Discussing Driving Concerns With Older Patients

I. Vision Care Providers’ Attitudes and Behaviors

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Objective: To investigate the perspectives of vision care providers (VCPs) on inquiring about driving among their older adult patients.

Methods: We surveyed a stratified random sample of 500 VCPs, 404 of whom completed the survey (response rate, 80.8%), who had been identified using membership lists of the Michigan Optometric Association and the Michigan Society of Eye Physicians and Surgeons. The survey assessed VCPs’ attitudes and behaviors in addressing driving concerns with older patients. Ordinal logistic regression analyses were performed to identify associations between provider or practice characteristics and survey responses.

Results: More than 80% of VCPs are confident in their ability to determine whether their patients’ vision is adequate for safe driving. The VCPs cite liability risk (for reporting [24.2%] and for not reporting [43.6%]) as a barrier to reporting unsafe drivers. Almost two-thirds report routinely inquiring about their older patients’ driving, and 86.3% consider that counseling patients about driving is their responsibility. Almost 60% (57.2%) worry that reporting patients negatively influences the physician-patient relationship, and 43.1% consider that reporting is a breach of physician-patient confidentiality. Attitudes and behaviors in discussing driving varied by VCP characteristics, particularly provider type. More than one-third of VCPs (35.6%) report sometimes, often, or always communicating concerns about patients’ driving to their primary care physician. Resources endorsed by VCPs as helpful or very helpful include driving assessment guidelines (80.5%), clinical screening instruments (70.1%), and patient self-assessment tools (59.9%).

Conclusion: While VCPs view that advising patients about driving is an important responsibility, further attention should be given to addressing barriers, providing resources, and devising communication strategies between VCPs and other members of the health care team.


IN THE UNITED STATES, THE NUMBER OF DRIVERS OLDER THAN 65 YEARS WILL GROW TO ROUGHLY 40 MILLION PEOPLE BY 2020, REPRESENTING THE FASTEST GROWING SEGMENT OF THE DRIVING POPULATION.1,2 FOR MANY SENIORS, DRIVING SIGNIFIES THE ABILITY TO STAY ACTIVE, BE INDEPENDENT, AND REMAIN SocialLY CONNECTED. A CONSIDERABLE BODY OF LITERATURE DESCRIBES THE NEGATIVE OUTCOMES ASSOCIATED WITH DRIVING CESSION,3,4 INCLUDING DECREASED QUALITY OF LIFE,5 INCREASED DEPRESSION AND ISOLATION,6 AND REDUCED ACCESS TO HEALTH CARE.7,8 HOWEVER, AUTOMOBILE INJURIES ARE A LEADING CAUSE OF INJURY-RELATED DEATHS IN ADULTS AGED 65 TO 74 YEARS,9 AND THE FATALITY RATE FOR DRIVERS 85 YEARS OR OLDER IS 9 TIMES HIGHER THAN THAT FOR DRIVERS AGED 25 TO 69 YEARS.2 WHILE MULTIPLE STUDIES9-13 SHOW THAT STROKE,13 PHYSICAL DISABILITY,13,14 VISION RANKS AMONG THE MOST IMPORTANT, PARTICULARLY WHEN IT COMES TO LICENSURE.15-18 A SUBSTANTIAL AMOUNT OF RESEARCH EXISTS DESCRIBING THE RELATIONSHIP BETWEEN SPECIFIC VISUAL DISORDERS AND THEIR INFLUENCE ON DRIVING.14,16,18,23 DESPITE THE IMPORTANCE OF VISION IN DRIVER SAFETY, LITTLE IS KNOWN ABOUT THE PERSPECTIVES OF VISION CARE PROVIDERS (VCPs) ON INQUIRING ABOUT DRIVING AMONG THEIR OLDER ADULT PATIENTS.

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Previous investigations examining the role of health care providers in driving cessation focused on family physicians. These studies15,24-25 found that physicians are aware of the potential repercussions of encouraging driving cessation and of neglecting to report older drivers who are no longer fit to drive. Some family physi-
Physicians reported that they were unclear about their role in regulating patients’ driving and that they did not possess adequate knowledge about licensing policy or actions to be taken if a patient is deemed unsafe. The VCPs are critical members of the health care team when it comes to helping older adults transition from driver to non-driver status. A better understanding of VCPs’ unique perspectives with regard to evaluating visual function in relation to safe driving is needed. To address this gap, we surveyed a large sample of VCPs (OD optometrists and MD ophthalmologists) in Michigan. The specific aims of this study are to address the following questions: (1) What are the attitudes, behaviors, and barriers of VCPs in inquiring about driving among their older adult patients, and do they differ by provider or practice characteristics? (2) What are the self-reported referral patterns of VCPs? (3) What driving assessment resources would VCPs find most useful?

STUDY METHODS

A random sample of 500 VCPs (250 ODs and 250 MDs) was selected from 772 ODs and 372 MDs who had active practices in Michigan and were members of the Michigan Optometric Association or the Michigan Society of Eye Physicians and Surgeons. Both organizations endorsed the study, and potential participants were identified via the membership rolls they provided. Each provider was categorized by zip code or county into 1 of 5 Michigan regions. Separate random samples of ODs and MDs were chosen stratified by region to ensure a representative sample. Providers were ineligible to participate if they were retired, had moved out of state, or had no patients older than 65 years in their practice. The VCPs selected and subsequently found to be ineligible to participate were replaced.

DATA COLLECTION

The study protocol was approved by the institutional review board of the University of Michigan and adhered to the tenets of the Declaration of Helsinki. Participants were sent an initial mailing containing a cover letter that introduced the study, a copy of the Vision Care Providers’ survey (Appendix; http://www.jamaophth.com), a return envelope, and a $20 cash incentive. A modification of the method by Dillman was used to encourage survey response. Four weeks after the first mailing, nonresponders were sent a second survey packet. Several strategies were used to encourage a higher response rate (eg, letters were individualized and signed by the primary investigators, and regular stamps were used rather than metered postage). Four weeks after the second mailing, nonresponders with an e-mail address were sent an e-mail reminder and a link to an electronic version of the survey. Nonresponders for whom an e-mail address was unavailable were called at their office. Office personnel were asked to remind the VCP to complete the survey and were offered the electronic option.

MEASURES

The questionnaire was based on the following information: (1) constructs of the health belief model (eg, perceived barriers and cues to action), a widely used conceptual framework to explain health-related behaviors; (2) review of the literature on attitudes and practices of health care providers on evaluating driving status in older adults; (3) consultation with VCPs; and (4) a survey of family physicians’ attitudes toward driving assessment. The draft survey was pilot tested with VCPs employed outside of Michigan (n = 20) and with content and survey experts (n = 5). Pilot participants were sent the survey and an evaluation form asking for specific feedback. The survey was modified based on their comments.

The final survey was grouped into the following 8 sections: (1) attitudes toward inquiring about driving, (2) situations prompting providers to ask about a patient’s driving, (3) information considered when determining if a patient’s vision is adequate for safe driving, (4) barriers that hinder providers from asking about or reporting a patient’s driving, (5) current approaches and actions, (6) helpful driving assessment resources, (7) driver’s license requirements for Michigan, and (8) personal and practice characteristics. The survey sections and items relevant to this article are described herein.

Provider attitudes (8 items) and barriers (10 items) were assessed on a 5-point Likert-type scale, with responses ranging from “strongly disagree” to “strongly agree.” Attitude items assessed how VCPs view their role, confidence, and behaviors around addressing driving concerns. Barriers to discussing driving and reporting potentially unsafe drivers to governmental agencies included items specific to the physician-patient relationship and the negative consequences to patients as a result of driving cessation. Liability issues for reporting or not reporting unsafe drivers were assessed, as were health system barriers. With regard to reporting practices in Michigan, providers are encouraged but not required to report unsafe drivers, and the secretary of state releases the name of the reporter only if the individual is a public official (eg, a police officer); unofficial names are released only under court order.

Self-reported referral practices were assessed by 4 items on a 5-point Likert-type scale, with responses ranging from “strongly disagree” to “strongly agree,” investigating how often VCPs reported patients whose vision seemed inadequate for safe driving to their primary care physician, a driving school, or a driving rehabilitation specialist or for a road test. The perceived helpfulness of provider- and patient-directed driving assessment resources was determined based on VCPs’ responses to 8 items on a 5-point Likert-type scale, with responses ranging from “not at all helpful” to “very helpful.”

STATISTICAL ANALYSIS

Sample characteristics were summarized using means (SDs) for continuous variables and using frequencies and percentages for categorical variables. Responses to survey items were summarized with frequencies and percentages by collapsing responses to a 3-point scale as follows: (1) strongly disagree or disagree, (2) neither agree nor disagree, and (3) agree or strongly agree. Ordinal logistic regression was used to identify significant predictors of responses to individual survey items using the same 3-point response scale. Covariates investigated included provider and practice characteristics (Table 1 gives the entire list). Model selection was performed using the method of best subsets. This approach identifies the overall best model as well as closely competing models. The largest model in which all covariates were significant was chosen as the final model. The proportional odds assumption was found to be reasonable for all models. As a result, effects are interpreted as the odds of responding more positively to survey items rather than negatively regardless of how the outcome was dichotomized. Commercially available software (SAS, version 9.2; SAS Institute, Inc) was used for all analyses.
Among 500 eligible VCPs identified, 404 (response rate, 80.8%) completed the survey (206 ODs [82.4%] and 196 MDs [78.4%]). Two MDs did not indicate whether they were specialists or generalists. Of 500 participants who were initially mailed surveys, 20 (2 ODs and 18 MDs) were replaced when found to be ineligible. Ineligible VCPs were retired (n = 2), deceased (n = 1), in an eye care practice without patients older than 65 years (n = 7), had a conflict of interest (n = 1), or had an incorrect address (n = 9).

Table 1 summarizes the provider and practice characteristics of the VCPs. Most (72.5%) were male, and 55.2% were 50 years or younger. The mean (SD) number of years in practice was 17.8 (12.2). Ophthalmologists were categorized as generalists (59.3%) or as specialists (40.7%). More than half of the VCPs (58.3%) were involved in practices that exceeded 3500 patients. In terms of the percentage of older patients in their practice, 73.1% of VCPs reported that 60.0% or less of their patients were older than 65 years, while 26.9% reported that more than 61.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years, while 26.9% reported that more than 60.0% of their patients were older than 65 years.
cussing driving or reporting. Conversely, almost half of the VCPs (43.6%) reported that they could be held liable for not reporting an individual whose vision was inadequate for safe driving. Neither lack of personnel nor time constraints in the office visit were seen as major barriers to inquiring about driving.

Table 4 gives the model findings from analyzing associations between provider or practice characteristics and survey responses. Most significant differences in responses were seen between VCPs who were ophthalmologists (specifically specialists and to a lesser degree generalists) compared with VCPs who were optometrists. For example, compared with ODs, MD generalists and MD specialists were less likely to agree that VCPs should report unsafe drivers to a designated governmental agency (odds ratios, 0.43 and 0.44, respectively). Other significant associations with some attitudes and barriers were found between female vs male VCPs, between VCPs with more vs fewer years in practice, between VCPs working in practices with a larger vs a smaller number of providers, and between VCPs with vs without access to a social worker or psychologist. All significant associations between provider or practice type and survey items are given in Table 4.

Findings about VCPs’ self-reported referral patterns are shown in the Figure. More than one-third (35.6%) reported sometimes, often, or always communicating concerns about patients’ driving to their primary care physician, with MDs relaying concerns more often than ODs. When driving concerns are identified, VCPs are more likely to report referring patients for a road test (33.1%) or to a driving rehabilitation specialist (28.4%) than to a driving school (9.2%). The MDs were more likely to report making such referrals than the ODs; however, the percentages of VCPs reporting the use of any of these referrals are low.

We asked VCPs to report which driving assessment resources they would find most helpful on a 5-point Likert-type scale, with responses ranging from “not at all helpful” to “very helpful.” For provider-focused resources, 80.5% of VCPs thought that having driving assessment guidelines would be helpful or very helpful, followed by a clinical screening instrument (70.1%) and educational in-service training about how to evaluate driving ability (59.0%). Endorsement of patient-focused resources included written literature about safe driving (73.1%), an at-home self-assessment tool (59.9%), a driving information website (53.8%), and a toll-free number accessing driving information (49.9%).

Table 3. Barriers Identified by 404 Vision Care Providers (VCPs) to Inquiring About Driving Among Their Older Adult Patients and Reporting Unsafe Drivers

<table>
<thead>
<tr>
<th>Barrier</th>
<th>VCPs, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician-Patient Relationship</strong></td>
<td></td>
</tr>
<tr>
<td>Reporting patients to authorities influences physician-patient relation</td>
<td>Strongly Disagree 16.8</td>
</tr>
<tr>
<td>Reluctant to mention patient driving because dealing with family is</td>
<td>64.2</td>
</tr>
<tr>
<td>difficult</td>
<td></td>
</tr>
<tr>
<td>Reporting patients to authorities is a breach of physician-patient</td>
<td>25.2</td>
</tr>
<tr>
<td>confidentiality</td>
<td></td>
</tr>
<tr>
<td><strong>Patient Consequences</strong></td>
<td></td>
</tr>
<tr>
<td>Reluctant to recommend stopping driving given the loss in quality of</td>
<td>45.1</td>
</tr>
<tr>
<td>life</td>
<td></td>
</tr>
<tr>
<td>Transportation alternatives in the community are limited</td>
<td>31.1</td>
</tr>
<tr>
<td><strong>Liability</strong></td>
<td></td>
</tr>
<tr>
<td>Could be liable for reporting patients considered unsafe drivers</td>
<td>39.2</td>
</tr>
<tr>
<td>Could be liable for not reporting patients considered unsafe drivers</td>
<td>21.7</td>
</tr>
<tr>
<td><strong>Operational or Health System</strong></td>
<td></td>
</tr>
<tr>
<td>Limited time for patient visits restricts asking about driving</td>
<td>53.3</td>
</tr>
<tr>
<td>Limited office personnel hampers asking about driving</td>
<td>64.4</td>
</tr>
</tbody>
</table>

The increasing number of older drivers renders age-related driving difficulties an important public health issue. We assessed VCPs’ attitudes, barriers, and desired resources in evaluating and advising patients about driving safety, as well as their self-reported referral patterns when driving concerns are identified. Most VCPs report routinely inquiring about driving with older patients, and most endorse that advising on safe driving is their responsibility. This finding is consistent with a study of family physicians in which more than 75% considered addressing driving concerns an important component of their practice. Many VCPs reported concerns about the effect of reporting unsafe drivers to governmental agencies, citing liability risk as a barrier to reporting and to not reporting. Liability issues have previously been identified as a barrier to reporting drivers who are deemed unsafe. Whether Michigan’s policies influence providers’ reporting behaviors is unclear. States across the country vary in whether they accept, encourage, or mandate reporting patients, with only 30 states providing legal immunity to VCPs related to reporting. In addition, physicians may have concerns about violating federal privacy laws.

Providers are concerned about potentially deleterious effects of reporting patients to a governmental agency on the physician-patient relationship and its influence on confidentiality. In our study, more than half of the VCPs expressed concern that reporting unsafe driv-
Table 4. Ordinal Logistic Regression Model Associations Between Provider or Practice Characteristics and Survey Responses Among 404 Vision Care Providers (VCPs)\(^a\)

<table>
<thead>
<tr>
<th>Regression Outcome</th>
<th>Odds Ratio (95% CI)</th>
<th>Provider Characteristic</th>
<th>Practice Characteristic</th>
<th>Interpretation of Subgroup Most Likely to Endorse Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MD Specialist vs OD</td>
<td>MD Generalist vs OD</td>
<td>Women vs Men</td>
<td>Time in Practice(^b)</td>
</tr>
<tr>
<td>Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confident in ability to determine if patient vision is safe for driving</td>
<td>0.22 (0.12-0.42)</td>
<td>0.47 (0.25-0.88)</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>VCPs are most qualified professionals to identify unsafe drivers</td>
<td>0.52 (0.32-0.84)</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>VCPs should report unsafe drivers to a designated governmental agency</td>
<td>0.44 (0.27-0.72)</td>
<td>0.43 (0.28-0.66)</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Unless patients ask about driving, not VCP’s obligation to inquire</td>
<td>2.45 (1.38-4.33)</td>
<td>2.07 (1.24-3.48)</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Counseling patients about safe driving is important part of VCP’s job</td>
<td>0.32 (0.16-0.63)</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More likely to recommend patients' modify driving than stop</td>
<td>0.38 (0.22-0.63)</td>
<td>...</td>
<td>0.52 (0.33-0.82)</td>
<td>...</td>
</tr>
</tbody>
</table>
| Reporting patients to authorities influences physician-patient relationship | ... | ... | ... | ... | ... | ... | ...
| Limited time for patient visits restricts asking about driving | ... | ... | ... | ... | ... | 0.64 (0.43-0.95) | 1.33 (1.11-1.60) | VCPs without access to social worker or psychologist and more VCPs in practice |
| Reporting patients to authorities is a breach of physician-patient confidentiality | 2.43 (1.47-4.01) | 1.62 (1.06-2.47) | ... | ... | ... | ... | MD specialists, MD generalists |
| Reluctant to mention patient driving because dealing with family is difficult | 0.46 (0.25-0.85) | ... | ... | ... | ... | 0.58 (0.38-0.88) | OD, VCPs without access to social worker or psychologist |
| Reluctant to recommend stopping driving given loss in quality of life | 0.54 (0.33-0.88) | ... | ... | ... | ... | ... | OD |
| Could be liable for reporting patients considered unsafe drivers | ... | ... | ... | ... | 2.13 (1.42-3.21) | ... | Women |
| Could be liable for not reporting patients considered unsafe drivers | ... | ... | ... | 0.82 (0.70-0.96) | ... | ... | OD, VCPs with fewer years in practice |
| Transportation alternatives in the community are limited | ... | ... | ... | 1.59 (1.04-2.41) | ... | ... | Women |

Abbreviations: Ellipsis, not applicable; MD, ophthalmologist; OD, optometrist.
\(^a\) All table entries are significant at \(P < .05\). Ordinal logistic regressions model the probability of responding with stronger agreement to survey items (with the odds of stronger vs weaker agreement being the same for any dichotomy of the scale).
\(^b\) Per 10-year increase (approximately 1-SD increase).
\(^c\) Via referral.
ers potentially undermines the physician-patient relationship. Other studies found that most physicians believe the risks posed to the patient, his or her passengers, and the public by failing to report outweigh the negative consequences. One-third of VCPs herein were reluctant to recommend stopping driving given the influence on patient quality of life. Structural and operational issues, such as time constraints and limited personnel, were not frequently endorsed as barriers to advising about safe driving.

We are unaware of other studies that have examined differences in addressing driving concerns by provider or practice characteristics. More significant differences were found between ODs vs MD specialists, followed by ODs vs MD generalists, and then by provider sex. The largest magnitude of differences occurred between provider types. It is beyond the scope of this study to explain why these differences might exist. Observational and qualitative research is needed to more thoroughly understand the provider-patient exchanges around driving assessment and safety. Such findings may have implications for interventions and in-service training needs tailored for particular provider subgroups.

Because of the multiple factors that determine an individual’s ability to drive safely (including cognitive function), improving communication between VCPs and other health professionals could increase the likelihood that older adults receive the assistance required to remain safe drivers and that potentially unsafe drivers are identified more often. Prior studies demonstrated the importance of coordinated care, and the Institute of Medicine called for increasing use of strategies, such as the electronic health record, to improve health care coordination and quality. However, we found that VCPs do not often relate their concerns to the patients’ primary care physician. Even fewer VCPs endorsed using other referral opportunities, such as sending patients to driving rehabilitation specialists or to driving schools. Further studies should investigate why communication among providers regarding concerns about patients’ driving seems to be infrequent and should consider additional models of communication, which might include provider teams, patients, and family members.

Many VCPs expressed interest in additional driving assessment resources, and most would find such guidelines beneficial to their practice. In addition, most VCPs reported that a clinical screening instrument would be valuable. The literature on driving assessment stresses the need for practical, easy-to-administer, clinically valid assessment tools. Researchers developed, validated, and advocated for the Useful Field of View test, which considers visual processing speed with divided attention components rather than or in addition to tests that focus on visual acuity. While American Academy of Ophthalmology and American Optometric Association policy statements suggest that driving assessment should include more than evaluating visual function, a standardized set of procedures (including an assessment tool) that is focused on a planned transition from driver to nondriver status would benefit providers and patients. The desire for more education and access to standardized screening tools that could determine fitness to drive has been echoed by family physicians as well. Such tools could help ameliorate the concerns that physicians have about liability issues. Although some screening tools exist (eg, the AMA Physician’s Guide to Assessing and Counseling Older Drivers, developed by the American Medical Association with the National Highway Traffic Safety Administration), many physicians are unaware of them. Future research is needed to determine why VCPs are not using existing driving assessment resources and to develop new assessment tools that are more effective if the guidelines are found to be inadequate.

The strengths of this study include a large, representative sample of VCPs across a state with urban and rural

Figure. Referral patterns of optometrists (OD) and ophthalmologists (MD) when they identify concerns about driving safety among their older adult patients. T indicates total; VCPs, vision care providers.
onal settings, as well as a high survey response rate. Our study is limited insofar as the findings are based on what providers self-reported and may not reflect what happens in a typical physician-patient interaction. Although this study assured VCPs confidentiality, an important next step is to research actual provider behavior as it relates to driving assessment and counseling. Further limitations include the restriction of our sample to one state and the limited generalizability of our findings to VCPs who are members of their respective Michigan professional organizations. Sixty percent of practicing optometrists in Michigan are members of the Michigan Optometric Association, and 72% of practicing ophthalmologists are members of the Michigan Society of Eye Physicians and Surgeons. Last, the findings from this study do not represent what patients perceive as the role of their VCPs. Further research could focus on the concordance between patients’ and providers’ perspectives of how providers can be helpful in addressing driving concerns.

In summary, while VCPs consider that addressing driving concerns is an important part of their job, they express uncertainties and concerns about their role in counseling patients about driving safety. Our findings suggest that providers of vision care in Michigan do not have faith in the current reporting system. Better communication among VCPs and their patients, other health care professionals, and driving experts is needed. Existing resources must be more widely disseminated, and new driving assessment resources should be developed and evaluated.

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