Articles

Driving and Dementia
California's Approach to a Medical and Policy Dilemma

DAVID B. REUBEN, MD, *and* PEGGY ST GEORGE, *Sacramento, California*

The cognitive impairment that defines dementia is thought to place affected persons at increased risk for unsafe driving. Nevertheless, many persons with dementia continue to drive after the onset of their illness. Since 1988 California physicians have been required to report older persons with Alzheimer's disease and related disorders to their local health departments, information that is then reported to the Department of Motor Vehicles (DMV). To reevaluate how it acts on this information, the DMV convened an interdisciplinary panel of experts and modified its policies regarding drivers with dementia. As revised, the driver's licenses of persons with moderate or advanced dementia will be revoked without further testing. Persons with early or mild dementia will have the opportunity to demonstrate the capacity to drive through a reexamination process. In this manner, the California DMV hopes to balance the need for public safety and with the preservation of personal independence of persons with dementia.

(Reuben DB, St George P: Driving and dementia—California's approach to a medical and policy dilemma. West J Med 1996; 164:111-121)

Demographic trends indicate that the number of Americans aged 65 years and older will increase dramatically over the next several generations, particularly as the "baby boomers" enter this age group in the early 21st century.[1] Because Alzheimer's disease and other dementing disorders are age-associated, the number of older persons with these diseases will rise concomitantly.[2,3] Although the consequences of dementia engender enormous health care and economic burdens, a particular aspect of the disorder, the effect on the ability to drive safely, has been a prominent medical and public health issue. From a medical perspective, the cognitive impairment that defines dementia with hallmark features of memory loss, visual-spatial disturbance, and impaired judgment is likely to place a person with dementia at an increased risk for unsafe driving. Other more subtle impairments, such as poor divided attention ability, poor selective focused attention,[4] and visual field limitations[5] that are characteristic of patients with Alzheimer's disease, may contribute to or aggravate this risk.

The possible risk of unsafe driving by drivers with dementia has been substantiated in most,[6-9] though not all,[10] retrospective studies that have shown higher rates of motor vehicle crashes and in performance-based studies that have shown poor driving skills on road tests.[4,11,12] Although the precise magnitude of risk incurred by a driver who has dementia cannot be estimated from the existing literature, this risk is likely to be substantial. It has been reported that 33% of demented persons who were still driving had motor vehicle crashes or moving violations within the previous six months.[8]

Nevertheless, older drivers with dementia continue to drive after the onset of their illness. Again, precise estimates of the prevalence of driving among demented persons are not available because of study limitations. Published data, however, seem to suggest that at least a substantial minority, and perhaps a majority, of persons with dementia continue to drive after the onset of their illness, particularly early in the disease. Of those who were driving at the time of diagnosis in the previously mentioned series, 73% continued to drive for at least a year, and these persons drove for a median of 24 months.[8] As the disease progresses, the prevalence of driving declines substantially, although patients with Alzheimer's disease may drive longer than do those with dementia from other causes.[6,8]

Thus, it cannot be assumed that a demented person will invariably be cognizant enough of the risks to voluntarily cease driving. Nor can family members be uniformly relied on to persuade a demented person to refrain from driving.[13] In some cases, a demented person has been the sole driver for the family. In other cases, current and premorbid relationships between family members preclude enforcement of a family-generated restriction.

Some experts have recommended that medical determinations by physicians should guide the decision regarding driver competency. For example, the most

From the California Department of Motor Vehicles, Sacramento (Dr Reuben and Ms George), and the Multicampus Program in Geriatric Medicine and Gerontology, University of California, Los Angeles, School of Medicine (Dr Reuben).

Reprint requests to Peggy St George, Program Manager, Dept of Motor Vehicles, 2415 First Ave, Sacramento, CA 95814.

ABBREVIATIONS USED IN TEXT

DME = driver medical evaluation
DMV = Department of Motor Vehicles

recent American Medical Association guidelines on driving state that "once the presence of dementia is established and it is demonstrated that a patient is at risk of making errors in judgment likely to affect the ability to drive safely, an individual should not drive again."[14(p33)] Others have urged that the diagnosis of dementia should be followed by a formal evaluation designed specifically to test driving competence.[15,16] It has also been suggested that the physician's role is to identify drivers who have dementia (including reporting to the state department of motor vehicles, when appropriate) and then to allow the department of motor vehicles to make the decision whether to restrict or revoke the driving privilege.[17]

California's Law and Policy

In California in 1988, Health and Safety Code section 410 added Alzheimer's disease and related disorders to the list of conditions that physicians are required to report (using a Confidential Morbidity Report form) to their local health departments, which then forward this information to the California Department of Motor Vehicles (DMV). The guidelines for reporting, which were modified slightly in 1990, are specific, and failure to report may lead to liability for the physician if the patient becomes involved as a driver in a crash. Reporting means that the person with dementia is required to be reexamined by a hearing officer and to submit to further tests, which usually included vision, knowledge, and driving examinations. Based on the results of these examinations as well as a physician-completed written driver medical evaluation (DME) form, the DMV could allow the driver to continue driving unrestricted, put the driver on probation, restrict driving, or revoke or suspend the driver's license. The basis for deciding among these options has not always been clear, however.

As part of a process to reevaluate the DMV's policy toward drivers with physical and mental impairments, in 1992 the DMV began systematically reviewing and modifying its method of evaluating drivers with dementia. The DMV was concerned that the identification and evaluation of drivers with dementia were not being conducted in a uniform manner. Both the process of this evaluation and its results are of interest. To reevaluate its current policy relating to dementia, the DMV convened a panel of experts that met four times over a six-month period. The panel* was diverse in composition and included physicians, DMV representatives, and representatives of consumer groups. Physician panel members included neurologists, a geriatric psychiatrist, a public health official, and a geriatrician. Each of these members had experience in managing dementia, and several had considerable experience in dealing with driving impairments. The DMV representatives included driver-safety hearing officers and driver-control-policy research staff and managers. Representatives from the Alzheimer's Association participated on behalf of consumers, representing caregivers. For each type of dementia, the physicians in the panel reviewed published literature and drew on clinical experience to define functional impairments, driving-related impairments, and other modifying factors to consider. The DMV representatives shared their research data and personal experiences in examining drivers with dementia and also provided a series of licensing options, ranging from no action to revocation, that the group could choose from. Based on deliberations of the panel, a new physician-completed DME form for dementia (Figure 1) and a new reporting form for nonphysicians (including other health professionals and lay persons) (Figure 2) were created. The goal of the new forms is to provide as precise information as possible regarding the severity of dementia. Finally, a new schema for evaluating drivers with dementia was created (Figure 3).

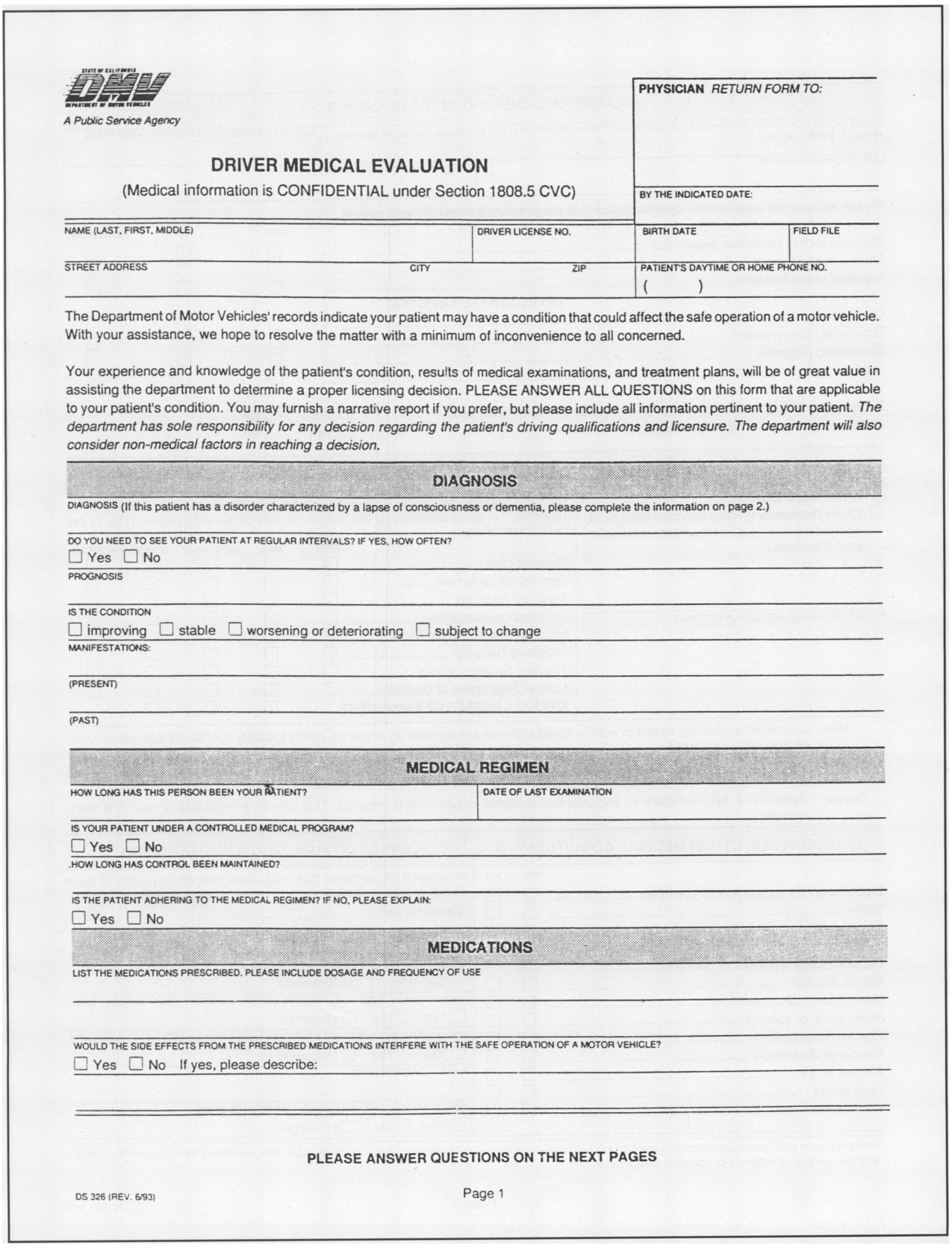
The rationale behind the schema and its operation merit further explanation. There was uniform agreement by the panel members that persons with moderate or advanced (severe) dementia (Table 1)[18] should not be driving. Thus, when a physician's initial report indicates that dementia is moderate or advanced, the demented person's driver's license will be revoked immediately without further testing. If the physician's report indicates that the dementia is mild or the diagnosis is unclear, a DME form will be sent to the driver's physician for completion. Similarly, if the report has been generated by a family member, friend, day-care agency, or other person (such as a law enforcement official or DMV field officer), a DME form is sent to the patient's physician. Because persons with dementia often are treated by more than one physician, the question arises

TABLE 1.—*Classification of Severity of Dementia**

Severity	*Example*
Mild	Judgment is relatively intact, but work or social activities are substantially impaired
Moderate	Independent living is hazardous, and some degree of supervision is necessary
Severe	Activities of daily living are so impaired that continual supervision is required

*From the American Psychiatric Association.[18]

*Dementia Panel members: *DMV staff*: Patti Caraska, Allan Cates, Joan Eubanks, Annette Heck, Mary Hurtado, Mary Janke, PhD, Kathy Kelly, Barbara Lancara, Peggy St George, and Gilbert Von Studnitz. *DMV Medical Advisory Board*: David B. Reuben, MD, and Jerry Zarriello, MD. *Consumer groups*: John Davidson, President, Sacramento Chapter, Alzheimer's Association. *California Alzheimer's Disease Program*: James Howard. *Physician and nursing experts*: John Bissel, MD, Chief, Department of Neurology, Kaiser-Permanente, Sacramento; L. Jaime Fitten, MD, Chief, Geropsychiatry, Veterans Affairs Medical Center, Sepulveda, and University of California, Los Angeles (UCLA) School of Medicine; Michael Mahler, MD, Associate Professor of Neurology, UCLA School of Medicine; and Maxine Verna, RN, PhD, Program Coordinator, Alzheimer's Disease Diagnostic and Treatment Center, Sacramento, California.



STATE OF CALIFORNIA
DMV
DEPARTMENT OF MOTOR VEHICLES

A Public Service Agency

PHYSICIAN *RETURN FORM TO:*

DRIVER MEDICAL EVALUATION

(Medical information is CONFIDENTIAL under Section 1808.5 CVC)

BY THE INDICATED DATE:

NAME (LAST, FIRST, MIDDLE) | DRIVER LICENSE NO. | BIRTH DATE | FIELD FILE

STREET ADDRESS | CITY | ZIP | PATIENT'S DAYTIME OR HOME PHONE NO. ( )

The Department of Motor Vehicles' records indicate your patient may have a condition that could affect the safe operation of a motor vehicle. With your assistance, we hope to resolve the matter with a minimum of inconvenience to all concerned.

Your experience and knowledge of the patient's condition, results of medical examinations, and treatment plans, will be of great value in assisting the department to determine a proper licensing decision. PLEASE ANSWER ALL QUESTIONS on this form that are applicable to your patient's condition. You may furnish a narrative report if you prefer, but please include all information pertinent to your patient. *The department has sole responsibility for any decision regarding the patient's driving qualifications and licensure. The department will also consider non-medical factors in reaching a decision.*

DIAGNOSIS

DIAGNOSIS (If this patient has a disorder characterized by a lapse of consciousness or dementia, please complete the information on page 2.)

DO YOU NEED TO SEE YOUR PATIENT AT REGULAR INTERVALS? IF YES, HOW OFTEN?

☐ Yes ☐ No

PROGNOSIS

IS THE CONDITION

☐ improving ☐ stable ☐ worsening or deteriorating ☐ subject to change

MANIFESTATIONS:

(PRESENT)

(PAST)

MEDICAL REGIMEN

HOW LONG HAS THIS PERSON BEEN YOUR PATIENT? | DATE OF LAST EXAMINATION

IS YOUR PATIENT UNDER A CONTROLLED MEDICAL PROGRAM?

☐ Yes ☐ No

HOW LONG HAS CONTROL BEEN MAINTAINED?

IS THE PATIENT ADHERING TO THE MEDICAL REGIMEN? IF NO, PLEASE EXPLAIN:

☐ Yes ☐ No

MEDICATIONS

LIST THE MEDICATIONS PRESCRIBED. PLEASE INCLUDE DOSAGE AND FREQUENCY OF USE

WOULD THE SIDE EFFECTS FROM THE PRESCRIBED MEDICATIONS INTERFERE WITH THE SAFE OPERATION OF A MOTOR VEHICLE?

☐ Yes ☐ No If yes, please describe:

PLEASE ANSWER QUESTIONS ON THE NEXT PAGES

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Page 1

Figure 1.—An example of the driver medical evaluation form for reporting a possible case of dementia is shown. *(Continued on the following three pages)*

LAPSE OF CONSCIOUSNESS DISORDER

PLEASE IDENTIFY THE LAPSE OF CONSCIOUSNESS DISORDER BEING REPORTED *(Type of seizure, nocturnal, isolated, syncope, blackouts, etc.)*

DATE(S) OF EPISODE(S) IN THE PAST THREE YEARS

DATE OF ONSET, IF KNOWN

DATE AND TIME OF LAST EPISODE

Please indicate the impairments identified below that are **presently** shown by your patient

	YES	NO	UNCERTAIN
Sporadic loss of conscious awareness	☐	☐	☐
Loss of consciousness	☐	☐	☐
Impaired motor function	☐	☐	☐
EFFECTS AFTER EPISODE			
Confusion	☐	☐	☐
Diminished concentration	☐	☐	☐
Diminished judgment	☐	☐	☐
Memory loss	☐	☐	☐

If medication is taken to control seizures, are the serum levels recorded? ☐ Yes ☐ No

Are the serum levels medically acceptable? ☐ Yes ☐ No

DEMENTIA OR COGNITIVE IMPAIRMENTS

☐ **Alzheimer's Disease**

☐ **Other Dementia** (Please describe the type of dementia below, e.g., multi-infarct, metabolic, post-traumatic.)

HISTORY OF DISEASE, RESULTS OF TESTING, ETC.

Rate the degree of cognitive impairments, where applicable, to the condition being reported. To aid in determining the overall degree of severity, please refer to the definitions below.

	NONE	MILD	MODERATE	SEVERE	UNCERTAIN
Memory Loss	☐	☐	☐	☐	☐
Diminished Judgment	☐	☐	☐	☐	☐
Impaired Attention	☐	☐	☐	☐	☐
Impaired Language Skills	☐	☐	☐	☐	☐
Impaired Visual Spatial Skills	☐	☐	☐	☐	☐
Impulsive Behavior	☐	☐	☐	☐	☐
Problem Solving Deficits	☐	☐	☐	☐	☐
Loss of Awareness of Disability	☐	☐	☐	☐	☐
OVERALL DEGREE OF IMPAIRMENT		☐	☐	☐	

Mild: Judgment is relatively intact but work or social activities are significantly impaired. Ability to safely operate a motor vehicle may or may not be impaired.

Moderate: Independent living is hazardous and some degree of supervision is necessary. The individual is unable to cope with the environment and driving would be dangerous.

Severe: Activities of daily living are so impaired that continual supervision is required. This person is incapable of driving a motor vehicle.

HISTORY OF OTHER MEDICAL CONDITIONS

	YES*	NO
Diabetes and/or hypoglycemic episodes	☐	☐
Stroke	☐	☐
Dizziness from frequent headaches	☐	☐
Eye disorders not correctable by lenses	☐	☐
Cardiovascular diseases or disorders	☐	☐
Kidney disease	☐	☐
Musculoskeletal impairments	☐	☐
Head, neck, or spinal injury	☐	☐
Psychiatric disorder(s)	☐	☐
Emotional disorder(s)	☐	☐
Alcohol abuse	☐	☐
Drug abuse	☐	☐
Other, please describe	☐	☐

LEVELS OF FUNCTIONAL IMPAIRMENTS

Functional impairments that may affect safe driving ability. Please check where applicable.

	MILD	MODERATE	SEVERE
Visual neglect	☐	☐	☐
Loss of upper extremity motor control .. ☐ Left side ☐ Right side	☐	☐	☐
Loss of lower extremity motor control .. ☐ Left side ☐ Right side	☐	☐	☐

IN YOUR OPINION, DOES YOUR PATIENT'S MEDICAL CONDITION AFFECT SAFE DRIVING?

☐ Yes ☐ No ☐ Uncertain

WOULD ADAPTIVE DEVICES AID YOUR PATIENT IN COMPENSATING FOR HIS/HER DISABILITY?

☐ Yes ☐ No ☐ Uncertain

IF YES, PLEASE DESCRIBE

WOULD YOU RECOMMEND A DRIVING TEST BE GIVEN BY DMV?

☐ Yes ☐ No ☐ Uncertain

*Please provide additional information on page 4 for any condition in which "yes" was checked. Please include onset date, medications not identified on page 1, and the number of incidents or episodes if applicable.

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DRIVER'S ADVISORY STATEMENT

Medical information is required under the authority of Divisions 6 and 7 of the California Vehicle Code. Failure to provide the information is cause for refusal to issue a license or to withdraw the driving privilege.

All records of the Department of Motor Vehicles, relating to the physical or mental condition of any person, are confidential and not open to public inspection (California Vehicle Code Section 1808.5). Information used in determining driving qualifications is available to you and/or your representative with your signed authorization.

The department has sole responsibility for any decision regarding your driving qualifications and licensure. The department will also consider non-medical factors in reaching a decision.

MEDICAL INFORMATION AUTHORIZATION
(Valid for three years)

PHYSICIAN, HOSPITAL, OR MEDICAL FACILITY *(NAME AND ADDRESS)*

DATE	MEDICAL RECORD/PATIENT FILE NUMBER

I hereby authorize my physician or hospital to answer any questions from the Department of Motor Vehicles, or its employees, relating to my physical or mental condition, and/or drug and/or alcohol use or abuse, and to release any related information or records to the Department of Motor Vehicles or its employees. Any expense involved is to be charged to me and not to the Department of Motor Vehicles.

I hereby authorize the Department of Motor Vehicles to receive any information relating to my physical or mental condition, and/or drug and/or alcohol use or abuse, and to use the same in determining whether I have the ability to operate a motor vehicle safely.

NOTE: You may wish to make a copy of the completed Driver Medical Evaluation for your records.

PHYSICIAN'S SIGNATURE

PHYSICIAN'S SIGNATURE	PHYSICIAN'S NAME *(PRINTED)*	DATE
X		
CLASSIFICATION OR SPECIALTY	MEDICAL LICENSE NUMBER	TELEPHONE NUMBER
		( )

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ADDITIONAL COMMENTS TO BE COMPLETED BY PHYSICIAN
(If comments are added, please sign again below.)

PHYSICIAN'S SIGNATURE

X

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DMV

A Public Service Agency

REPORT OF DRIVER WITH DEMENTIA

Please complete this form if you wish the Department of Motor Vehicles to review the driving qualifications of a person who may nave dementia. You may request that your name or agency not be revealed to the individual being reported. Confidentiality may be requested at the bottom of this form.

Vehicle Code Section 1808.5 ensures that all records received by the department relating to the physical or mental condition of any person are confidential and not open to public inspection.

NAME OF INDIVIDUAL BEING REPORTED	DRIVER LICENSE NO. *(IF AVAILABLE)*	BIRTH DATE
ADDRESS OF INDIVIDUAL BEING REPORTED	**CITY**	**ZIP CODE**

Based on your interactions with the individual being reported, please rate the person's degree of impairment.

	NONE	MILD	MODERATE	SEVERE	UNCERTAIN
Memory Loss	☐	☐	☐	☐	☐
Deterioration in Judgment	☐	☐	☐	☐	☐
Inability to Maintain Attention	☐	☐	☐	☐	☐
Impulsive Behavior	☐	☐	☐	☐	☐
Inability to Perceive Serious Situations Accurately	☐	☐	☐	☐	☐
Confusion	☐	☐	☐	☐	☐

Do you believe that this person is unsafe to operate a motor vehicle? ☐ Yes ☐ No ☐ Uncertain
If yes, please describe.

Does this person have difficulty with daily care activities? For example, does the person have difficulty cooking meals, balancing a checkbook, maintaining personal hygiene? ☐ Yes ☐ No ☐ Uncertain
If yes, please describe.

The DMV will keep your name confidential if you request. However, it will be necessary for you to sign this form in order for the department to investigate this matter.

Do you wish to keep your name/agency from the person being reported? ☐ Yes ☐ No

This information is provided by: ☐ Family Member ☐ Day Care Agency ☐ Friend ☐ Neighbor ☐ Other

NAME OF REPORTER	TELEPHONE NUMBER
	( )

PLEASE RETURN THIS FORM TO YOUR LOCAL DRIVER SAFETY OFFICE

THE REVERSE SIDE OF THIS FORM EXPLAINS THE PROCEDURES DMV FOLLOWS WHEN EVALUATING A DRIVER REPORTED WITH DEMENTIA

DS 699 (NEW 6/93)

Figure 2.—An example of the form for reporting by nonphysicians of a possible case of dementia is shown. *(Continued on the following page.)*

PROCEDURES DMV FOLLOWS WHEN EVALUATING A PERSON REPORTED WITH DEMENTIA

Reporting a Relative, Friend, or Client to DMV

A Notice of Reexamination will be mailed to the person you have reported. The notice tells the person that in the interest of his/her personal safety and the safety of others on the road, the DMV has determined it necessary to review the person's driving qualifications.

Review of Medical Information

The reported person will be sent a Driver Medical Evaluation form along with the Notice of Reexamination. The person is requested to have the physician, most familiar with his/her medical history, complete the form. The person is informed that the Driver Medical Evaluation must be returned to DMV within 20 days or the driving privilege will automatically be suspended. The person is also informed that failure to appear at the scheduled reexamination will result in suspension of the driving privilege.

The Reexamination Interview

The reported person will be given a written knowledge test on the rules of the road prior to the reexamination interview. The reexamination interview will be held if the person passes the knowledge test. If the person does not pass the written test, the person's driving privilege is suspended or revoked.

The reexamination interview gives the person the opportunity to discuss his/her medical condition with a DMV representative for purposes of establishing the person's ability to safely operate a motor vehicle. The DMV representative will ask the person questions to determine memory deterioration, awareness, orientation, attention, and judgment. The representative will be observant of the person's coordination and adaptation to the environment, as well.

Further Testing

The DMV representative interviewing the reported individual will determine if the person should be given a driving test. This decision is based on the information provided by the reported person, medical documentation, and the results of the written examination. A driving test is not given if the evidence indicates the reported individual may be unable to safely operate a motor vehicle. If that is apparent, the driving privilege is then suspended or revoked.

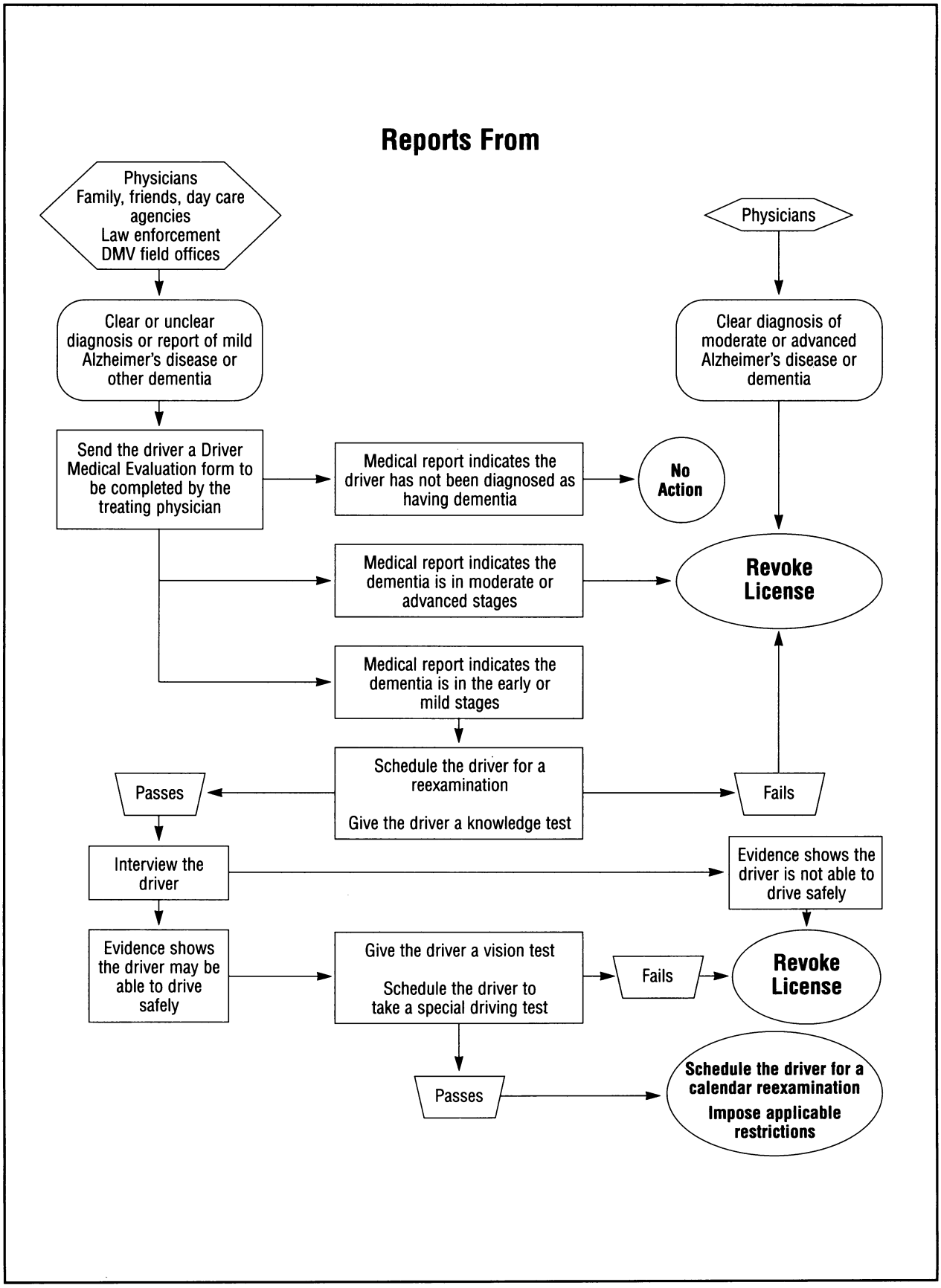
The Driving test

The driving test given to individuals reported with dementia takes 30–45 minutes. The examiner will be looking for the person's ability to concentrate, recall multiple instructions, execute them safely, and possibly find a location that should be familiar to the person (church, doctor, pharmacy, home, store, etc.). The examiner will be watching for signs of mental confusion, perceptual misjudgment, and/or impulsiveness.

DMV Decision

At the conclusion of the driving test, the examiner will document the person's areas of strengths and weaknesses. The interviewer will review the results of the driving test. These results, in combination with the medical documentation, the reported person's testimony, and any testimony of witnesses accompanying the reported person, lead to the licensing decision. If the evidence shows the reported individual is capable of safely operating a motor vehicle, he/she will be allowed to continue to drive. The person will be required to return to DMV again within 3–12 months for another reexamination interview. This allows the department to monitor any deterioration of the reported individual's medical condition as it relates to driving.

DS 699 (NEW 6/93)


Reports From
Physicians
Family, friends, day care agencies
Law enforcement
DMV field offices
Physicians
Clear or unclear diagnosis or report of mild Alzheimer's disease or other dementia
Clear diagnosis of moderate or advanced Alzheimer's disease or dementia
Send the driver a Driver Medical Evaluation form to be completed by the treating physician
Medical report indicates the driver has not been diagnosed as having dementia
No Action
Medical report indicates the dementia is in moderate or advanced stages
Revoke License
Medical report indicates the dementia is in the early or mild stages
Schedule the driver for a reexamination
Give the driver a knowledge test
Passes
Fails
Interview the driver
Evidence shows the driver is not able to drive safely
Evidence shows the driver may be able to drive safely
Give the driver a vision test
Schedule the driver to take a special driving test
Fails
Revoke License
Passes
Schedule the driver for a calendar reexamination
Impose applicable restrictions

as to which physician should receive the DME form. Although the physician who is most familiar with the driver's dementia would be the best one to complete the DME form, the choice of physician to receive the form is the driver's option. The DME form asks physicians to rate specific cognitive and behavioral disturbances and to provide an assessment of the overall degree of impairment. Definitions of mild, moderate, and severe impairment are provided in Table 1. If this medical report indicates moderate or advanced dementia, the license is revoked. On the other hand, if the medical report indicates that the dementia is in early or mild stages, the driver is scheduled for reexamination by the DMV.

This DMV reexamination is conducted sequentially, beginning with a standard knowledge test (written or oral), followed by an interview with a driver-safety hearing officer, a vision test, and a special driving test. Failure on any of the tests, except vision, will automatically lead to revoking the license. During the interview, the hearing officer asks questions that focus on memory, awareness, orientation, attention, and adaptation. Sample questions are provided in the DMV-published *Driver Safety Manual*, and standards for considering the interview to be unsatisfactory have been established. The special driving test differs from the ordinary driving test in that it is longer (average time, 30 to 45 minutes versus 15 to 20 minutes, maximum) and requires a set of specific road instructions, including complicated commands and maneuvers, that might simulate difficult situations (for example, talking to distract the driver). It is longer in duration to determine if fatigue causes driving skills to deteriorate after 20 or 30 minutes on the road, but is not more difficult than a regular driving test. If a demented driver passes all of these tests, he or she is scheduled for a calendar reexamination—that is, the driver is reevaluated with the same battery of tests in 6 to 12 months, the exact timing depending on performance on the current examination and expected progression of the disease as indicated by the physician's report on the DME form.

At each step in the process, the driver is entitled to an appeal within the DMV. The driver can also appeal through the state court system once administrative appeal within the DMV has been exhausted. For drivers who lose their driving privileges, each of the 22 driver-safety offices in California provides lists of local alternative transportation.

Discussion

Despite appearing relatively straightforward, a number of questions arise about the implementation of the DMV's policy. First, what happens if a driver who has been reported obtains a second opinion that contradicts the original diagnosis? In this situation, the driver-safety hearing officer reviews both reports thoroughly. If there was a misdiagnosis that can be clearly explained, such as medication toxicity, a resolving delirium, or a reversible cause of dementia, there may be no need to retest the driver. A previous decision of revocation can be set aside. When the discrepancy cannot be resolved so easily, the hearing officer considers the credentials of the physician (such as medical specialty) and the relationship of the physician with the patient (for instance, how long the physician has been treating the driver). A DMV reexamination (as described earlier) may be necessary to evaluate the person's driving knowledge and skill before a decision can be rendered.

Second, do physicians have to re-report a driver with dementia if the driver's mental state deteriorates? This is being addressed through the regulatory process that is currently taking place in California. Health and Safety Code section 410, however, protects physicians from civil and criminal liability for subsequent re-reporting as well as the initial reporting. As mentioned earlier, the DMV periodically monitors all drivers who have been reported with dementia and who have been evaluated and are allowed to continue driving. If a driver's dementia is deteriorating rapidly and he or she is not scheduled to return to the DMV for several months, the physician may want to re-report the driver.

Although this process may seem arbitrary, it reflects the best clinical judgment of physicians who have considerable experience with the disorder and the experiences of the governmental agency that knows the most about driving. The physicians have identified as precisely as possible subgroups of demented patients who should not be driving under any circumstances, thereby reducing the burden on the DMV, which is charged with evaluating drivers with dementia who have been reported by their physicians. This strategy recognizes, however, that some drivers with early dementia may still be capable of driving and provides them the opportunity to demonstrate their knowledge and skills in a performance-based setting. It also does not ask DMV officers to make medical judgments about the competency of a patient to drive. Rather, their judgments are based solely on the driver's ability to pass the evaluations. The process, therefore, draws on the unique and complementary skills of physicians, who are the most capable of providing medical information, and the DMV, which is the most capable of evaluating driving skills.

Despite care spent in developing these guidelines, this system for evaluating older drivers with dementia is imperfect. Some physicians will be unable to accurately classify their patients' dementias and associated cognitive impairments as mild, moderate, or severe. Although physicians may indicate on the form that standardized instruments were used in making these determinations, most will rely on subjective judgments. Undoubtedly, some incorrect decisions regarding licensure may be made despite the best efforts of both physicians and the DMV. As new performance-based tests of driving skills, including useful field of view,[19] simulated driving devices,[20] and other performance-based measures are developed, the reliability in making these decisions will likely improve. Of course, the system cannot prevent drivers with dementia from driving despite having their licenses revoked.

For physicians, a number of questions arise about the effect of these new guidelines on reporting and physician-patient relationships. Because physicians who report severe or moderate dementia may know that the patient's license will be taken away, is the physician in effect taking the license away? Will the new protocol lead to underreporting or reporting of dementia as "mild" when it is actually "moderate" or "severe" because of fears that the person's license will be automatically revoked? Since the 1988 rules were implemented, physicians have been concerned about the effect of reporting on the physician-patient relationship, and the incidence of reporting has been lower than anticipated, even among those who care for many demented patients. Many physicians think that reporting patients, especially those with mild or moderate dementia, will jeopardize the physician-patient relationship, perhaps permanently. These concerns are of particular interest because the effects of the reporting requirement and subsequent restriction of licenses have not yet been rigorously evaluated. It is also possible that patients who are declining in cognitive capacities may avoid seeking care because of the threat of losing their driver's licenses. If so, the treatment of possibly reversible causes of cognitive decline might be delayed.

Nevertheless, California physicians are obligated to follow current state law. Recognizing this reporting requirement, the DMV has attempted to provide a clear policy for the actions that will be taken subsequent to the DMV's learning that a driver has a diagnosis of dementia. It has used the best available information to identify and revoke the licensure of high-risk drivers with dementia, yet permit continued licensure of mildly demented patients who may still be able to drive safely. In doing so, the DMV has developed guidelines to improve its process in making consistent decisions based on functional impairments and in conforming with the Americans with Disabilities Act to prevent discrimination. Once implemented, the California plan would benefit from being evaluated systematically, including the assessment of crash rates of those who are permitted to retain their licenses and psychosocial effects on those who have lost their licenses because of dementia. For now, however, the strategy outlined herein appears to provide the best compromise in efforts to preserve personal independence while maintaining public safety.

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