



U.S. Department
of Transportation
Federal Highway

Conference on Psychiatric Disorders and Commercial Drivers

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16. Abstract The Office of Motor Carriers (OMC) within the US. Department of Transportation (DOT) sponsored a conference October 1 and 2, 1990, which reviewed the current medical standards for commercial motor vehicle drivers with psychiatric disorders. The more than 20 conference participants represented the following fields: physicians, psychologists, and other scientists experienced in the care of people with mental disorders; the motor carrier industry; and DOT. The current standard (Federal Highway Administration (FHWA) regulations, 49 C.F.R. section 391.41(b)(9)), which was established in the early 1970's, allows an individual to qualify to drive a commercial vehicle if that person does not have a mental, nervous, organic, or functional disease or psychiatric disorder that is likely to interfere with the driver's ability to drive a motor vehicle safely. With the many advances in the diagnosis and treatment of persons with mental disorders that have occurred since the early 1970's, the standard was reexamined by an expert panel assembled by OMC. The expert panel, comprising four task forces, initially attempted to address the risks associated with the various diagnostic categories described in the American Psychiatric Association's Revised Third Edition of the <i>Diagnostic and Statistical Manual of Mental Disorders</i> , or DSM-III-R, as well as the risks associated with the use of psychotropic medications and/or electroconvulsive therapy. The four task forces covered the following topics relating to psychiatric disorders: Task Force I: Organic Mental Disorders, Developmental Disorders, and Other Selected Disorders. Task Force II: Psychotropic Medications and Electroconvulsive Therapy EC Task Force III: Mental Disorders Associated with Psychotic Features and Other Selected Disorders. Task Force IV: Personality Disorders, Anxiety Disorders, and Other Selected Diagnostic Disorders.					
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EXECUTIVE SUMMARY

The Office of Motor Carriers (OMC) within the U.S. Department of Transportation (DOT) sponsored a conference October 1 and 2, 1990, to review the current medical standards for commercial motor vehicle drivers with psychiatric disorders. The more than 20 conference participants represented the following fields: physicians, psychologists, and other scientists experienced in the care of people with mental disorders; the motor carrier industry; and DOT.

The current standard (Federal Highway Administration (FHWA) regulation, 49 C.F.R. section 391.41(b)(9)), which was established in the early 1970's, allows an individual to qualify to drive a commercial vehicle if that person does not have a mental, nervous, organic, or functional disease or psychiatric disorder that is likely to interfere with the driver's ability to drive a motor vehicle safely. With the many advances in the diagnosis and treatment of persons with mental disorders that have occurred since the early 1970's, the standard was reexamined by an expert panel assembled by OMC.

The expert panel, comprising four task forces, initially attempted to address the risks associated with the various diagnostic categories described in the American Psychiatric Association's Revised Third Edition of ***the Diagnostic and Statistical Manual of Mental Disorders***, or DSM-III-R, as well as the risks associated with the use of psychotropic medications and/or electroconvulsive therapy. The four task forces covered the following topics relating to psychiatric disorders:

- Task Force I: Organic Mental Disorders, Developmental Disorders, and Other Selected Disorders.
- Task Force II: Psychotropic Medications and Electroconvulsive Therapy (ECT).
- Task Force III: Mental Disorders Associated with Psychotic Features and Other Selected Disorders.
- Task Force IV: Personality Disorders, Anxiety Disorders, and Other Selected Diagnostic Disorders.

GENERAL RECOMMENDATIONS

In addition to the specific recommendations that address the individual disorders and treatments as covered in the task force reports, the expert panel recommends a number of general measures to implement for determining qualification or nonqualification for commercial driving.

The panel recommends that a mechanism be developed that allows for phone consultation with a psychiatrist to assist the examining physician in making a decision whether or not to make a referral in questionable cases. Once the initial screening questions yield a positive response, the panel recommends that psychiatrists designated and trained by

the FHWA Perform the follow-up evaluations and assessments. FHWA-trained neuropsychologists and neurologists should also be available for consultation with the psychiatrist as part of this process. The panel also recommends that an appeals process be available to the applicant to minimize erroneous decisions and allow for licensure for individuals under special circumstances.

To accomplish these recommendations, the panel strongly supports the concept of a Medical Advisory Group. Such a group should include a psychiatrist, a neurologist, a neuropsychologist, other pertinent medical specialists, commercial drivers and representatives from the industry. Its responsibilities would include developing an appeals process, creating mechanisms for facilitating the education and certifying process for specialists involved in the evaluation, helping to develop rules and regulations regarding the panel recommendations, and developing a central registry for scientific data pertinent to the subject of commercial drivers to assist future panels in making recommendations. The Medical Advisory Group should also have input into the ultimate decision regarding the acceptable degree of risk that should be allowed on the public highway related to drivers with various medical disorders.

Appendix A is a flow chart depicting procedures for evaluating the applicant's psychological qualification for commercial driving and the role of the evaluators in this proposed Medical Evaluation System. Appendix B is a Job Characteristics Performance Form to be completed by the motor carrier to help the examining physician evaluate the physical demands that will be placed on the driver. Appendix C is a list of observations and questions to aid the examining physician in the initial screening process.

In addition, the panel recommends initiating studies with adequate scientific designs to test hypotheses regarding driving ability in persons who suffer from psychiatric disorders.

TASK FORCE I: ORGANIC MENTAL DISORDERS, DEVELOPMENTAL DISORDERS, AND OTHER SELECTED DISORDERS

Screening Guidelines

Task Force I members reviewed disorders of the central nervous system (CNS) that cause behavioral complications that may interfere with the driving task. The task force members developed screening examination guidelines for the general physician to help determine the need for a more extensive evaluation by a neurologist, psychiatrist, or neuropsychologist. The task force members strongly recommend such consideration of a referral when the individual has a recent history of insult to CNS, a medical condition that may cause CNS damage, or a familial history of degenerative neurologic disease. A referral should also be triggered if physical and/or mental status examinations reveal abnormal findings that indicate potential CNS dysfunction. Findings may include mental confusion and/or disorientation, memory or concentration impairment, word finding difficulties, motor praxis, personality changes, and psychomotor slowing.

Recommendations Following Positive Screening

Following a positive screening examination by the initial physician, the task force members recommend a three-stage evaluation process:

1. An evaluation should be made by a qualified FHWA-designated psychiatrist, neurologist, or neuropsychologist to document the presence or absence of a DSM-III-R diagnosis.
2. Neuropsychological or other psychometric evaluation-of the driver should be conducted to assess parameters of behavior thought to be important to the driving task.
3. An acmal road test should be performed to evaluate the person's driving skills.

Steps 2 or 3 may not be necessary if the preceding step provides definitive information that the applicant suffers from an organic mental disorder that would preclude the driving of a commercial vehicle in a safe fashion. If the examination demonstrates evidence of brain dysfunction, but not impairment that would result in the applicant being medically unqualified to receive a license, the person should be reevaluated at least annually.

TASK FORCE II: PSYCHOTROPIC MEDICATIONS AND ELECTROCONVULSIVE THERAPY

This task force used the degree of impairment produced by a 0.04 percent blood alcohol concentration (BAC) as a bench mark. This standard was chosen based on the OMC exclusionary rule related to alcohol usage that is already in place. Users of medications that produce an equal or more severe impairment than a 0.04 percent BAC are recommended either for exclusion or, as a minimum, for evaluation by an FHWA-designated psychiatrist.

Anxiolytic and Sedative Hypnotic Drugs

Treatment Use and Risks

Anxiolytic drugs are those used for the treatment of anxiety disorders, and drugs to treat insomnia are termed sedative hypnotics. Studies have demonstrated that benzodiazepines, the most commonly used anxiolytics and sedative hypnotics, in pharmacologically active dosages impair skills performance. The effects of benzodiazepines on skills performance generally apply also to virtually all non-benzodiazepines sedative hypnotics, although the impairment that they produce is generally less profound. However, barbiturates and other sedative hypnotics related to barbiturates cause greater impairment in performance than benzodiazepines. Epidemiological studies indicate that the use of benzodiazepines and other sedative hypnotics is probably associated with an increased risk of automobile accidents.

Recommendations

Based on scientific study of anxiolytics and sedative hypnotics, the task force members make the following recommendations:

- Patients requiring anxiolytic medications should be precluded from commercial driving. This recommendation would not apply to patients treated effectively with non-sedative anxiolytics such as buspirone.
- * Individuals requiring hypnotics should use only drugs with half-lives of less than 5 hours for less than 2 weeks under medical supervision and at only the lowest effective dose.
- * The urine drug screen performed as part of the biennial physical examination should include a screen for benzodiazepines and barbiturates.

Antidepressant Medications

Treatment Use and Risks

Overwhelming evidence indicates that some antidepressant drugs, such as amitriptyline, significantly impair skills performance. These medications vary widely in the degree to which they produce impairment. Moreover, tolerance to the sedative effects of many antidepressants develops that mitigates the impairment with chronic use. Nevertheless, the use of antidepressants requires consideration in the evaluation of an individual's qualification for commercial driving. The evaluation must consider both the specific medicine used and the pertinent characteristics of the patient. Fortunately, a second generation of antidepressant drugs, such as fluoxetine and bupropion, typically produces less impairment than the more sedative tricyclics.

Conclusions from the existing literature are constrained by limitations in the various studies. However, research clearly shows that (1) some antidepressants do produce impairment; (2) this impairment can be mitigated over time during chronic use, although it is seldom completely removed; and (3) some available drugs produce no skills impairment, although this conclusion is constrained by lack of breadth of the behavioral testing.

Recommendations

The task force members recommend that the urine drug screen, obtained during the biennial medical examination for licensure renewal, test for the presence of tricyclic antidepressants. If the history reveals that these medications are currently being taken and/or they are detected by the urine screen, the applicant should be referred to an FHWA-designated psychiatrist for further evaluation of the specific antidepressant, its dose and plasma concentration, the duration of its use, and the severity of the mental disorder. Only under exceptional circumstances would continuous use of amitriptyline be acceptable for a commercial driver.

Other Psychotropic Medications and Electroconvulsive Therapy (ECT)

Treatment Use and Risks for Driving

CNS stimulants improve performance on simple tasks but not on tasks requiring complex intellectual functions. In therapeutic doses, all of the stimulants have been found to impair driving by a variety of different mechanisms.

Impaired driving can be caused by a variety of neuroleptic side effects that include motor dysfunction, sedation, anticholinergic side effects, and impairments of cognitive functions. However, studies on the effects of antipsychotic drugs on psychomotor functions have numerous methodological problems relevant to the process of driving. Similar problems limit the interpretation of studies on stimulants, anticonvulsants, and ECT and make it difficult to predict an individual driver's risk of motor vehicle accidents, based on scientific data.

In general, an asymptomatic patient using lithium, who has a plasma lithium concentration within the established therapeutic range and is regularly medically monitored, appears to exhibit little evidence of impairment of skills performance.

The anticonvulsant medications carbamazepine, valproic acid, and clonazepam are currently being used as antimanic and mood-stabilizing drugs. Benzodiazepines may also be used as an adjunct in the treatment of depression, post-traumatic stress disorder, and other conditions, and clonazepam has antipanic properties.

Clonazepam is a sedative benzodiazepine, covered by the previous discussion of anxiolytic and sedative hypnotic drugs. Carbamazepine by itself in therapeutic doses usually does not impair ability to drive commercial vehicles except for sedation, which is a common acute side effect that generally decreases with prolonged use. However, the incidence of psychomotor impairment increases substantially when carbamazepine is combined with other drugs. Data about psychomotor effects of valproic acid are more contradictory. Valproic acid inhibits the metabolism of carbamazepine, raising its concentration level in the blood and increasing the risk of neurotoxicity.

Recommendations

Given strong evidence of impaired psychomotor performance associated with the use of all antipsychotic drugs, the task force members recommend that individuals taking any of these drugs be considered medically qualified for commercial driving only after the effects of the illness and the neuroleptic are reviewed by an FHWA-designated psychiatrist. To increase recognition of individuals taking these drugs, antipsychotic drugs should be added to the **current** urine screens.

Lithium, in a stable chronic dose and plasma level, should be permissible for commercial drivers who are regularly medically monitored and asymptomatic.

Considering the risk of impairment by regular use of CNS stimulants, a person using such drugs would be considered not medically qualified for a commercial driver's license. Exceptions might be granted after review by an FHWA-designated psychiatrist for a person taking stimulants for legitimate medical reasons (for example, attention deficit hyperactive disorder (ADHD), narcolepsy, or prevention of relapse of depression) who has demonstrated no impairment and no tendency to escalate the dose.

Carbamazepine, in a stable chronic dose and plasma level, should be permissible for commercial drivers if lack of sedation or neurotoxicity can be documented.

Until valproic acid has been studied in sufficient depth, the use of valproic acid should require an examination by an FHWA-designated psychiatrist to address the presence or absence of neurotoxicity, sedation, and issues related to the severity of the underlying mental disorder being treated.

ECT produces an acute organic mental syndrome characterized by confusion, disorientation, and loss of short-term memory. Given clinical evidence that acute side effects usually resolve rapidly and almost invariably within a few months, commercial driving generally should be permitted after 6 months following a course of ECT. Return to driving between 3 and 6 months should require an evaluation by an FHWA-designated psychiatrist. During maintenance ECT, commercial truck drivers should be considered not medically qualified to drive.

TASK FORCE III: MENTAL DISORDERS ASSOCIATED WITH PSYCHOTIC FEATURES AND OTHER SELECTED DISORDERS

Disorders Associated with Psychotic Features

Mental disorders associated with psychotic features represent a heterogeneous set of conditions that produce a variable degree of impairment and chronicity. Because of this variability, no single set of recommendations can be made for these disorders. Furthermore, some of these disorders can be relatively difficult to diagnose in their early stages. The Task Force III report briefly provides descriptions of the following mental disorders associated with psychotic features:

- Schizophrenia.
- Schizophreniform disorder.
- Brief reactive psychosis.
- Schizoaffective disorder.
- Delusional disorders,
- Psychotic disorder NOS.

Risk for Commercial Driving

Although no studies specifically address commercial driving and psychotic disorders, clinical experience certainly has demonstrated that a person who is actively psychotic may behave unpredictably in a variety of ways and display poor judgment, which could significantly impair driving ability.

Recommendations

Persons with active psychosis who are experiencing significant symptoms related to such an illness (for example, impairment in judgment and/or attention or suicidal behaviors) should not be medically qualified to drive commercially. Persons with a history of a psychotic disorder should be referred to an FHWA-designated psychiatrist for further evaluation. The evaluation should focus on specific areas that are described in the Task Force III report. Persons with a psychotic disorder should be symptom free for at least 1 year before reevaluation by an FHWA-designated psychiatrist. A person who has suffered from a brief reactive psychosis may be reevaluated sooner if his or her clinical condition has significantly improved. All persons with a history of psychotic disorders who are currently medically qualified should be required to report any psychotic symptoms within 30 days of onset. Reevaluation by an FHWA-designated psychiatrist is recommended every 2 years.

Mood Disorders

While mood changes are common in everyday experience, a mood disorder is diagnosed when a mood disturbance is pervasive and causes impairment in social or occupational functioning. Such disorders include a variety of conditions that may lead to severe impairment. The Task Force III Report provides a summary description of bipolar disorders and the depressive disorders.

Risk for Commercial Driving

No studies specifically address commercial driving and mood disorders. However, clinical experience suggests that driving during a manic episode carries a high risk of danger brought on by symptoms such as grandiosity, impulsiveness, irritability, and aggressiveness. Similarly, potential risks of driving during a severe depressive episode relate to slowed reaction time and impaired judgment. Concurrent use of alcohol and drugs, which commonly occurs during manic or depressive episodes, may also negatively affect driving ability.

Recommendations

Persons with a history of mania or significant depressive symptomatology should be referred by the initial examining physician to an FHWA-designated psychiatrist for further evaluation. The Task Force III report details the areas that should be assessed during this evaluation. Persons who suffer from mania or a severe major depression, or who are suicidal at the time of the evaluation, should not be medically qualified to drive commercially. Persons who have experienced a severe depressive episode, a suicide attempt, or manic episode should be symptom free for 1 year before reevaluation by an FHWA-designated

psychiatrist. However, persons who have experienced a nonpsychotic major depressive disorder, unaccompanied by suicidal behavior, who are currently symptom free, should be reexamined within 6 months. All persons with a major mood disorder who are currently considered medically qualified should be required to report any manic or severe major depressive episode within 30 days of its onset. Reevaluation by an FHWA-designated psychiatrist should be considered every 2 years depending on the person's clinical history.

Other Selected Psychiatric Disorders

Eating disorders, which include anorexia nervosa, bulimia nervosa, pica, and rumination disorder of infancy are briefly described in the Task Force III report. Task Force III members also reviewed gender identity disorders, elimination disorders, speech disorders not elsewhere classified, and other disorders of infancy, childhood, or adolescence.

Risks for Commercial Driving

Complications of eating disorders may be severe and can potentially prevent a person's ability to drive safely. No studies specifically address commercial driving and eating disorders. However, clinical experience suggests that driving may be impaired in persons with eating disorders who are severely underweight or who have severe metabolic/electrolyte disturbances. The other disorders covered in this section of the report pose no known risk to driving ability.

Recommendations

Persons with a history of anorexia nervosa or bulimia nervosa should be referred for evaluation by an FHWA-designated psychiatrist. Persons with a current eating disorder should not be medically qualified when significant malnutrition or fluid/electrolyte disturbance exists. Persons who have had significant malnutrition or fluid/electrolyte disturbance secondary to an eating disorder should be symptom free for a period of 1 year before reevaluation by an FHWA-designated psychiatrist. All persons with an eating disorder who have been medically qualified to drive commercially should report any recurrence of symptoms within 30 days of onset. Reevaluation for medical qualification by an FHWA-designated psychiatrist should be considered every 2 years depending on the person's clinical history.

The remaining psychiatric disorders covered in this section of the report would not require a referral for further psychiatric evaluation although possible coexisting psychiatric conditions covered in other sections of this report may require referral.

TASK FORCE IV: PERSONALITY DISORDERS, ANXIETY DISORDERS, AND OTHER SELECTED DIAGNOSTIC DISORDERS

Personality Disorders

Description

Personality traits are enduring patterns of perceiving, relating to, and thinking about the environment and oneself and are exhibited in a wide range of important social and personal contexts. Only when personality traits are inflexible and maladaptive and cause either significant functional impairment or subjective distress do they constitute personality disorders.

The Task Force IV report identified various personality disorders that may have characteristic symptoms that could increase the risk of commercial driving from a safety viewpoint. Such disorders included the following:

- Paranoid personality disorder.
- Schizoid personality disorder.
- Schizotypal personality disorder.
- Antisocial personality disorder.
- Borderline personality disorder.
- Histrionic personality disorder.
- Personality disorders not otherwise specified

Personality Disorders and Driving Performance

Current scientific data do not demonstrate a correlation between any of these personality disorders and driving performance. However, empirical clinical information suggests an increased accident rate is associated with drivers who experience symptoms of personality disorders. The Task Force IV report describes potential driving risks with each disorder to provide a screening mechanism for the initial evaluating non-psychiatrist physician.

Personality disorders including narcissistic personality disorder, avoidant personality disorder, dependent personality disorder, obsessive-compulsive personality disorder, and passive-aggressive personality disorder generally do not require further assessment in the absence of other significant psychiatric disorders.

Recommendations

A positive screen by the initial examining physician should trigger a referral to an FHWA-designated psychiatrist for further assessment of risks. In general, this evaluation should include the following components: collateral source interviews with others who are very close to the individual; psychological testing by a clinical psychologist to further assess reality testing, hostility, impulse control, and other relevant factors as described in the Task Force N report; and review of past criminal and driving records. Other specific recommended assessment tools are described in the Task Force N report.

Some of the recommendations in the Task Force N report are somewhat controversial for a number of reasons. In particular, no data base exists that adequately describes commercial vehicle operators in terms of psychological test results, legal histories, school histories, etc., which are being suggested as part of the risk assessment. Therefore, an assessment that includes such factors possibly will not accurately predict issues related to driver safety. A variety of reasons may make it impractical to obtain the recommended collateral information. This difficulty provides additional evidence of the need for a Medical Advisory Group. The Task Force N members recommend that, based on this risk assessment, however imperfect it may be, a recommendation should be made as to whether or not the individual satisfies the safety element for a competent commercial driver.

These recommendations are similar, in part, to the Federal Aviation Administration regulations that render persons medically unqualified for aviation licensure if they experience a personality disorder that is severe enough to have repeatedly manifested itself by overt acts. The Task Force N members do not expect that the initial examining physician will identify all applicants who have symptoms of the previously identified personality disorders for further psychiatric assessment. The screening question guidelines in appendix C, along with the examining physician's clinical judgment, will determine which persons will be referred for further psychiatric assessment.

Impulse Disorders Not Elsewhere Classified

Intermittent explosive disorder, kleptomania, pathological gambling, pyromania, and trichotillomania are other disorders that require further psychiatric assessment due to an empirically based perception of increased driving risks.

Other Disorders

Persons with a history in adolescence or childhood or past symptoms of conduct disorder, oppositional defiant disorder, ADHD, separation anxiety disorder, avoidant disorder, and overanxious disorder should also receive psychiatric evaluations due to the potential increased risk involved with commercial driving. The examining physician is not expected to make a definitive diagnosis of these disorders. However, the screening questions, a history of past treatment, and the physician's clinical judgment should determine who is referred for further psychiatric assessment. In complex cases, the general psychiatrist may consult with a child psychiatrist (e.g., regarding an adult with persistent ADHD symptoms). The Task Force IV Report further describes functional assessments regarding persons with these disorders.

Selected Diagnostic Disorders

The Task Force IV report provides guidelines for further psychiatric evaluation of persons experiencing generalized anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder, panic disorder with agoraphobia, driving phobias, agoraphobia without a history of panic disorder, and anxiety disorder not otherwise specified. Further evaluation includes a clinical assessment by an FHWA-designated psychiatrist that should include interviews with collateral sources, review of pertinent driving records, and possibly an actual road test to evaluate the person's driving skills.

The Task Force IV report recommends that persons suffering from a conversion disorder, somatoform pain disorder, dissociative disorder, psychogenic fugue, depersonalization disorder, and adjustment disorders with functional impairment be reviewed by an FHWA-designated psychiatrist. The assessment resembles the one described for pertinent anxiety disorders.

Substance Abuse

Due to the complexity of this issue, a separate expert panel will meet in the future to address substance abuse and commercial drivers. The Task Force IV Report provides a summary of issues that need to be addressed by this future expert panel. Task Force IV members emphasized the effect of the interaction of alcohol and other drug dependencies and abuse with personality disorders by stating that each is a profound risk factor in the presence of the other.

INTRODUCTION

The Office of Motor Carriers (OMC) is the arm of the Federal Highway Administration (FHWA), Department of Transportation (DOT), that issues and enforces safety standards affecting commercial motor vehicles and their drivers engaged in interstate commerce. One aspect of OMC's regulatory activities is the medical certification of commercial motor vehicle drivers. A driver in interstate commerce operates a vehicle that weighs over 10,000 lb and carries various types of cargo, from passengers to hazardous materials. The driver's working conditions often involve extended work periods and long distances under tight delivery schedules and other adverse physiological, psychological, and environmental conditions. Therefore, the driver's health has a significant effect on the ability to operate a commercial vehicle safely and effectively, to remain alert to roadway conditions, and to react quickly.

The main goal of highway regulatory medicine is the reduction of death, injury, and property loss on public highways. To meet this goal, the medical standards must be applied uniformly. However, under the present system, drivers may be examined in various settings: by their family physicians, in an industrial clinic, or by a physician appointed by the motor carrier. Furthermore, drivers often "shop around" for a physician who will certify them because their livelihood depends on their medical certification. Given the economic consequences to the driver who is denied certification, the diagnosis must be accurate and the medical standards must be fair.

The current standard (FHWA regulation, 49 C.F.R. section 391.41(b)(9)), which was established in the early 1970's, allows an individual to qualify to drive a commercial vehicle if that person does not have a mental, nervous, organic, or functional disease or psychiatric disorder that is likely to interfere with the driver's ability to drive a motor vehicle safely. Because of many advances in the diagnosis and treatment of persons with mental disorders that have occurred since the early 1970's OMC assembled an expert panel to review the standard and develop qualifying criteria for licensure to drive a commercial vehicle.

The results of this task are indicated in this report, which presents the expert panel's recommendations and includes assistance to examining physicians in evaluating psychiatric disorders during the certification process.

The expert panel, comprising four task forces, initially attempted to address the risks associated with the various diagnostic categories described in the American Psychiatric Association's Revised Third Edition of *the Diagnostic and Statistical Manual of Mental Disorders* (DSM-III-R) as well as the risks associated with the use of psychotropic medications and/or electroconvulsive therapy (ECT). As described in DSM-III-R, a mental disorder is conceptualized as a clinically significant behavioral or psychological syndrome or pattern that is associated with a patient's present distress (a painful symptom) or disability (impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom

In preparing the criteria, the panel considered three categories of risks::

- The risk of the mental disorder itself, which includes symptoms and/or disturbances in performance that are an integral part of the disorder and may pose real and potential hazards for driving.
- The risk of recurrence and/or residual symptoms-Many mental disorders initially emerge as time-limited reversible episodes but carry a significant risk for recurrence. In other cases, residual symptoms occur after remission of the florid symptoms or the full syndrome. Either recurrences or residual symptoms can cause significant impairments related to driving.
- The risk associated with psychopharmacology-Many psychotropic medications could impair performance to the degree that driving would be hazardous.

BASIS FOR RECOMMENDATIONS

To develop qualifying criteria for licensure to drive a commercial vehicle, the panel looked to the scientific literature. Current scientific literature generally does not support recommendations for automatic exclusion, based solely on the diagnosis, from obtaining a commercial driver's license in the vast majority of persons with DSM-III-R diagnoses. This lack of support for automatic exclusion occurs because behavior can be so varied, diagnosis can be very broad, and many studies have design problems. The panel did not find it clinically appropriate or valid to make such exclusionary recommendations based on a consensus approach. The actual ability of many applicants to drive safely and effectively should not be determined solely by diagnosis but instead by an evaluation focused on function and relevant history.

The lack of a standard for an acceptable degree of risk on the public highway further complicates formulation of clear-cut exclusion. Determining acceptable risk is a matter of public policy, not a medical determination. The panel recommends that medical opinions that attempt to address this eventual standard be given only if they are provided within a reasonable degree of medical certainty (more likely than not). Further, such an opinion should be based on valid scientific studies, when available. When not available, the basis for the opinion rendered by the health care professional should be clearly stated in the professional's report.

Psychiatrists and other mental health professionals have an important role in assessing whether an individual has a mental disorder that is likely to interfere with his or her ability to drive a motor vehicle safely. Such an assessment involves the development of criteria for performance relevant to the driving task, which may be affected by mental disorders. Mental health professionals have expertise that will help in assessing whether symptoms of various mental disorders negatively affect an individual's driving performance.

GENERAL RECOMMENDATIONS

In reviewing the relevant literature comparing the driving ability of mentally ill persons with the general public, the panel found that it provided limited and inconclusive empirical findings. Most of the literature focuses on psychiatric aspects of automobile accidents instead of commercial vehicle accidents.

A summary of the relevant literature in this area shows general agreement that psychiatric patients with personality disorders and paranoid conditions are at higher risk for involvement in a traffic accident. No consensus exists for such an association with other mental disorders, including those with psychotic features. Alcohol is well established as a risk factor and probable cause of many traffic accidents. The role of other drug usage in contributing to the frequency of traffic accidents is still being studied. Study results do provide strong evidence that traffic accidents are related to psychological issues, but researchers have not adequately investigated this relationship among psychiatric patients as compared to the general population. Studies with adequate scientific designs to test hypotheses regarding driving ability in persons who suffer from psychiatric disorders are needed.

The literature review focused only on psychiatric aspects related to traffic accidents. Many other risk factors for traffic accidents are independent of a person's psychiatric status. For example, a 1989 motor carrier safety survey revealed that inexperienced drivers (persons with less than 5 years driving experience) were three times more likely than experienced drivers to have accidents. Only 1 experienced driver in 14 had a DOT-reportable accident during the past year, as compared to 1 in 4 inexperienced drivers."

The panel expanded some basic principles summarized by the conference on neurological disorders and commercial drivers to help conceptualize a performance (or functional) assessment for current or potential commercial drivers. Specific areas of impairment that are associated with mental disorders and may affect driving ability include the following areas:

- Information processing ability, which includes attention, concentration, and memory components.
- Sustained attention, i.e., vigilance.
- Visual-spatial functioning, including motor response latency.
- Impulse control, including degree of risk taking.
- Judgment, including the ability to predict/anticipate.
- Problem solving or the ability to respond to simultaneous stimuli in a changing environment (for example, when potentially dangerous situations could exist).

Safe and effective operation of a commercial vehicle requires not only high levels of physical strength, skills, and coordination but, equally important, the abilities to maintain an adequate attention span and to react promptly. As noted earlier, the driver must maintain high levels of performance over long periods under adverse physiological, psychological, and environmental conditions.* For **this** reason, **the panel emphasizes that the guidelines developed by the conference on psychiatric disorders and commercial drivers are applicable for persons seeking commercial vehicle driver's licenses and are not applicable for other types of motor vehicle licensure.** For example, individuals assessed to be not qualified for obtaining commercial driver's licenses may well be appropriate candidates for obtaining a license for noncommercial vehicles. Furthermore, the physical demands placed on commercial drivers vary considerably, depending on the type of vehicle and the driver's specific duties. Therefore, the panel recommends that the motor carrier complete the Job Performance Characteristics Form found in appendix B to assist the examining physician in determining the applicant's medical qualification for commercial driving.

Three task forces identified specific DSM-III-R diagnoses that may result in symptoms that would significantly affect a person's driving ability. A fourth task force addressed pertinent issues related to the use of psychotropic medications and ECT. The overriding concern in developing the various recommendations was safety for both the general public and the driver. Task force members also considered the fairness of the process due to the social and economic consequences for the driver who is found to be medically unqualified for licensure to drive a commercial motor vehicle. An appeals process should be available to the applicant to minimize erroneous decisions and allow for licensure for individuals under special circumstances.

The panel was in strong agreement with other medical panels that have endorsed the concept of a Medical Advisory Group.⁽⁸⁹⁾ This Medical Advisory Group, which should include a psychiatrist, neurologist, neuropsychologist, other pertinent medical specialists, commercial drivers, and representatives from the industry, would have the charge of developing an appeals process, creating mechanisms for facilitating the education and certifying process for the health care professionals involved in the specialist evaluation, helping to develop rules and regulations regarding the task force recommendations, and developing a central registry for scientific data pertinent to the subject of commercial drivers to assist future panels in making recommendations. The Medical Advisory Group would also have input into the ultimate decision regarding the acceptable degree of risk that should be allowed on the public highway as related to drivers with various medical disorders.

A system similar to this one is in place in Canada in the form of the Medical Advisory Committee of the Canadian Council of Motor Transport Administrators. This committee has been quite successful in attempts to coordinate the medical guidelines for the 10 Canadian provinces. The next step would be to coordinate the Canadian guidelines with those in the United States.

GUIDELINES FOR EXAMINING PHYSICIANS

Recognizing the complexity of the task facing the non-psychiatrist physician in evaluating applicants who may have psychiatric disease, the panel developed a set of screening questions and observations for the initial evaluation (appendix C). The panel recommends that these screening questions be incorporated into every examination by the physician who performs the initial examination for certifying purposes and for subsequent recertifying examinations. Many physicians may also choose to use a variety of patient questionnaires (for example, Michigan Alcoholism Screening Test (MAST)) as a screening instrument in such evaluations. The panel also recommends expansion of the current mine screen to include screening for the presence of tricyclic antidepressants, antipsychotic medication, benzodiazepines, and barbiturates.

The Executive Summary and specific task force reports give more detailed information concerning parameters for a "positive screen." A range of degree of certainty exists regarding such positive screens. For example, the use of specific types of psychotropic medications, identified by either history and/or urine screen, will trigger a referral to a psychiatrist for further evaluation as described in the task force reports. However, the examining physician must use clinical judgment in determining the threshold at which a person with some positive findings to the recommended screening questions from appendix C should be referred to a psychiatrist. A mechanism should be developed that allows for phone consultation with a psychiatrist to assist the examining physician in making a decision whether or not to make a referral in these questionable cases. A number of very good texts regarding common psychiatric disorders are designed for primary care physicians (e.g., Dubovsky, S.L., and M.P. Weissberg, *Clinical Psychiatry and Primary Care*, 3rd Edition, The Williams & Wilkins Company, Baltimore, 1986, 294 pp.).

The panel strongly recommends that the evaluations generated by positive response(s) to the initial screening questions be performed by psychiatrists designated and trained by the FHWA for such assessments. FHWA-trained neuropsychologists and neurologists should also be available for consultation for the psychiatrist as part of this process.

TASK FORCE I REPORT-ORGANIC DISORDERS

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Task Force I considered central nervous system (CNS) disorders and the resulting behavioral complications that may interfere with the driving task: The specific diagnostic categories included mental retardation, pervasive developmental disorders, specific developmental disorders, dementias arising in the senium and presenium, psychoactive substance-induced organic mental disorders, and organic disorders that are associated with Axis III physical disorders or conditions whose etiology is unknown. Also, tic disorders and sleep disorders were appended to these categories.

Although the etiologies of these categories differ, their resulting behavior patterns have great commonality. Therefore, the task force members agreed that developing criteria for behavioral performance was more important than looking at specific diagnoses and making judgments based on them. The critical factor in driving capability is how CNS damage affects the individual's performance.

Additional experts were consulted for recommendations on tic disorders and sleep disorders. These experts had little concern that tic disorders would cause decrements in driving performance. They also confirmed the conclusions of the neurology expert panel report on sleep disorders; i.e., individuals with untreated sleep disorders are not medically qualified for interstate driving. Individuals who have had successful treatment and have remained free of symptoms for 3 months may be permitted to drive providing they are under constant medical supervision. Furthermore, some experts maintained that patients with narcolepsy should be allowed to have their driving performance assessed rather than being categorically denied a commercial driver's license. Thus, they reiterated that these conditions have a variable effect on performance.

The key question in evaluating driving capability is when, in the course of the evaluation, should the general physician ask for more extensive evaluation by a neurologist, psychiatrist, or neuropsychologist. Historical, clinical, and performance clues should help answer this question. Certainly the physician should consider a more extensive evaluation if the patient has had a recent insult to CNS (e.g., head trauma, loss of consciousness, etc.); if he/she has a medical condition that may cause CNS damage (e.g., hypertension or diabetes); or if the familial history shows degenerative neurologic diseases (e.g., Wilson's or Huntington's disease, etc.). Advanced age alone should not be a criterion unless the patient shows signs of behavioral changes that indicate CNS damage.

During the physical and mental status exam, the physician should be suspicious of damage to the CNS if any of the following conditions are noted:

Disorientation to the time, the place, or a person.

- Recent and/or remote memory problems manifested by difficulty in recalling events of the past day or week or by repetition of the same question (not just for reassurance).
- Word-finding difficulties such as the inability to name familiar objects.
- Motor praxis, e.g., inability to reproduce movements or perform rapidly alternating movements.
- Psychomotor slowing.
- Inability to sustain attention.

These difficulties can occur gradually, over time, or abruptly. To test for them more specifically, the following parameters can be evaluated

- Short term memory loss-frequent and/or severe forgetfulness or inability to recall events of past day or week.
- Long-term memory loss-problems. remembering important personal facts, such as names of family members and dates of hallmark events.
- Disorientation-confusion about or misidentification of the current surroundings (city, street, day, or time).
- General confusion.
- Language problems--deterioration in language skills, such as the inability to identify or recall words once known or disturbed language production or reception.
- Personality change-alterations in temperament, such as a calm, easy-going person becoming aggressive or hostile.
- Repetitious behavior in social interactions-asking the same questions, telling the same story over and over again, or requiring repeated directions and information while appearing unaware of and/or making excuses for behavior.
- Excessive daytime sleepiness-an important clue to a sleep disorder.

Existing literature, which focuses mostly on patients with Alzheimer's disease, indicates an increased likelihood of accidents in these patients.⁽¹⁰⁾ Furthermore, 30 percent of patients with other types of dementia also have increased accidents.¹¹ However, none of the studies correlate behavioral and neuropsychological parameters with actual performance of the driving task. Only a very limited number of studies consider performance of commercial driving, a task likely to be more difficult and stressful than automobile driving due to factors uniquely