International Older Driver Consensus Conference on Assessment, Remediation and Counseling for Transportation Alternatives: Summary and Recommendations

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SUMMARY. On December 1 and 2, 2003, 63 international experts on older driver issues met to examine three critical issues related to the safe mobility of older drivers. Conference participants addressed standards and protocols for screening and evaluating the skills of older drivers. For

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drivers judged to lack the necessary skills to drive safely, participants addressed methods of remediation that could enable older persons with limited cognitive or physical abilities to continue to drive. For those persons whose skills are judged inadequate for safe driving, conference participants addressed the question as to how best to counsel individuals and their caregivers on practical alternatives to driving.

Consensus was achieved as to the current methods for best assessing and screening drivers, remediation techniques, and providing advice and counsel for those persons and the caregivers as to appropriate actions for those no longer able to drive safely. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2005 by The Haworth Press, Inc. All rights reserved.]*

BACKGROUND

Every age group relies on automobiles as their primary source of transportation. This is especially true for seniors, who make little use of alternatives, utilizing public transportation for less than 3% of their trips. More than 80% of males and 50% of females aged 85 or older continue to drive. The number of licensed older drivers is expected to more than double within the next 25 years from 27 million to nearly 60 million (Collia, D. V., Sharp, J., & Giesbrecht, L., 2001).

As a group, older drivers make fewer trips, limiting their driving to situations in which they are most comfortable and being selective about the routes they take and the timing of trips. They often postpone or cancel trips when traffic or environmental conditions are not suitable. This self-restriction can be beneficial, but many older persons cannot make accurate self-appraisals of their skills and deficits. Some older individuals may no longer be able to drive safely while others may unnecessarily limit their mobility (Transportation Research Board, 2004).

When examined on a per-mile basis, the crash rate of elderly drivers approaches that of young novice drivers, but when involved in a collision their survival rate is far less. Among the most widely accepted methods for reducing risk of involvement in collisions are the use of driver assessment and screening, rehabilitation, and counseling tech-

niques. Efforts are also underway to make automobiles and roadways more forgiving by designing them with older drivers' capabilities and limitations in mind (Whelan, R., 1995).

On December 1 and 2, 2003 the *International Older Driver Consensus Conference on Assessment, Remediation and Counseling for Transportation Alternatives* was conducted in Arlington, Virginia with support from the Department of Health and Human Services, Centers for Disease Control and Prevention, and hosted by the University of Florida's National Older Driver Research and Training Center. This meeting was limited to 63 invited participants and preceded the *International Conference on Aging, Disability and Independence* that took place at the same location on December 4-6, 2003.

The Consensus Conference brought together a group of leading experts on older drivers focusing on three critical issues related to the safe mobility of older drivers. First, conference participants addressed standards and protocols for screening and evaluating the skills of older drivers. Second, for drivers judged to lack the necessary skills to drive safely, we addressed the following question: What forms of remediation will enable older persons with limited cognitive or physical abilities to continue to drive safely? Third, for those persons whose skills are judged inadequate for safe driving, participants addressed this question: How can we best counsel individuals and their caregivers on practical alternatives to driving?

CONFERENCE PROCEDURES

Conference participants served on one of three panels: "Assessment and Screening Protocols," "Methods for Remediating Driving Skills," or "Counseling, Caregivers and Alternative Transportation." A pre-conference review of the literature provided guidance, but the identification of critical issues and outcomes and recommendations were based upon consensus of the participating experts.

The objectives of the "Assessment and Screening Protocols" panel (henceforth referred to as "Panel A") were to: (1) establish criteria for determining whether an older driver is "at-risk" for unsafe driving behaviors; (2) determine what measures or techniques can be used to effectively discriminate between older persons determined to be "at-risk" and not "at-risk"; and (3) identify measures or procedures to include in a practical protocol for determining "at-risk" older drivers.

The objectives of the "Methods for Remediating Driving Skills" panel ("Panel B") were to: (1) identify remediation techniques that are currently being used to counter specific deficiencies in driver capabilities, skills, and attitudes and to array those that may restore driving proficiency to acceptable levels; (2) determine how specific remediation techniques are or should be evaluated; (3) determine when referrals to health care professionals and other specialists are warranted; (4) determine what remediation techniques should be included in a practical remediation protocol.

The objectives of the "Counseling, Caregivers and Alternative Transportation" panel ("Panel C") were to: (1) identify techniques and essential elements in programs for counseling people who have voluntarily or involuntarily given up their licenses to drive; (2) determine how such counseling is or should be evaluated; (3) determine the types of education and training that should be provided to former drivers and their caregivers, and other support systems needed to maintain a high quality of life for affected older persons; and (4) enumerate and evaluate practical alternative forms of transportation and communications that may substitute for driving.

Before the conference, participants provided references for important older driver and transportation-related articles. Participants reviewed earlier drafts of this Summary Report following the conference.

ASSESSMENT AND SCREENING PROTOCOLS

Since the early days of automobile travel, attempts have been made to identify high-risk drivers–those who might be involved in roadway collisions. These attempts have not had a substantial effect on the number of crashes related to driver performance. In recent years, the combination of better engineering of vehicles and roads and more careful examination of drivers appear to have been successful in reducing on-road injuries and fatalities (Transportation Research Board, 1988). At the same time, however, driving has become more challenging as speeds have increased and a greater variety of displays and tasks demand more driver attention. Many persons who have physical and cognitive limitations cannot successfully cope with the requirements of safe driving (Hunt, L. A. & Weston, K., 1999).

This panel focused on a topic of increasing interest, "how to scientifically identify older drivers who may be at risk for unsafe driving behaviors." We want to support the mobility and independence needs of older

persons while recognizing the importance of personal safety and the well-being of persons on or near roadways. This panel reviewed current literature and experience, and moved toward consensus on the most effective means to determine who may be unsafe on the road.

Current Practices

This panel reviewed current practices that have either screening and/or assessment goals: The distinction was made between *screening,* i.e., identification of unsafe drivers (not fit to drive) and *assessment*, i.e., measurement of relevant driving skills. Although the panel did not complete an exhaustive review of current approaches, they did examine six widespread and representative protocols including (1) The American Medical Association's recommendations aimed at screening of driving-related competencies (American Medical Association, 2003); (2) The state of California's protocol aimed at screening license renewal applicants to determine whether they have any deficient visual, mental or physical conditions that should be evaluated in a road test (Janke, M. K. & Eberhard, J. W. (1998); (3) The state of Maryland's experimental protocol aimed at identifying and assessing the ability of people to remain safely mobile, to remediate and/or counsel those with limitations so that they remain safely mobile (Staplin, L., Lococo, K. H., Gish, K. W., & Decina, L. E., 2003); (4) The state of Florida's screening protocol for determining older driver fitness, which includes a process for further evaluation and remediation as needed (Florida At-Risk Council, 2004); (5) The DriveABLE protocol that provides screening for clients who have one or more medical conditions and/or take pharmaceuticals that may reduce their driving abilities to an unsafe level (DriveAble Testing Ltd., 1997); (6) Common assessment protocols used by driving rehabilitation specialists and occupational therapists aimed at identifying unsafe drivers as well as the source of their driving difficulties.

In general the panel agreed that the recommendation of specific protocols should depend upon (1) evidence of predictive relationship to crashes or other driving outcomes, (2) widespread use and consensus among experts, (3) content validity, (4) ability to be administered fairly and consistently by a wide cross-section of testers, and (5) costs and licensing issues.

Issues Related to the Selection of Test Methods

Six major issues were discussed:

1. *The differences in procedures and who should administer driver screening and assessments*. It was agreed that s*creening* can be done by persons with little training and in a variety of settings (e.g., at the Department of Motor Vehicle's office, physician's office, senior center, shopping mall) but *assessment* requires explicit training and expertise and should be conducted by specialists (e.g., occupational therapists, driving rehabilitation specialists) in defined environments using specialized equipment and procedures.

2. *How individuals enter screening and assessment systems.* It was agreed that individuals might enter the screening and evaluation process for a variety of indications and from different settings. Screening is more restrictive in that for most jurisdictions legislative approval is required and all drivers may be screened by their driver-licensing agency using mandated criteria such as individuals reaching a certain age (Waller, P. F., 1988). Those entering the assessment process may be referred by medical or legal professionals, or by family members. Accordingly, the appropriate criteria for entry into either process depends upon each jurisdiction and should be evaluated individually.

3. *Whether age-based versus capacity-based screening is most appropriate.* On this issue, there was a lack of consensus. It is not clear from the literature that age-based screening (i.e., all drivers older than a certain age) would reduce the risk of road collisions (Staplin, L. et al. 2003). The same is true for capacity-based screening (i.e., drivers who have committed driving violations and/or were involved in crashes). The panel agreed that screening based upon referrals constituted a defensible compromise.

4. *What should one do when a driver fails a driving test?* It was agreed that there is no single answer to this question. There are circumstances where it is clear that a person should stop driving, have his/her license revoked, or should have driving restrictions imposed. For many who fail a driving test, further evaluation and possible attempts at remediation should be considered.

5. *What is the appropriate criterion for evaluating driving outcomes?* Panelists agreed that performance measures that are predictive of crashes are proper to use. Accordingly, predictors derived from

field data or simulator data on standardized or "free field" road courses can be appropriate criteria for passing or failing a driver. There remained considerable debate about the logistics and measurement technologies for obtaining such measurements in assessment or screening settings.

6. *Domains that need to be tested and specific measurements for evaluating each domain.* There was substantial agreement on the domains that need to be tested, but disagreement on which specific instruments and logistics should be considered when testing those components (i.e., tester expertise, time available to test, need for specialized equipment, and reliability).

Consensus on Domains and Components Recommended for Assessment Protocols

It was generally agreed that domains such as sensory intake, cognition, and psychomotor capabilities should be evaluated, although the use of "domains" may not be the most powerful approach. Furthermore, it may not always be possible to include all of these domains as part of the process.

It was also agreed that a variety of specific measures, and not their underlying domains, have been found to be somewhat predictive. It was acknowledged that some screening systems, such as DriveABLE, specifically use cognitive/perceptual measures that are complex and multi-factorial in their nature and, although it is not clear which domains are being assessed, such measures may be effective predictors of the complex, real-world, multi-ability task of driving.

Support for the measurement of specific domains is strong among those with a rehabilitation focus. Others favoring this approach emphasize recent evidence showing domain-specific measures to be significant predictors of motor vehicle crashes.

Table 1 lists three domains previously used in assessment batteries, cognitive, sensory, and motor, and their components and associated measures. There was general agreement that assessment batteries should include these three domains, the components within each of these domains and at least one of the candidate measures within each component. It was also agreed that a number of other commonly used measures (e.g., Trail-Making Test, Part A) are not effective or valid predictors of safe driving (Kantor, B., Mauger, L., Richardson, V. E., & Unroe, K. T., 2004).

TABLE 1. Cognitive, Sensory and Motor Assessments

Domain	Candidate Measure
Cognition	
Divided Attention	Trail-Making test, Part B
	Useful Field of View
Visual Search	Letter Cancellation
	Digit-Symbol SubstitutionTask
	Trail-Making test, Part A
Working Memory/Memory	Digit-Span Task
	Delayed Recall
Driving Knowledge	Rules of the Road Test
	Traffic Signs Test
Spatial Ability	Motor-Free Perceptual Test (MVPT;
	horizontal subtask)
Visualization of missing information	Visual closure task (MVPT)
Sensory	
Proprioception, Reaction Time	Brake reaction time
Cutaneous sensation	Pressure and localization sensation test
Visual fields	Perimetry testing
	Confrontational field testing
Visual acuity	Wall charts
	Automated testing machines
Contrast sensitivity	Standardized charts
Motor	
Range of motion	Cervical rotation, flexion, extension, lateral
	bend (head-neck flexibility)
Leg strength	Manual muscle testing
Gross Mobility	Rapid pace walk
Balance	Sitting balance task

METHODS FOR REMEDIATING DRIVING SKILLS

For older drivers judged to be at-risk of being involved in a highway crash we need to either recommend that they surrender their licenses or we need to identify and select methods for remediating deficient driving skills. These drivers may have a number of sensory, physical, and/or cognitive impairments that impede safe driving or restrict their mobility. From this array of characteristics, it is important to develop reliable indicators of the types of failures that may occur during driving and to identify the specialists most appropriate to provide rehabilitation services.

From an evaluation of the sensory, physical and mental responses, individuals may be judged appropriate for intervention. They must have insight into their deficits, have the capacity to learn new strategies and techniques, and their cognitive and sensory deficits must be no worse than mild-to-moderate. The panel agreed that before any remediation strategy or technique could be considered, an accurate medical diagnosis, medication review and identification of specific functional limitations is necessary. Identification of underlying deficits can assist therapists in recognizing the potential for remediation of skills or the feasibility of vehicle modifications to enhance driving performance. The panel also agreed that rehabilitation is a blending of compensatory and remediation strategies to facilitate skill improvements and strategies to help individuals to compensate for their limitations.

Strategies and Techniques for Remediation

Recent evidence demonstrates the benefits of training for improved visual attention and processing speed in certain situations. For example, training with the Useful Field of View (UFOV) Visual Analyzer and Dynavision (Myers, R. S., Ball, K. K., Kalina, T. D., Roth, D. L., & Goode, K. T., 2000) is currently being used. Cognitive retraining may have potential for improving performance in certain driving tasks. Training for visual scanning and proper lookout, the ability to visually navigate the driving environment in an effective manner (such as checking the rearview mirror and blind spots) may also comprise an effective remediation strategy for some people.

Interactive driving simulators are becoming more accepted for training and retraining driver component skills and abilities. Simulators are effective for retraining of specific skills (e.g., right foot coordination, visual scanning) and for increasing self-awareness of capacities and limitations (Lee, H. C., Lee, A. H., & Cameron, D., 2003). Their greatest value may lie in their ability to provide a relatively risk-free environment for distinguishing safe from unsafe performance in a variety of driving tasks that challenge many older drivers and those with cognitive impairments.

Strategies and Techniques for Compensation

Compensatory strategies match an individual's unique characteristics with specific vehicle design such as ergonomically developed seating and appropriately placed controls. Enhanced visual and auditory devices may also be used to compensate for decreased skills. Newer

technologies, such as a visual "heads-up" display, in-vehicle naviga-
tion, or collision avoidance systems hold promise for increasing older
driver road safety.

Driver Fitness

Panel members agreed that the concept of driver fitness might hold
value as a preventive strategy for maintaining the ability to drive safely.
A program of public education which promotes driving fitness as part of
safe mobility for life could recommend general health maintenance as a
means to preserve driving skills. Driver fitness could also include the
notion of refreshing or retraining of one's driving skills and could be ex-
tended to those who may need to resume driving after a lifestyle change
(e.g., the death of a spouse).

Education

The panel recognized the importance of education in the process of pro-
viding remediation for driving skills. Education may take many forms,
from classroom lectures to individual training. Topics include review of
road rules, safe driving tips, how aging affects driving skills, and planning
for "retirement from driving." Route restructuring, driving restrictions, the
use of adaptive equipment, and integration of alternatives to driving are ap-
propriate educational topics. "Commentary driving" (talking yourself through
the driving process) may be employed to increase the driver's situational
awareness. Supervised driving may be an effective educational strategy
when used for the short term. This strategy involves the temporary assis-
tance of passenger cueing or enhancing driver awareness.

Driver education has been proposed as a possible avenue to enhance
driver knowledge and performance skills to reduce the risk of a vehi-
cle crash. Most driver education programs usually involve 30 hours of
classroom education and up to six hours of behind-the-wheel training
(Mayhew, D. R. & Simpson, H. M., 2002). Many studies have shown
only marginal benefits, if any, for training and retraining of older driv-
ers. One recent study, however, of an educational intervention for
at-risk older drivers showed multiple benefits related to driver percep-
tions of safety and behavior including self-awareness of visual ability,
increased self-regulation of driving, avoidance of hazardous driving
situations, and a reduction in driving exposure or places traveled
(Owsley, C., Stalvey, B. T., & Phillips, J. M., 2003).

Component Training

Training for specific skill enhancements has been successfully used to remediate older drivers. For example, the UFOV Visual Analyzer has been explored for both assessment and training of visual attention and processing speed related to driving. Studies of the effect of visual attention retraining on driving performance have used UFOV with an elderly stroke population. Results of one study show significant increases in pass rates for the on-the-road exam following intervention, but only for those with right-hemispheric lesions (Mazer, B. L., Sofer, S., Korner-Bitensky, N., Gelinas, I., Hanley, J., & Wood-Dauphinee, S., 2003). An evaluation of speed of processing training with the UFOV showed a significant reduction in dangerous driving maneuvers with sustained benefits up to 18 months following intervention (Roenker, D. L., Cissell, G. M., Ball, K. K., Wadley, V. G., & Edwards, J. D., 2003).

The panel also explored the use of driving simulators for enhancing or retraining component functions. For example, one study found short-term improvements in driving performance (use of signals in vehicle turning) for a simulator-trained elderly group (Roenker et al., 2003).

Several studies demonstrated that driving simulation could distinguish cognitively impaired drivers from control groups of unimpaired drivers (Cox, D. J., Quillian, W. C., Thorndike, F. P. et al., 1998; Freund, B., Risser, M., Cain, C. et al., 2001; Schultheis, M. T., & Mourant, R. R., 2001). Such findings may suggest a stronger role for simulation as a training tool.

Medication Review

The medication review process as an element of the intervention process has become increasingly important. With aging comes an increased risk for developing chronic conditions that may require multiple medications. This may lead to increased risks for adverse drug interaction that could adversely influence driving. One important study demonstrated a relationship between chronic medical conditions and medication use and automobile crashes among older drivers. Heart disease, CVA, and arthritis medications included anti-inflammatories, anticoagulants, benzodiazepines, calcium channel blockers, and vasodilators, all of which were identified as contributing factors for increased risk of at-fault crashes (McGwin, G., Jr., Sims, R. V., Pulley, L. V., & Roseman, J. M., 2000).

COUNSELING, CAREGIVING
AND ALTERNATIVE TRANSPORTATION

For many older persons ceasing to drive is tantamount to losing one's independence and mobility. Importantly, the loss of driving privileges is often associated with diminished self-worth, loss of self-esteem, and depression (Taubman-Ben-Ari, O., Mikulincer, M., & Gillath, O., 2004). The impact of driving cessation is not confined to individuals who no longer drive. Many others can be affected, both directly and indirectly, including family and friends, local merchants, faith communities, people who depend on volunteer services and others. Limited mobility often reduces the person's social interactions, participation in out-of-home and community-based recreational activities, and the ability to access essential services.

At this Consensus Conference, Panel C, "Counseling, Caregivers and Alternative Transportation," participants focused on how to locate or establish alternatives to driving, how to effectively convey these alternatives to persons who have voluntarily or involuntarily given up driving, and how to counsel older adults who may be nearing the shift from driving to non-driving. The panel also gave attention to people who no longer drive and their caregivers. The goal of this panel was to obtain a consensus on: (1) ways to maintain mobility by specifying alternatives to driving, (2) the types of professionals and settings needed to provide effective counseling, and (3) the process or paradigm for providing such guidance.

Within the context of an aging society with ever increasing numbers of aging drivers, health care professionals, members of aging networks, service industries, and members of society at large must adopt paradigms that establish how transportation systems can effectively serve the needs of older Americans. Panel members agreed that community support and political will are essential to facilitate needed changes for maintaining mobility by older persons.

Assumptions

An underlying assumption is that the older population is very diverse in medical and functional status and in terms of culture. Candidates for counseling will have various strengths, limitations, concerns, and needs. Service providers must recognize that satisfaction of mobility needs entails the use of a multi-faceted system. Services in this system range from informal to formal and the clients from dependent to independent.

The Counseling Process

The counseling resources considered by the panel included interactions with professionals (e.g., physicians, therapists, case managers, and allied health care professionals), as well as with non-professionals (e.g., friends, family, and social support networks). To develop new models of the counseling process, traditional methods need to be expanded to include marketing, public relations, and training strategies.

Counseling Techniques

Counseling techniques include: adopting a client-centered approach with one-on-one counseling to seniors and/or to their adult children, partners, spouses or other caregivers; utilizing counselors in senior transportation resource centers; and making use of centralized mechanisms for information (e.g., community specific information). Another approach includes publicizing both the options and benefits of local transportation opportunities for driving and non-driving seniors, as well as the applicable content of the Older American's Act (Older American's Act of 1965). It was agreed that publicizing the potential benefits of transportation alternatives should also be targeted at caregivers and children of older adults.

Essential Elements of Counseling

One essential element underlying counseling is *respect for the consumer.* Counselors, formal or informal, should be urged to take a positive, solution-focused approach with an emphasis on the benefits of alternative transport rather than on the burdens imposed by not driving. Panelists emphasized that the person who can no longer drive safely must be empowered to take action and to become an active, rather than a passive, participant in the decision-making process.

Effective communication must be utilized, in both individual and group settings. Strategies should include: empathy, effective listening, and skills to empower these persons. Understanding the impact of not driving, as well as distinguishing between the status associated with holding a drivers' license (a symbol of independence) and actually driving, also are critical. Counselors of all types must understand the need for, and the importance of, reciprocity when working with older adults.

Effective counseling should guide participants toward alternatives to driving as well as unknown opportunities for social support and com-

munity services; should encourage clients to stay connected to the community in a meaningful way; and should provide instruction on how to calculate the cost of alternative transportation versus the costs of driving. Counseling should also include identification of suitable environments such as a venue for fostering support and private discussion. Community-based support from local non-profit systems (e.g., Area Agencies on Aging) can be extremely helpful and may promote dynamic communities that include older persons.

Evaluation of Counseling Strategies

A necessary component of a counseling program is the need to assess progress and effectiveness at different stages of development and implementation. Content, process, or outcome evaluation may be used for assessment purposes. Quality of life should be included in outcome measures.

One standardized model for transportation-related counseling exists. Allen and Bonnie Dobbs have proposed the *Self Perception of Competency and Actual Competency Concordance Model* as a conceptual framework (Dobbs, A. R. & Dobbs, B. M., 2000). This model suggests that older drivers may experience concordance or disparity between their perceived and actual ability to operate a vehicle safely. Different forms of counseling or intervention for those not capable of driving safely and those who are capable, but have ceased driving, would be indicated as well as designing and targeting interventions that can be evaluated empirically.

In a pilot program, the Florida Department of Highway Safety and Motor Vehicles uses a *Self-Ratings-Driver Examiner Ratings Congruency Matrix* as a model for counseling. A unique feature of this program is that mobility counselors, located in resource centers, provide on-site services. This model illustrates how resource centers and connectivity with the community may be employed to counsel older drivers.

Modes of Alternative Transportation

A variety of alternative transportation options have emerged that are intended to overcome some of the limitations and barriers associated with public transportation. Such services may be thought of as being on a service continuum and include categories such as: (1) stop-to-stop, (2) curb-to-curb, (3) door-to-door, (4) door-through-door, and (5) arm-to-arm. These services may include assistance from: caregivers and/or family members; friends and neighbors; a network of people representative of

those having existing relationships with medically/functionally at-risk drivers; or more formal transit services (Burkhardt, J. E., 2003).

The types of services listed below are required to meet the transportation needs of older adults:

1. Public transportation over both fixed and flexible routes
2. Public paratransit
3. Americans with Disabilities Act supported paratransit
4. Dial-a-ride systems
5. Taxis
6. Jitneys
7. Non-emergency medical vehicles
8. Specialized senior transportation provided by senior centers, hospitals, independent/assisted living communities
9. Senior transportation provided by local jurisdictions
10. Independent Transportation Network (ITN) ® (Freund, K., 2003)
11. Volunteer transportation
12. TRIP/PaS-Ride–informal paid transportation (Beverly Foundation. (2001)
13. Friends and family
14. Low speed vehicles (e.g., scooters, golf-carts)
15. Walking

The key elements for providing *successful alternative transportation* for seniors must include a combination of strategies. Some of the most important strategies include:

1. Community focus and community support
2. Consumer perspective
3. Imagination and creativity (not taking "no" for an answer)
4. Flexibility to accommodate changing demands
5. Family of services
6. Partnership/stakeholder: How will the services be coordinated and who will contribute?
7. Follow a business model: The bottom line needs to be considered and costs and revenues outlined
8. Sustainability: Services must have a long-range goal and include a multi-year perspective that is supported by consumers and has gained investment from the community
9. Sense of public and private ownership

10. Technology must be incorporated to make the system more efficient and effective
11. Total quality management and continuous quality improvement
12. Quality service as per the consumer which includes polite, friendly, punctual and courteous drivers as well as improved environmental conditions, e.g., shelter from weather elements
13. Positive marketing for alternative transportation with an approach that will overcome the barriers

IMPLICATIONS AND LIMITATIONS

Appropriate and accessible alternative transportation options and choices for an increasing number of older adults are critical, and may reduce the need for counseling. However, the need for publicizing and marketing alternative transportation options will continue to increase in the near future, especially in rural and suburban areas.

Planning for the transition from driving to non-driving and for alternative methods is important and should start as early as possible. Training for transportation service providers on how best to accommodate older persons is also likely to be beneficial to marketing alternative transportation. Long-term personal planners (e.g., elder lawyers and financial planners) can convey a "life long mobility" message. Innovative techniques such as transportation savings accounts can benefit seniors over the long-term. Lobbying for insurance incentives is another proactive option.

Since senior immobility and the subsequent loss of participation in society is a public health concern, alternative transportation strategies must be embraced by public policy. In this way, incentives may also be provided for private solutions to transportation financial planning.

Those responsible for the operation of alternative transportation networks should do more to market the benefits of not driving to the general public. Additionally, agents of the aging network may collaborate with urban planners to optimize the land use possibilities.

Research is critical to validate the efficacy and effectiveness of alternative transportation strategies and to develop model programs. Complex areas such as "emotional preparedness" in adjusting to driving cessation and the best ways to adopt alternative strategies for mobility are challenging research issues. Clearly, an evidence-based approach is lacking and must be pursued, concurrently and synergistically.

Current strategies should be tested and promising new ones developed. Today, we lack methodologies for implementing model programs and assessment tools for evaluating these programs. A programmatic research approach is needed to overcome these limitations.

CONCLUSIONS

In America, driving a personal automobile is the preferred method for transportation. As a person ages there is a greater likelihood that continuation of driving may not be safe. Therefore, it is important to (1) develop and utilize techniques that permit us to assess whether the requisite capabilities and skill levels inherent in one's driving are adequate to permit continued driving, (2) remediate the individual or reengineer the driving task for those with correctable conditions, and (3) provide counseling on alternatives for those who are unable or unwilling to continue to drive their own vehicle, so they may continue to remain active and enjoy a high quality of life.

At this conference, participants agreed on the fundamental domains and components of driving that need to be evaluated for safe driving by older persons. They also agreed on a group of specific measures and operational tests that are appropriate for such assessments or screenings. Likewise, the participants who considered such appraisals rejected a number of commonly used tests that are judged superficial or for which there is no established relationship to driving safety.

The panel charged with identifying and selecting methods for remediation of unsafe driving performance agreed that no single strategy or technique is appropriate for all drivers. Panelists examined the applicability of a number of techniques, within both traditional and non-traditional remediation categories. Emphasis was placed on the process of identifying specific limitations of drivers and tailoring remediation programs.

Many senior adults will spend a significant number of years as non-drivers. Their continued mobility is dependent upon the availability and utilization of various modes of alternative transportation. Longer-term solutions involve individual advanced preparation for the transition from driving to non-driving, improved community planning for larger numbers of non-drivers, and improved access to various forms of transit. In the short run, both formal and informal individual counseling related to explicit means of travel are needed. Although there are a variety of counseling techniques aimed at both older non-

drivers and caregivers, virtually no evaluations of the effectiveness of such techniques have been made. The panel concerned with such matters recommended systematic research to determine the most cost-effective techniques for supporting sustained or increased mobility for persons no longer able or willing to drive their own vehicles.

There were many areas of agreement by participants on tools and procedures to aid in the screening and assessment processes. There was also divergence on some issues. It was agreed that many of these issues could best be resolved through research. The foundations for remediation and counseling are substantially based on experience of professionals rather than firmer empirical or theoretical underpinnings. It was agreed there is a clear need for research in these critical areas.

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