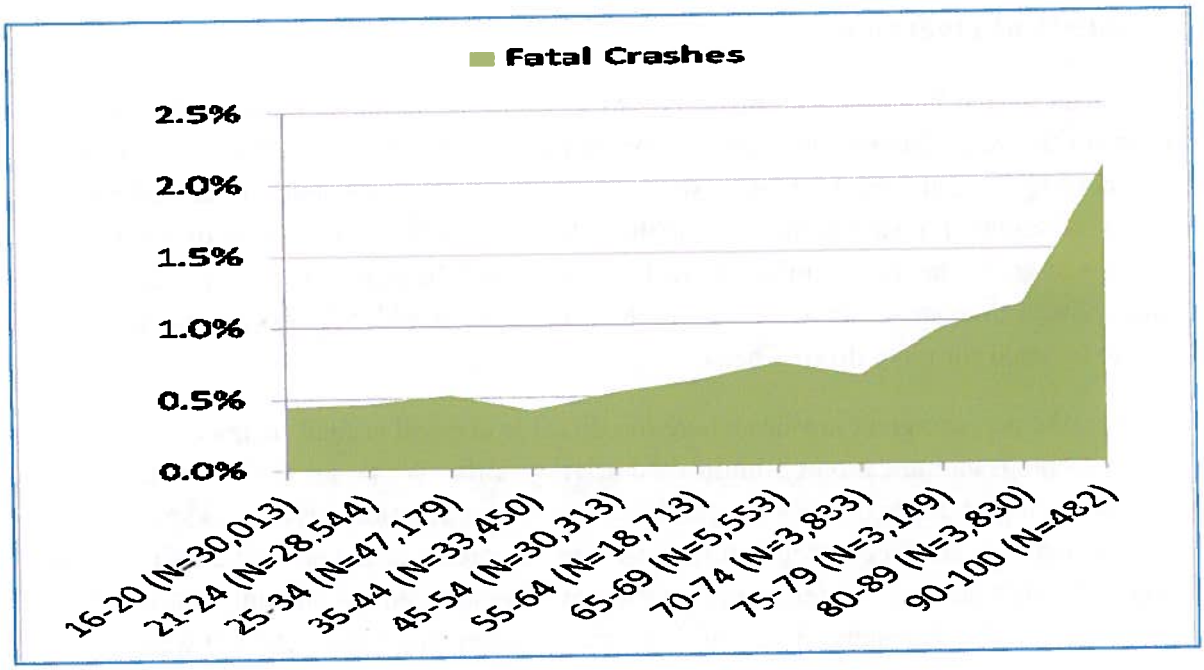


Additional data collected over the last year does appear to show a higher percentage of drivers in the older age group are more likely to be identified as at-fault in bicycle and pedestrian crashes than those in the younger age groups. The chart below shows that 55.1 percent of older drivers were deemed to be at fault in crashes involving a bicycle or pedestrian, compared to 45.4 percent of drivers in the younger groups.

**2009-2011 Maryland Police Crash Reports:**
**Drivers involved and reported fault by crash type and age**

| | age <65 | | | | age 65+ | | | |
|---|---|---|---|---|---|---|---|---|
| | drivers in all crashes | % of total crashes | drivers in bike/ped crashes | % of bike/ped crashes | drivers in all crashes | % of total crashes | drivers in bike/ped crashes | % of bike/ped crashes |
| at fault (%) | 188,213 | 51.5% | 2,102 | **45.4%** | 16,847 | 55.5% | 349 | **55.1%** |
| not at fault (%) | 177,045 | 48.5% | 2,527 | 54.6% | 13,516 | 44.5% | 284 | 44.9% |
| | 365,258 | | 4,629 | | 30,363 | | 633 | |

*bike/ped crashes - collision type is single vehicle and first harmful event is striking a pedestrian, bicycle, pedalcycle

The lack of age specific data regarding VMT leaves out an important point of analysis in terms of the number of VMT by seniors in comparison to their involvement in crashes and fatalities. Without this information it is difficult to fully evaluate the safety risk of older drivers based on the number of miles they drive on a regular basis.

# III. Review of Research

The purpose of this section is to highlight some of the key research findings pertinent to making informed decisions about medical fitness to drive among senior drivers. A number of selected references are cited to illustrate research findings and how those findings might impact policy decisions. The rapidly expanding body of scientific and clinical papers and reports is evidence that the issue of medical fitness to drive is a critical public safety concern.

For well over a decade, the "graying of America" – the coming of age of the "baby boomers" – has focused attention on medical fitness to drive among senior adult drivers. The process of aging is usually associated with declines in physical and cognitive functions that may compromise one's ability to safely operate a motor vehicle. These functions involve seeing, hearing, strength, flexibility, reflex speed, stamina, and cognitive function. Indeed, in a March 2003 seminal hearing held by the National Transportation Safety Board (NTSB)[1] the prevalence of a number of medical conditions among Americans that could possibly affect medical fitness to drive were highlighted. A number of those cited conditions are particularly associated with the aging process, including arthritis, eye diseases, cardiovascular diseases, Alzheimer's disease, diabetes, and sleep disorders.

The NTSB noted that, "[a] system is needed for the collection of accident data on a national basis to comprehensively evaluate the extent to which medical conditions play a role in accident causation." Hence, they recommended that the national Highway Traffic Safety Administration (NHTSA), "[in] cooperation with American Medical Association and American Association of Motor Vehicle Administrators, develop a procedure to periodically collect, evaluate, and report data, on a State and national basis, regarding the extent to which medical conditions contribute to the cause of accidents."[2]

The reason for the NTSB's recommendation is that there are no large studies that have linked specific medical conditions with actual crash causation. Available reports have involved efforts to link population-based crash databases (e.g., law enforcement, licensing agencies) with various clinical databases (e.g., hospital records, health insurance) to ascertain whether individuals with particular diagnoses/conditions have an increased or decreased risk of crash involvement. The reports, which have yielded mixed results, do not demonstrate that the crashes were caused/or

[1] NTSB, *Medical Oversight of the Noncommercial Drivers* (Nov, 2004)
[2] NTSB, *Medical Oversight of the Noncommercial Drivers*, H-04-38 (Nov, 2004)

not caused by the diagnosis/condition under study. Thus, in general, policy makers are provided with incomplete data, or consensus based opinions, concerning the risk of particular medical conditions on driving.[3] This illustrates the need to study crash causation that is directly linked to specific medical conditions, including those associated with the aging process.

While a large number of reports have documented concern about increasing risk of crashes involving injury – including death – among older drivers[4], it is not clear how best to define and identify at-risk "older drivers." There is a great deal of variance associated with the aging process. This was emphasized by Dr. Steven Gambert, the keynote speaker at the *Maryland Older Driver Safety Symposium* (MODSS) on May 16, 2012. Dr. Gambert, Professor of Medicine and Co-director of the Geriatric Medicine Program at the University of Maryland Medical Center (Baltimore), noted, "[as] humans age, we become more different from one another than we used to be.... Age is [neither] a valid measure of good driving ability [nor] a valid measure of bad driving ability."[5] This heterogeneity of the aging process was articulated in a recent report[6], which discussed evaluation and management of "geriatric" trauma patients. It was noted that, "a deeper understanding is needed as to when exactly 'elderly' status begins physiologically." An example of the lack of insight/data concerning at what age one should be concerned about aging and its affect on driving, is that 21 (39 percent) of 51 U.S. jurisdictions have shorter renewal cycles for older drivers. The ages at which shorter older driver renewal cycles are implemented, however, have a great deal of variance: 1 is at 60, 1 is at 63, 6 are at 65, 1 is at 66, 4 vary from 70 to 74 years of age, and the remainder start at 75 years of age or older.[7]

Considering the information presented above, there is no consensus that individuals should stop driving at a particular age. Indeed, there is currently no definite data that delineates at what age older drivers should come under closer scrutiny at time of renewal for medical fitness to drive. The crucial matter is not age, but function as the aging process affects it. A number of reports clearly articulate that the ability to drive is not about age, but rather function.[8] These reports also emphasize that manifestations of medical conditions, as they affect driving function, are the critical factors to consider, not just the condition diagnosis. Currently, guidance as to medical fitness to drive for particular conditions is informed by a review of the available scientific and

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[3] See Vernon (2004), Anderson (2010), Sheth et al (2002), Dow (2013), Charlton (2010), NTSB (2004), Lococo (2011), and NHTSA (2009)

[4] Wang, (2003), Braver (2004), Chaudry (2103), Lococo (2011)

[5] www.mva.maryland.gov/modss/Resources/oates-summary-statement.pdf

[6] Callard et al

[7] SeniorDrivers.org, *AAA Foundation for Traffic Safety*, http://lpp.seniordrivers.org/lpp/index.cfm?selection=visionreqs (Oct 2013)

[8] NHTSA *Driver Fitness Medical Guidelines*; Report DOT HS 811 210, NHTSA, Washington, DC (Sept 2009); Carr DB, Schwartberg JG, Manning L, Sempek J., *Physician's Guide to Assessing and Counseling Older Drivers, 2nd edition*, NHTSA, Washington, DC (2010); Lococo KH, Schultz and Staplin, *The Effects of Medical Conditions on Driving Performance: Literature Review*, TransAnalytics, LLC (2011)

clinical literature consensus opinions. Some examples include the processes outlined in NHTSA's *Driver Fitness Medical Guidelines,* TransAnalytics' *The Effects of Medical Conditions on Driving Performance*, and the Federal Motor Carrier Safety Administration (FMCSA) medical reports for various conditions that have come under review by its Medical Review Board (MRB). However, in many cases, after exhaustive analysis of the available reports and studies, it has been found that there are little to no quality studies involving medical conditions and their affect on driving/crash involvement to inform the MRB about medical guidance relative to driving.

A major area of investigation relative to medical fitness to drive among senior drivers for the past two decades has been to identify non-driving screening tests that can identify medically at-risk drivers due to declines in physical and cognitive function. Indeed, as new psychometric tests for dementia are being developed, questions are posed as to the test applicability to identify unsafe drivers[9] (Note: On-road driving tests for large numbers of licensed renewing drivers are very time consuming.) For practical use by a licensing agency, ideal screenings would have to meet a number of criteria, including ease of training for test administrators, a short test administration time, and test elements that accurately distinguish drivers with and without problems. A key factor in fulfilling the last criterion is to identify the age at which to begin screening.

There are excellent reviews of driver safety screening tests and techniques[10] that clearly identify a large number of methods that have been developed to identify at-risk older drivers. The reviews clearly identify strengths and weaknesses of the various tools. Considering the scope of the matter under study, as noted, "[the] goal of the report was not to reach consensus but to provide a rich background from the literature and expert opinions to guide decisions and research goals related to assessing and remediating older driver safety." These reports make it clear that the ideal screening test has not been identified; indeed, there is no one-size-fits-all method of assessment. Selection of a screening test depends on the population under study, and the resources available to licensing agencies.

In summary, a review of research reports informs us of a number of factors that need clarification relative to safety and medical fitness to drive among seniors (as well as other drivers). Studies are needed to accurately assess crash causation for a number of specific medical conditions. Due to the variance in the aging process, functional non-aged based criteria for screening for possible medical concerns (including impairments in cognitive function) are needed. Finally, while a great deal of effort has gone into the development of non-driving screening tests, the optimal screen(s) have yet to be identified.

[9] Zakzanis and Azarbehi (2013)
[10] Chaudhary et al (2013); Martin et al (2013)

# IV. Review of Programs and Policies

While several current programs were mentioned in the Interim Report, this Final Report expands on those by providing a comprehensive outline of Maryland's older driver safety program that is based on federal guidelines. The *National Highway Traffic Safety Administration (NHTSA) Guidelines, Highway Safety Program Guideline No. 13, Older Driver Safety* marks the first time NHTSA has made specific recommendations for the states that aim to reduce older driver crashes, fatalities, and injuries as a part of the states' highway safety programs.

Each state's older driver safety program should address driver licensing and medical review of at-risk drivers, medical and law enforcement education, roadway design, and should involve collaboration with social services and transportation services providers. NHTSA's Guideline, attached in the appendix, comes after the issuance in 2010 of a *Five-Year Strategic Plan* with three main program initiatives to guide the states:

1. Build communications between older drivers and caregivers;
2. Establish and maintain partnerships to enhance efforts; and
3. Develop and promote driver licensing policies.

This Section is organized according to the NHTSA recommendations, which are included in Appendix A. Using the Guidelines as a reference, we can begin to measure the status of Maryland's efforts regarding older driver safety.

A good older driver safety program must have integrated community activities to improve older people's safety, mobility, and health.

## A. Comprehensive Plan for Older Driver Safety

NHTSA Guidelines suggest that each state should have a centralized agency to handle older driver safety program management, and Maryland substantially meets this recommendation. The Guidelines also suggest that each state should have a comprehensive plan to address older driver safety and to make it part of the Strategic Highway Safety Plan, if warranted in their region. The comprehensive plan should be developed by identifying the nature and extent of the states' older driver safety problems, establishing goals and objectives for the state's older driver safety program, and then implementing projects to reach the goals and objectives.

The MVA is a natural fit as the centralized agency for Maryland's older driver safety program, and has been acting in this capacity for about 15 years. This natural fit comes from MVA's authority to refer problem drivers and its medical review process, which acts as the

hub of the wheel for Maryland's older driver safety program. MVA is the only agency in the State responsible for licensing drivers and for providing an individual review of drivers who are referred because they may have issues with their capacity to drive. Of course, referrals can be made for drivers of any age, and older drivers are one particular segment facing age-related health conditions that could affect driving ability. In addition, with the location of the Maryland Highway Safety Office within the MVA, it allows community partners the opportunity to submit grant applications to the MVA for federal funding for outreach projects related to older driver safety as part of the comprehensive program.

Key components in an effective comprehensive program for older driver safety are collaboration with the groups affected, coordination of efforts, and communication amongst those involved. Since these are crucial elements, NHTSA recommends the establishment of a working group to assist in these efforts.

Fifteen years ago, the MVA began the Maryland Research Consortium (MRC) for older driver safety, with a vision to embrace the concept of safe mobility for life, holding regular meetings that focused on discussing the worldwide research about older drivers. The ideas generated through the MRC helped the MVA make great progress over a dozen years. Then in 2010, a steering committee was formed to consider how to take the next step in making meaningful changes using the information gleaned from all the research. The goal of the steering committee was for the MRC to continue to seek the latest research and best practices that are in place elsewhere, while putting more emphasis on an efficient, coordinated effort to use that information in Maryland.

In 2011, the Committee moved closer to that goal by developing a mission to educate affected groups and to encourage older driver safety in policies and programs throughout Maryland by:

1) seeking out the latest research, pertinent data and best practices on older driver safety;

2) reaching out to the widest audience possible of those involved in or affected by older driver safety;

3) providing educational forums including discussions of the major issues and how they affect Maryland older driver safety and practical approaches necessary to realize the benefits of the best practices for Maryland; and

4) documenting all presentations, discussions, and objectives obtained from the educational forums in order to create an inventory of ideas, possible outcomes, and gaps that can benefit policy makers and program administrators in Maryland.

The steering committee is the largest collaborative effort in the State among agencies and organizations touching policies and programs for older drivers, and has focused its efforts over the last two years on planning and executing two highly successful symposia – in May 2012 and April 2013. The interim report detailed the one-day symposium held in May 2012. In 2013, the Maryland Older Driver Safety Symposium (MODSS) was a two-day event held on April 24—25, attended by almost 300 people. The first day offered a format similar to the 2012 Symposium, and included 17 exhibits showcasing local resources and programs, a keynote speech by renowned expert on ageing, Jamie Dow, MBA MD, Medical Advisor on Road Safety Quebec Driver Licensing Agency, and three information panels on key topics that provided an opportunity for professionals to learn the latest research and best practices from other states and use what they learned to enhance their respective programs, policies, and professional products.

The second day of the 2013 Symposium included three separate full-day workshops that provided opportunities for frank discussions of practical issues within each profession and for learning specific tools and resources from leaders in the field to help professionals identify functional and cognitive decline. Each workshop addressed MVA's process of medical referrals and evaluation for fitness to drive, as well as the appropriate role of professionals in this process. The MVA partnered with four separate professional organizations that provided continuing education credits for law enforcement, physicians, occupational therapists, and social workers who participated in the workshops. These four organizations were: Maryland Police and Correctional Training Commission, MedChi/The Maryland State Medical Society, Maryland Board of Occupational Therapy Practice, and The Maryland Gerontological Association. A summary with key points to help bring the information to a practical, working level, along with all the presentations and information from the symposium are documented at http://www.mva.maryland.gov/modss. This website provides useful reference material, not just for those who attended the symposium, but for interested parties throughout the State.

The success of the symposia was in bringing pertinent people together to share specific ideas for change, ideas that might help to enhance Maryland's programs. It offered opportunities to form new partnerships with a better understanding of the roles of other agencies, organizations and professionals that affect older drivers. The best practices and research offered were intended to help change culture and behavior by influencing the people around the driver – driver licensing, law enforcement, social services and medical professionals. Out of the discussions, new tools and programs are being developed, and MVA is better able to share resources and disseminate information because of the new partnerships established. Lastly, the symposia sparked interest with the local communities in continuing statewide discussions on older driver safety, including what needs to be said to the public and how to get that information out to them.

MVA is currently reviewing all evaluations and information from the last few years and continues to actively provide outreach and education, as mentioned below.

## B. Data Evaluation and Data Analysis

As part of establishing and monitoring the comprehensive plan, NHTSA suggests that the states should identify the frequency and types of older driver crashes, analyze all crash and citation data, and use the data to build new programs or adjust existing programs to increase effectiveness. This is already done regularly in Maryland through the Highway Safety Office and the National Study Center. Specific data on older driver safety has begun to be collected, and will be reviewed and used for decision-making by the MVA. Review of this data will include an assessment of all Strategic Highway Safety Program areas for any over-representation of older drivers.

NHTSA Guidelines also suggest the need for a system to analyze data for improvement of the medical review process, to include the number of cases, the referral source of the cases, case disposition, and future crash involvement or referrals of restricted drivers compared with the general population. MVA has such a system and recently modified the system to better collect referral statistics. There are plans to further develop the system to gain a more in-depth understanding of statistics on Maryland referrals, including outcomes of referrals; however, it may be prudent to hold off while we wait on possible lessons learned from an extensive study now being conducted by the Iowa Department of Transportation, Motor Vehicles (see Section III).

## C. Roadway Design for Older Driver Safety

As part of the outreach and education for Maryland professionals through the 2013 Maryland Older Driver Safety Symposium, NHTSA presented information about the engineering aspects of their new *Highway Safety Program Guideline No. 13—Older Driver Safety.* Traffic engineers from the State Highway Administration (SHA) and local governments participated in this symposium, and MVA is developing plans for a specific training workshop for engineers in 2014. The goal of the workshop will be twofold: to educate engineers across the State on guidance from our federal partners; and to discuss specific engineering challenges identified locally regarding pedestrians and older drivers.

In addition, both the Pedestrian and Highway Infrastructure Emphasis Area Teams of the State Highway Safety Plan (SHSP) address issues concerning older drivers, including engineering countermeasures to address human factors. While the SHSP does not currently have a dedicated Older Driver Emphasis Area Team and while SHA does not currently have a set of Older Driver Guidelines, SHA does employ Americans with Disabilities Act (ADA) guidelines that are used to evaluate individual projects, to ensure adherence to applicable

older driver needs. SHA is confident that these guidelines exceed expectations as they are stricter than federal guidelines. For older driver design guidance, SHA typically refers to the Federal Highway Administration's "Highway Design Handbook for Older Drivers and Pedestrians." It provides information linking older road user characteristics to highway design, operational, and traffic engineering recommendations by addressing specific roadway features. In addition, SHA has programs to address opposite direction/wrong-way crashes that addresses older driver safety issues.

## D. Driver Licensing

### 1. Identification of At-Risk Drivers

#### i. Vision Testing at License Renewal

Ensuring that individuals possess the necessary vision function to safely operate a motor vehicle is an integral part of the MVA's highway safety responsibility. The screening of an applicant's visual health can also indicate potential medical issues that require additional follow-up and assessment. While MVA staff are trained to administer basic vision screenings during branch transactions, trained medical professionals should be consulted in cases where additional underlying health issues may exist.

The MVA requires a vision screening for all individuals, regardless of age, applying for a new driver's license or renewing current Maryland license in-person. Additionally, individuals who are 40 years of age and older are required to submit vision examination results when renewing through one of the MVA's alternative service options (website, kiosk or mail).

Under Maryland law, individuals must demonstrate a visual acuity of at least 20/40 in each eye, and a continuous field of vision of 140 degrees in order to qualify for an unrestricted driver's license. Restricted driver's licenses are issued to individuals who are able to reach a minimum acuity of 20/70 in at least one eye, and a field of vision of 110 degrees. Applicants who require corrective lenses to achieve minimum standards are required by law to wear them while operating a motor vehicle.

When a vision screening indicates acuity below 20/70, but better than 20/100, the individual is then referred to the MVA's Driver Wellness and Safety Division (DW&S), for review and consultation with the MAB. This review involves a thorough investigation into the causes for the visual acuity deficit to determine if the applicant is eligible for the MVA's modified vision program and safe to operate a motor vehicle.

As previously indicated, screening an applicant's visual acuity also provides a mechanism to detect other medical issues that may impact safe vehicle operation. Private health professionals who complete the MVA required vision assessment are able to indicate on the examination form if other, more serious health concerns were identified during the examination. In these cases, applicants are referred to the MVA's medical review process for additional follow-up and evaluation to determine the severity of the condition and the potential risk to their driving safety. This process is consistent with national best practice recommendations on vision screening and health evaluation.

One way the MVA has been able to improve the vision screening process for customers, and enhance the ability of medical providers to effectively report potential concerns, is through the development of the Online Vision Certification Service (OVCS). Deployed in April 2013, the OVCS allows vision providers to submit vision examination results through a secure, electronic process directly to the Administration. This process allows customers 40 years of age and older to utilize the MVA web and kiosk to renew their driver's licenses. To date, the MVA has had more than 400 vision providers enroll in this program.

## ii. MVA Staff Observational Training

This year MVA began a new segment of training for Branch Managers and Assistant Branch Managers, providing an overview of each division including how each division operates and the functions that they serve. The managers spend an hour in each division, followed by a period for questions and answers.

The training officially began in September 2013, and continued through November 2013, and was scheduled for three days per month. To date, the training has been successful. Division staff are able to brief branch managers and communicate trends they have identified concerning various problems or potential problems. The branch managers are able to discuss issues their branches face and gain resident knowledge on how to handle various situations.

Complementing this training at headquarters, MVA has made videos available to all the branches that provide basic observational training for counter staff Statewide. This training follows the recommendations of the NHTSA and AAA, and provides examples and situations to be aware of when assisting motorists at the branches – observations that they can make during the normal course of branch business that may indicate potential medical impairments that can affect driving ability. This is followed by a review of the appropriate procedures to refer someone to the medical review process.

## iii. In Person License Renewal for Older Drivers

The American Association of Motor Vehicle Administrators (AAMVA) recommends that all states establish renewal requirements, and both NHTSA and AAA recommend in-person driver's license renewal for drivers over the age of 75 as part of the Guidelines. However, NHTSA also notes that it is nearly impossible to evaluate the effectiveness of driver licensing policies because they exist in a very complex system. In fact, renewal procedures are typically most diverse, with many states requiring shorter renewal cycles (e.g., every 4 years instead of every 6) for people over a certain age, with some states requiring in-person renewal, and one state even requiring behind-the-wheel testing at renewal for older drivers.

Information from the AAA Foundation for Traffic Safety shows there are 30 states that have the same renewal requirement for all ages – i.e. no different requirements for older drivers. The other states have requirements that range from a renewal every year beginning at age 75 in New Mexico, to Florida that requires renewal every 6 years beginning at age 80. Some states have age requirements beginning as early as age 60. Some states have separate requirements that begin at age 87. The mode, looking at all 50 states and DC, is a 4 year renewal requirement for older drivers, but the age at which the 4-year period begins ranges from beginning at age 63 to beginning at age 78. There is a definite lack of consistency, and no specific scenario that has been proven effective in research or referred to as a national model.

The premise for in-person renewal is that it allows for a range of opportunities for MVA staff to identify and refer potentially at-risk drivers. As discussed in the staff training section, the MVA has begun to train customer agents on the usual effects of aging on health, how these issues might affect safe driving, and red flags counter staff might observe that would warrant a referral for a medical review of a driver. However, at this point, referrals from counter staff are one of the most infrequent sources of referrals. Of course, just the idea of dealing with an in-person renewal will cause some attrition of those who choose not to go through the process because they feel that they may "fail" and not be granted a renewal.

As of 2012, Maryland law was changed to allow a driver's license renewal cycle of up to 8 years. The statute also requires in-person renewal every other time. As there were concerns raised during the 2012 General Assembly Session about

establishing different renewal periods based on age, further changes to this policy may best be accomplished through a legislative change.

Requiring customers over a certain age to renew in person would have some impact on the MVA. The impact would continue to grow going forward as the MVA has been heavily promoting the use of alternative service delivery for driver's license renewals. To provide an example, the MVA has calculated that after accounting for current alternative delivery renewals, requiring the 130,889 customers over 70 that are due to renew to do so in person in FY 2015 would result in 17,000 additional transactions being handled in the branches. This would require expenditures of approximately $100,000 to hire two additional customer agents to accommodate this growth in transactions.

Shortening the period of renewals for customers over a certain age would not have an immediate impact on the MVA. However, the additional transactions would have to be accounted for in the future; a three year renewal period would result in higher overall transaction volumes beginning three years after the policy change began. For illustrative purposes, if in 2015 Maryland instituted a three year in-person renewal period for those over 70 years old, in order to accommodate the additional transactions in 2018, MVA would need an additional 18 positions at a cost of around $927,000. This impact in the transaction volume would continue to increase thereafter as these shorter term licenses would continue to be issued.

### iv. Screening and Testing as Part of Licensing Process

The MVA currently uses an assessment tool known as the FCT to assist in identifying at-risk older drivers. There are several reports concerning the development and evaluation of the FCT as a practical assessment modality[11].

FCT screening consists of a short battery of five elements that allows for an assessment of basic visual, cognitive and physical abilities that are needed to safely operate a motor vehicle. A trained MVA employee administers the screening. The full screening takes about 15 minutes to complete. After a short 10 foot to-and-fro walk, the remaining elements are assessed by having the applicant respond to information presented on a video monitor. Applicants do not require computer skills-and are not required to use a keyboard or a mouse. Applicants simply touch a video screen similar to those commonly presented to

[11] Staplin, Lococo et al(2003); Staplin, Gish et al(2003); Ball et al(2006)

people in everyday life, e.g. to order fast food, obtain money from an ATM, or to check in at an airport.

It is important to note that the FCT is not a test *per se*, but rather a screening evaluation. Poor FCT results do not result in loss of the driving privilege. Results that exceed threshold levels may call for further evaluation. The course of evaluation is based on the totality of information available to the MVA's Driver Wellness and Safety Division and the Medical Advisory Board. For instance a driver that was reported as being confused by the police who did well on the FCT might be required to have a driving test. If the person did well and the remainder of the medical information was benign, the case would be closed. On the other hand, a confused driver encountered by the police with a physician report expressing cognitive concerns about driving who did poorly on the FCT and on a driving test would probably be referred to a CDRS for further clinical and on the road evaluation.

The MVA uses the FCT routinely as a screening instrument for referred drivers for whom there is information to suggest a decline in cognitive function. This information may come from a police report, a report from a clinician (physician, nurse practitioner, psychologist, etc.), or as finding in a MVA field investigation prompted by a concerned family/citizen letter. In Maryland, the FCT is not routinely used at the time of renewals. While the majority of individuals requested to have a FCT are elderly, age alone is not a factor in the ordering of a FCT. A prospective study[12] of 1910 drivers 55 years of age or older renewing their licenses found that several of the elements in the FCT, as currently used in Maryland, could predict which drivers were at high risk for being in future at-fault crashes. The study's average follow-up time was from 4.2 to 5.2 years. Several elements of the Maryland MVA's FCT screening are recommended by the American Medical Association in the *Physician's Guide to Assessing and Counseling Older Drivers*[13]. This *Guide* was a collaborative effort by NHTSA and the American Medical Association (AMA).

The FCT works well as an additional tool for determining medical fitness to drive of those referred to the medical review process who may have a decline in cognitive function. It has also been suggested that the MVA might require the FCT of everyone at a specific age.

[12] Ball et al(2006)
[13] Carr et al(2010)

Requiring substantial portions of the population to undergo an FCT at license renewal would have a substantial negative impact on the operations of the MVA. For example, the total estimated driver's license renewals for drivers 70 and above in fiscal year 2015 is projected at 130,889. Each FCT requires approximately 45 minutes to conduct. Based on this number of transactions and the length of each transaction, the MVA estimates that 57 additional customer agents would need to be hired Statewide to meet this demand at a cost of $2.8 million dollars.

Additional space for testing would also be required in each branch location. Accommodating the physical requirements of performing a large number of FCTs in the branch would be problematic given the internal space constraints of the current MVA branch locations. Construction and modification of existing internal spaces within the branch locations would be required; however no reliable estimate of the cost of branch modifications is available at this time.

California recently completed a prospective screening study of over 12,000 Californians of all ages renewing their licenses and "found no evidence for a reduction in crash [risk] subsequent to participation in the Pilot [study]."[14]. The study consisted of three tiers of screening. The first tier consisted of a vision test, including contrast sensitivity, a driving knowledge test, knowledge of one's social security number, and "unobtrusive structured observations by DMV (department of motor vehicle) staff for physical or mental impairment." If there were no positive findings at the first tier, the license was renewed. Positive findings at the first tier level led to a second tier assessment which included "computer based tests of information processing," similar to elements in the Maryland FCT. Positive findings at the second tier led to a third-tier assessment, which included a driving test. In addition to finding no overall effect of the three-tiered system in reducing subsequent crashes including "weak evidence for an overall program effect in reducing subsequent at-fault injury/fatal crashes," the report concluded "it is not recommended to implement at this time, separately and on a stand-alone basis, any of the new screening tests used in the 3-Tier Pilot." The principal investigator of the California study indicated to the MVA that additional analysis of the data for the older age drivers, including those "80+" did not change his recommendations[15]. Dr. Camp indicated, however, that the number of individuals in the oldest age groups (80+) was "just under 600," which may have limited "statistical power."

[14] Camp, (2011)
[15] Personal email from Dr. Camp, February 7, 2012

The initial and subsequent findings of the California study does not provide evidence for Maryland to have a FCT screening as part of the routine renewal process for all drivers including senior adult drivers. The report encourages further research such as that currently underway in Iowa.

The Iowa study is intended to develop, implement, and carry out a year-long demonstration of a new tool, an "Enhanced Medical Referral and Evaluation Management System" (EMREMS) working with TransAnalytics, LLC. A key element of study in the Iowa project is to assess the utility of administering a battery of cognitive screening tests to senior drivers. It is anticipated that the tests will be administered by trained counter personnel throughout the state on touch pad screen devices.[16] The overall goal of the Iowa project is to develop a single database that will capture all referrals by source and type, capture all resulting medical review processes, capture all diagnoses and recommendations, capture all outcomes, and reveal relationships via queries between referrals and outcomes. Iowa is hoping the demonstration project will support greater feedback to law enforcement and other referral sources, bolster the value of, and justification for, in-person renewal of vulnerable drivers, enhance the availability of information for operations and for policy development, enhance the responsiveness of the medical review system, examine the value of a brief cognitive screen in licensing operations, and produce documentation that supports continued use of EMREMS in Iowa. The goal is for Iowa to be able to export the system to other interested states.

Further, the Virginia Department of Motor Vehicles (DMV) has recently completed a Mature Driver Study. As a result of that study, Virginia DMV will assess the utility of administering the FCT to identify "medically at-risk drivers." The MVA is working with the Virginia DMV to implement the FCT aspect of their initiative.[17]

## 2. Adjudication of At-Risk Drivers

### i. Driver Rehabilitation or Remediation

Some drivers may be able to compensate for risky medical conditions and functional impairments by making modifications to their vehicle and/or learning new driving strategies to lower crash risk. Occupational Therapists (OTs) and

[16] Personal communication by Ms. Esther Wagner, NHTSA, October 30, 2013
[17] Personal communication with Ms. Jacquelin Branch, VA DMV, October 30, 2013

Certified Driving Rehabilitation Specialists (CDRSs) are clinicians who assess and provide training to drivers with physical and cognitive problems that impact on driving. They can help drivers with physical, visual, and minor cognitive issues to keep them driving safely as long as possible.

As recommended under the NHTSA Guidelines, MVA integrates the expertise of OTs and CDRSs statewide by providing education, and regularly collaborates on handling of cases and policy issues via quarterly meetings.

The MVA also integrates OTs and CDRSs as a part of its individual review of driver's medical fitness to drive. As part of the medical review process, the MVA may require drivers to submit a favorable report from a driving occupational therapist that is qualified to perform clinical assessments and on-the-road driving tests. CDRSs offer an objective in-depth analysis of the person's driving ability, assessment of the driver's capacity to improve, training on adaptations and strategies, and assistance to the individual to make the transition to alternative transportation, if necessary.

An occupational therapy assessment includes a clinical assessment of visual skills, visual perception, cognition, and physical status, as well as an on-road assessment, including vehicle control, basic rules of the road, traffic interaction, speed of cognitive processing, judgment, and hazard recognition.

A driver with physical impairments may be helped by an OT/CDRS training them on how to use adaptive equipment. A driver with vision impairments may be helped by an OT/CDRS training them to use adapted rearview and/or side-view mirrors. To help a driver with minor cognitive impairments, an OT/CDRS may recommend a license restriction as discussed in the next sub-section, and/or the use of cognitive retraining programs to improve or maintain a driver's cognition. All of these options are used to help a driver to continue driving safely as long as possible.

## ii. Restricted Licensing

NHTSA, AAMVA, and AAA all recommend utilizing a restricted license allowing the driver to maintain their license while limiting their driving to lower-risk situations, such as daytime only, lower speed roads only, or a geographic restriction allowing the driver to drive only close to home. Several studies have validated this type of restriction as helpful for medically at-risk drivers to lower their crash risk while prolonging mobility. Maryland issues conditional licenses for at-risk drivers that may include these types of restrictions.

Also, some licenses may specifically state that special vehicle equipment is required for a particular driver. Special vehicle equipment helps drivers to overcome physical challenges, adding to a driver's safety and confidence. If neck turning is limited or painful, a wide-angle mirror may offer a solution. If foot pedals are harder to manage when diabetic changes have resulted in partial amputation, hand controls can offer a safe alternative. More complex equipment may need to be professionally installed, and drivers may need to be trained to use this equipment with the help of an OT or CDRS. More complex, permanent special equipment would be reflected as a license restriction.

## E. Collaboration with Professionals

NHTSA Guidelines recommend a strong collaboration with all stakeholders for older driver safety programs, including those who may not normally be a partner in developing and implementing a comprehensive highway safety program. NHTSA recognizes that older driver safety is among the most complex of traffic safety issues because there are so many issues beyond the usual scope. They recommend that a good older driver safety program must have integrated community activities to improve older people's safety, mobility, and health. While they recommend collaborating with professionals in particular, NHTSA also suggests that there are other State, local, and nongovernment organizations that could help in achieving goals related to older driver safety because their missions are related to the safe mobility of older people. When older people can no longer drive safely, their mobility needs are often met by alternative means such as ride programs or transit services.

A large part of the MVA's Comprehensive Older Driver Safety Program is reaching out to the widest audience of Maryland professionals as possible – professionals who touch the lives of older drivers and programs and policies for them. MVA has targeted professional groups that are key to the medical review process. Anyone can make a referral to the medical review process, but evidence points to law enforcement and the medical community as the most likely sources of referrals. Engineers are another typical professional group included in driver and highway safety, and while they are not directly involved in the medical review process, they are a key component to older driver safety and part of the education and training in Maryland's program.

In addition, MVA has targeted social workers and community service providers, as they have possibly the widest net reaching older drivers and are in a prime position to help with prevention of crashes. Caregivers, families and friends of older drivers, and the older drivers themselves are also part of the equation and part of the outreach and education of the program.

## 1. Medical Personnel

### i. MVA Access to Medical Expertise

NHTSA Guidelines recommend that each state should have a MAB, that medical review of at-risk drivers should be conducted by medically-trained staff, and that medical expertise should be a part of the MVA medical review process to advise on medical policy and to assist with individual case reviews.

Maryland has a premier MAB process, which is the oldest in the nation and held out as one of the best. The MAB, which is the consulting arm of the MVA's Driver Wellness & Safety Division (DW&S), advises on medical policy concerning at-risk drivers and is available to provide input on individual cases. The MAB is comprised of physicians from various medical specialties, and their objective is to assess potential medical issues that might impact a driver's ability to safely operate a motor vehicle. This analysis focuses on specific areas of an individual's functional ability rather than age or disease. The MAB functions by reviewing the medical information of drivers and then providing advice and recommendations to the DW&S.

In addition, each case that comes into MVA's medical review process is assigned to a nurse case manager in the DW&S. The nurse case manager is responsible for contacting the referred driver and gathering all the relevant medical information. The nurse case manager determines if additional action and consultation with the MAB is necessary. Should further MAB review be warranted, additional information and/or assessment may be requested in order for the MAB to fully evaluate the case and finalize its recommendation. Once the MAB renders its recommendation to the Administration, the case is returned to the DW&S for administrative action.

### ii. Ease in Physician Referral

Many reports recommend that physicians and other health care providers be permitted to refer drivers to a licensing agency if they have concerns about the driver's ability to drive safely. In Maryland, physicians may refer drivers to the MVA if they have concerns about medical fitness to drive. The MVA is continually working to facilitate physician referrals, and has recently requested the MAB to discuss and determine the most effective method for ease in appropriate physician referral because on feedback received from the Older Driver Symposiums. In addition, the MVA's website provides information about health and driving for clinicians, drivers, and family and friends of drivers. The

sections for clinicians include information on AMA Ethical Guidelines and current Maryland law and regulations for reference by clinicians and to help educate clinicians on issues to consider when evaluating their patients' medical fitness to drive.

### iii. Healthcare Provider Immunity for Referrals Made in Good Faith

Under current statute, immunity is provided in Maryland for cases involving loss of consciousness and visual acuity problems. The Transportation Article, § 16-119, Annotated Code of Maryland allows physicians to report individuals with 1) disorders characterized by lapses of consciousness; and 2) disorders that result in a corrected visual acuity that fails to comply with the vision requirements. Physician reports are 1) confidential; 2) may be disclosed only on court order; and 3) may be used only to determine the qualifications of an individual to drive. A civil or criminal action may not be brought against a physician who makes a report under this section and who does not violate any confidential or privileged relationship conferred by law.

Relative to physician reporting, The Maryland Vehicle Law can be improved. Statute does not specifically allow for civil immunity for a spectrum of physical and cognitive problems that can impact one's ability to safely operate a motor vehicle. For example physical conditions such as amputations, fatigue from illness (example multiple sclerosis), neuropathy from diabetes and other conditions, which preclude unsafe driving, or need to be evaluated for safe driving (occupational therapy evaluation) are not expressly covered in the law. The Code of Maryland Regulations (COMAR) provides some guidance (11.17.03.02 A & B) relative to conditions associated with a "lapse of consciousness [which] is defined as failure to be oriented to time, place, person, situation." Examples of lapses of consciousness include automatism [an antiquated term], delirium, confusion, coma and stupor. In addition, COMAR indicates that "among the conditions that can cause an individual to have a significant risk of lapses of consciousness are:... epilepsy[,] narcolepsy[,] cardiovascular disease[,] cerebrovascular disease[,] alcoholism[,] drug addiction[,] and severe hypoglycemia."

The physicians' reporting system could benefit by more generic immunity language referencing conditions that cause alterations of consciousness that impact on safe driving, or similar words. In addition, physicians should be provided with civil immunity for referring patients with "physical and cognitive conditions,-which would include the many forms of dementia that affect operating

a vehicle in a safe manner." Finally, the primary care providers for many drivers, those who are most familiar with the clinical conditions and care, are not physicians. Clinical referrals with civil immunity and assurance of confidentiality should be expanded to included nurse practitioners, physician's assistants, psychologists, and CDRSs.

## iv. Update on Outreach to Healthcare Providers

Earlier in this report, the seminal hearing of the NTSB (2004) on medical fitness of the non-commercial driver was discussed. The MVA testified at that hearing and a subsequent 2010 NTSB Forum on Safety, Mobility and the Aging Driver. Key recommendations resulting from the hearing included medical schools including information about issues related to driving in their curriculum, and state medical boards including continuing medical education on medical fitness to drive. For years prior to those recommendations, members of the MVA's MAB have provided outreach education to physicians. However, Maryland medical presentations have not been limited to physicians; they have included clinicians from a multitude of clinical professions, including nurses, psychologists, physician's assistants, epidemiologists, occupational and physical therapists, substance abuse clinicians and others. We are in agreement with the AMA[18] that medical education should be provided to all professionals who are involved in patient care.

The ultimate goal of clinician outreach education would be to have all clinicians consider medical fitness to drive in all of their patients whether they are young, old, or in between. As recommended by the AMA[19], fitness to drive should be considered when patients are placed on a new medication, are diagnosed with a new condition, undergo a medical procedure, and when patients report new signs and symptoms. Clinicians are provided with education about "red flags" (missing appointments, getting lost, crashes, family concerns, etc.). Clinicians are informed of their ethical obligation[20] to report impaired drivers to the licensing agencies as well as statues and regulations regarding medical fitness to drive.

For over thirty years, the MVA's MAB has collaborated with MedChi, The Maryland State Medical Society, in physician outreach education. In 1982, the MAB physician Dr. Abraham Schneidmuhl[21] published a paper about the

[18] Carr et al(2010)
[19] Carr et al (2010)
[20] AMA (1999)
[21] Dr. Abraham Schneidmuhl, MedChi's *Maryland Medical Journal* (1982)

activities of MAB in MedChi's *Maryland Medical Journal*. For over a decade, MedChi's Continuing Medical Education (CME) Committee has assisted the MAB in identifying opportunities to present grand rounds at the University of Maryland and The Johns Hopkins University Schools of Medicine and at community hospitals throughout Maryland. The current MAB chair has been a member of the MedChi's CME committee for twenty years. A presentation was made to the Baltimore City Medical Society, which works closely with MedChi, in 2011 about the MAB. In April 2013, MedChi's CME committee co-sponsored with the MVA a day long clinical symposium entitled "Azheimer's/Other Dementias and Medical Fitness to Drive." MedChi provided CME credits and certificates of attendance to physicians, nurses and occupational therapists attending the statewide conference. The MAB continues its collaboration with MedChi to identify opportunities to provide clinical outreach education in Maryland. Future activities include an update on the MAB for *Maryland Medical Journal* and exploring the opportunity to provide a webinar on medical fitness to drive.

In addition to MedChi and the Baltimore City Medical Society, the MVA has met and presented to other medical society groups including the Maryland State Optometric Society. Numerous presentations have been made to community groups, including retirement community clinicians and residents.

Under the leadership of previous MAB Chief Dr. Robert Raleigh, a unique collaborative educational activity was forged with the Certified Driving Rehabilitation Specialists in 2001. Over the past 8-9 years that collaborative effort has been developed into the Driver Rehabilitation Network. The Network consists of CDRSs, adaptive equipment dealers, and nurses and managers from the MVA's Driver Wellness and Safety Division. Hosted by the MAB in Glen Burnie, the group meets quarterly. Presentations are made at each meeting by Network participants including MAB physicians and CDRSs.

The MAB has made several hundred presentations to physicians and other professional, including law enforcement, and community groups since 2003 and continues these outreach efforts today.

## 2. Law Enforcement

### i. Form for Easy Law Enforcement Referral

NHTSA Guidelines recognize the important role that law enforcement plays in identifying at-risk drivers on the road. This idea is validated by several studies

showing that law enforcement is an effective and active source of referrals, and most law enforcement referrals result in license actions.

NHTSA suggests that states should include a law enforcement component in their plan that includes outreach, training, education and an easy way for law enforcement officers who are in the field to make referrals. AAA adds to this by recommending an official form for law enforcement that is accessible electronically. Maryland has an official referral form for law enforcement, but this has always been a paper form that must be submitted manually and is not available online.

However, as a direct result of discussions at the Symposium, the MVA worked with the Maryland Department of State Police to develop an electronic request for referral for medical review – law enforcement calls it a Request for Re-exam (RRE). This e-Referral was fully deployed as of September 30, 2013 and is now accessible electronically to all law enforcement agencies that are linked to the E-TIX system managed by the Maryland State Police. This system currently handles more than 70 percent of Maryland's law enforcement citations, includes 120 agencies at both the State and local government levels, and includes about 10,000 law enforcement users. This means that officers now have an immediate, easily-accessible electronic process to do an RRE. This provides incentive for law enforcement to be a strong partner in the process of older driver safety.

The RRE may be completed either at the roadside when law enforcement is making a traffic stop or back at the station when they are completing reports. The RRE is independent of issuance of any citations or warnings, which means that law enforcement can make a referral without necessarily issuing a ticket. This information is sent directly to MVA, electronically, for better efficiencies and effectiveness of the existing process. For those law enforcement personnel not having access to E-TIX, they may continue to use the paper form that is printed by the MVA and sent out to law enforcement agencies. The forms are then submitted manually.

## ii. Update on Outreach to Law Enforcement

Again, NHTSA Guidelines suggest education of law enforcement and should include the value of their perspective, the importance of the referral, and a description of the process that happens once a referral is received. The MVA began education of law enforcement on these issues in 2012, and as stated previously, offered a separate workshop specifically for law enforcement as part

of the Symposium in 2013. In addition, MVA is working with local jurisdictions on training for their officers, and is planning further educational events in 2014.

Currently, with the recent deployment of the e-Referral, several items have been developed for education of law enforcement including a tip card provided to every traffic officer in the State, a six-minute video provided to every law enforcement agency in the State that can be used for roll-call on a regular basis, and an addition to the E-TIX Manual used by Maryland State Police for training of law enforcement Statewide. All of these materials provide a very basic understanding of medical issues accompanying aging, and the MVA's medical referral processes focusing on what law enforcement can do in identifying at-risk drivers and describe procedures for appropriate reporting as well as the information they will need to provide. In addition, MVA has developed a webpage with information specific to law enforcement that provides resources and frequently-asked-questions on how to handle inquiries law enforcement may receive from family and friends of older drivers regarding driver cognitive behavior and appropriate processes. Law enforcement may receive calls from individuals who are concerned about a family member's or neighbor's driving and need to know how to refer these individuals to the MVA. The hope is that these materials will help to ensure that law enforcement has adequate information and capability to refer individuals to the MVA as necessary.

## 3. Social and Aging Services Providers

Another key partner in the older driver safety arena – and unique to the driver / highway safety usual partners – are those working in social services. Many of these individuals work for local governments in departments of aging, community services, and social services; they are also found in local area agencies on aging, commissions on aging, and aging support service organizations throughout the State. They provide a community safety net of programs, and can help play an important role in preventing older driver crashes. NHTSA Guidelines recognize that social services enhance aging road-user safety and mobility through assessment, remediation, and rehabilitation; and NHTSA recommends that the comprehensive plan include outreach and education to these professionals.

The workshop course hosted by the MVA in April 2013, as part of the MODSS, was planned and implemented in accordance with The Maryland Gerontological Association, which is an approved provider of social work continuing education by the Maryland Board of Social Work Examiners. The MVA also partnered with the Maryland Association of Area Agencies on Aging to plan the workshop program, and, recently, this

led to an additional organization reaching out to MVA. This organization is also a provider of social work continuing education, and contacts with these groups are paving the way for long-term collaboration on older driver safety issues. Next steps are now being discussed for additional educational events.

# V. Conclusion

The demographics of Maryland's population are clearly changing and with an increasing number of drivers over age 65, the MVA must be prepared to handle any potential impact to driver safety. A review of the statistics indicates that older drivers, as a unique segment, do not pose a significant safety risk on the roadways as indicated by relatively few crashes and reduced risk of engaging in dangerous behaviors. However, there are medical conditions afflicting older drivers disproportionately, which affect an individual driver's ability to safely operate a motor vehicle.

The MVA has a rigorous program through the DW&S in conjunction with the MAB to evaluate reported problem drivers by reviewing each case individually and making a determination based on each unique circumstance. In comparison to many jurisdictions, who do not have staff with medical training reviewing cases, the MVA is fortunate to have a board of physicians, representing a variety of specialties in addition to nurse case reviewers. These individuals bring their training and expertise to each case they review, enhancing the integrity and outcome of Maryland's process. The process has proven successful at ensuring people remain safely on the road, with any necessary restrictions and ultimately, when it is unsafe to do so, removing individuals from driving.

In order to ensure individuals with issues impacting their driving are appropriately referred to the MVA for review, it is necessary to continually conduct a public education campaign and ensure that methods of referral are as streamlined as possible. The MVA has renewed outreach efforts with the medical community, law enforcement and the general public to help raise awareness on the process for driver evaluation. The implementation of the ability for law enforcement to refer individuals electronically through the E-TIX platform has already led to an increasing number of referrals. With additional training and resources for law enforcement, it is anticipated that the use of this program will only increase. In addition, implementing similar reporting templates for medical professionals, in conjunction with outreach and training should lead to increased referrals from these sources as well. These outcomes are positive steps to ensure the MVA is receiving referrals for all individuals who have medical issues that could potentially impact their driving.

As is clear from the research and wide variety of policies enacted in states regarding older drivers, while there is consensus about the usefulness of the medical review process as well as the role of public education and partnerships, there is not a consensus regarding many of the policy issues surrounding older drivers, including the age at which an individual should come

under additional review. As with many challenging policy decisions, there is a natural conflict between the competing priority of customer service and safety. The MVA has provided examples of potential costs of requiring shorter renewal cycles and in-person renewals based on age. The legislature would need to determine if this policy decision will yield the public safety benefit worthy of implementation. Going forward, the MVA will continue to review the NTSHA guidelines as they become final to ensure that Maryland is in good standing based on their recommendations as well as the results of the Iowa study to determine if additional changes should be made to the MVA program. As a leader in highway and driver safety, the MVA is committed to continuing to enhance our program based on sound research and best practices.

# VI. APPENDICES

National Highway Traffic Safety Administration (NHTSA) Guidelines, Highway Safety Program Guideline No. 13, Older Driver Safety

MVA Chart with information taken from AAA Foundation on Traffic Safety, Driver License Requirements of the States

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