

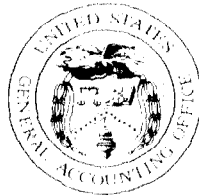
GAO

United States General Accounting Office  
Fact Sheet for Congressional  
Requesters

January 1990

# AVIATION SAFETY

## FAA Is Considering Changes to Aviation Medical Standards



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United States  
General Accounting Office  
Washington, D.C. 20548

Resources, Community, and  
Economic Development Division

B-237646

January 9, 1990

The Honorable James L. Oberstar  
Chairman, Subcommittee on Aviation  
Committee on Public Works and Transportation  
House of Representatives

The Honorable Norman Y. Mineta  
Chairman, Subcommittee on Surface Transportation  
Committee on Public Works and Transportation  
House of Representatives

The safety of millions of aircraft passengers depends, in part, on the skills and medical fitness of an aircraft's crew. This fact sheet responds to former Chairman Mineta's October 11, 1988, letter requesting information and Chairman Oberstar's interest concerning the nature and status of the revisions the Federal Aviation Administration (FAA) is considering for aviation medical standards. As agreed with your offices, we did not assess the medical appropriateness of the changes under consideration.

Under the Federal Aviation Act of 1958 (49 U.S.C. 1422), FAA is responsible for promoting flight safety by prescribing minimum safety standards for pilots, flight navigators, and flight engineers. These individuals must possess a medical certificate, issued after passing a required medical evaluation by an FAA-approved physician known as an aviation medical examiner. FAA issues three classes of medical certificates. All airline transport pilots are required to have a first-class medical certificate. Other commercial pilots, flight engineers, and flight navigators must possess a second-class certificate; private pilots a third-class certificate. A first-class certificate is valid for 6 months, second-class for 12 months, and third-class for 24 months.

NATURE OF THE CHANGES  
UNDER CONSIDERATION

Although minor revisions have been made to the medical standards since they were promulgated, they had not undergone a comprehensive regulatory review since 1959. In

1982, FAA announced a major rulemaking effort to revise the medical standards. As part of the review process, FAA contracted with the American Medical Association (AMA) in 1983 to study the standards and recommend any needed changes. In March 1986, the AMA provided FAA with its report, which included numerous recommendations for changes in the standards. Changes under consideration by the Office of Aviation Medicine are based primarily on the results of the AMA report and are designed to bring regulatory medical standards up to date with advances in medical knowledge and technology. Since these changes are of a proposed nature, some of them may be altered or dropped before the rulemaking is finalized.

The current medical standards for all classes cover five categories: visual; ear, nose, throat, and equilibrium; mental and neurological; cardiovascular; and a fifth general category. FAA is considering major revisions in some categories and minor revisions in others. Some of the revisions FAA is considering are listed below.

#### Visual

Among the visual acuity revisions being considered are the following:

- eliminating all uncorrected distance vision standards, and
- establishing one near vision acuity standard for all classes of certification.

#### Ear, Nose, Throat, and Equilibrium

Among the revisions in the ear, nose, throat, and equilibrium category, FAA is considering the following:

- requiring all airmen to pass a conversational voice hearing test, and
- requiring all airmen to be free of any disease or condition that might interfere with speech communication or equilibrium.

#### Mental and Neurological

In the category of mental and neurological standards, among the revisions FAA is considering are the following:

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- updating the definitions of disqualifying mental conditions, and
- adding substance abuse, substance dependence, and related substance use disorders to the list of disqualifying conditions.

#### Cardiovascular

Among others, FAA is considering the following revisions to the cardiovascular standards:

- expanding current testing requirements, such as electrocardiograms (EKG), to identify individuals who need to undergo a cardiovascular evaluation to determine if significant disease is present and adding new testing requirements, such as blood testing,
- establishing sitting blood pressure standards for all airmen, and
- expanding the list of disqualifying cardiovascular conditions.

#### General Medical Conditions

The following change, among others, is under consideration in the category of general medical conditions:

- establishing respiratory system standards.

#### STATUS OF PROPOSED CHANGES

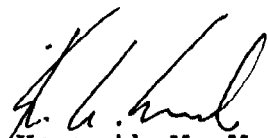
FAA has been considering changes to the medical standards since 1986 when it received the AMA's report. Although FAA's Office of Aviation Medicine anticipates FAA Administrator approval of its proposed changes to the medical standards by March 1990, a Notice of Proposed Rulemaking will not be published in the Federal Register until June 1990, at the earliest. In addition, since this is a major rulemaking effort, FAA plans a 120-day comment period and estimates that the final rule will not be issued until 1991. It is important to note, therefore, that the changes currently under consideration may undergo additional revisions before they are finalized. Section 1 of this fact sheet provides additional information on changes currently under consideration. Section 2 of this fact sheet is a chronology of events in the development of the changes.

METHODOLOGY

To determine the nature of the changes to medical standards FAA is considering, we reviewed the current medical standards of FAA and the International Civil Aviation Organization as well as documents pertaining to the changes FAA is considering. To determine the status of FAA's actions to update the medical standards, we interviewed Office of Aviation Medicine officials at FAA's headquarters in Washington, D.C., and at the Civil Aeromedical Institute in Oklahoma City.

We conducted our review between March and November 1989. We discussed the contents of this fact sheet with cognizant FAA officials who generally agreed with the information presented. As requested, however, we did not obtain official agency comments on this fact sheet.

Unless you publicly announce its contents earlier, we plan no further distribution of this fact sheet until 15 days from the date of this letter. At that time, we will make copies available to the Secretary of Transportation; the Administrator, FAA; and other interested parties. If you have any questions about this fact sheet, please contact me on (202) 275-1000. Major contributors to this fact sheet are listed in appendix I.



Kenneth M. Mead  
Director, Transportation Issues

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### ABBREVIATIONS

AMA	American Medical Association
APA	American Psychiatric Association
CFR	Code of Federal Regulations
EKG	electrocardiogram
FAA	Federal Aviation Administration

## SECTION 1

### CHANGES UNDER CONSIDERATION

This section summarizes some of the changes to the medical standards FAA is considering. However, these changes may undergo modifications before they are finalized. The changes under consideration will affect both commercial and private airmen. According to FAA, revisions are needed to bring regulatory medical standards and procedures for airman medical certification up to date with advances in medical knowledge and technology.

Although minor revisions have been made to the medical standards since they were promulgated, they had not undergone a comprehensive regulatory review since 1959. In 1982, FAA announced a major rulemaking effort to revise the medical standards. This effort involved obtaining the views of the medical profession and all interested parties. As part of the review process, FAA contracted with the AMA in 1983 to study the standards and recommend any needed changes. In March 1986, the AMA provided FAA with its report, which included numerous recommendations for changes in the standards. Changes under consideration by the Office of Aviation Medicine are based primarily on the results of the AMA report. However, in drafting its proposed changes, the Office considered other non-medical factors such as cost and inconvenience to the airman and the potential impact of the proposed changes on safety.

The current medical standards for all classes cover five categories: visual; ear, nose, throat, and equilibrium; mental and neurological; cardiovascular; and a fifth general category. FAA is considering major changes in some categories and minor revisions in others.

#### VISUAL

In the category of visual acuity, FAA is considering eliminating all uncorrected distance vision standards. According to FAA, it has found through experience that safety is not adversely affected by permitting medical certification at any level of uncorrected visual acuity.

Currently, the near vision acuity standards for first- and second-class certification differ. There is no near vision acuity standard for third-class medical certification. FAA is considering establishing one near vision acuity standard for all classes of certification.

Current regulations for first-class medical certificates require "normal color vision." The current standards for second- and third-class airmen require an ability to distinguish red,

green, and white aviation signals. FAA is considering establishing one color vision standard for all classes of certification.

#### EAR, NOSE, THROAT, AND EQUILIBRIUM

A conversational voice test for hearing may replace the current "whispered voice test," which requires an applicant to hear the physician's whispered voice at specified distances for each class: 20 feet for first-class, 8 feet for second-class, and 3 feet for third-class. FAA is considering standardizing the voice test and making it applicable to all classes. Other current standards in this category are very specific; the ones under consideration are more general but basically require an airman to be free of any disease or condition of the ear, nose, or throat that may interfere with speech communication or equilibrium.

#### MENTAL AND NEUROLOGICAL

Current regulations in this category list certain psychiatric disorders and neurological conditions, such as psychosis or epilepsy, for which airman certification will be denied. However, the American Psychiatric Association (APA) has changed the definition of some mental disorders since the standards were written. FAA is considering rewording the current standards to make its definitions of disqualifying mental conditions parallel with those established by APA.

Alcoholism and drug-use standards are also included in this category. Current regulations list "alcoholism" and "drug dependency" as reasons for disqualification. However, the AMA study pointed out that although these terms have been clinically useful in the past, they should be replaced with "substance abuse" and "substance dependence." Therefore, FAA is considering a change that would list "substance abuse, substance dependence and related substance use disorders, including but not limited to those associated with alcohol" as reasons for disqualification.

#### CARDIOVASCULAR

FAA is considering several changes in this category. Some of the changes may expand testing requirements, while others would expand the list of disqualifying cardiovascular conditions. For example, FAA is considering additional testing requirements to identify individuals that need to undergo a cardiovascular evaluation to determine if significant disease is present. These requirements may include additional EKG testing and blood testing. In addition, FAA is considering establishing blood pressure standards for all classes of airmen. Currently, there is no blood pressure standard for second- and third-class airmen.



The current standards list specific cardiovascular conditions that preclude medical certification. FAA is considering expanding this list to include cardiac valve replacement, pacemaker implantation, and a total heart replacement. It must be noted, however, that under both the current standards and the changes being considered, airmen denied certification for any cardiovascular condition are eligible for special consideration after they have undergone a cardiac evaluation and FAA has determined that their cardiac status would not represent a significant risk to aviation safety.

#### GENERAL MEDICAL CONDITIONS

Presently, no aviation medical standards exist for the respiratory system. The AMA report recommended that all airmen older than 40 years periodically demonstrate the absence of severe lung disease, because both judgment and the ability to perform complex tasks may be adversely affected by the reduction of oxygen available to the brain, resulting from poor pulmonary function. Therefore, FAA is considering adding standards for the respiratory system.

#### ADMINISTRATIVE CHANGES

Although 14 Code of Federal Regulations (CFR), part 67.20 states that falsification of a medical application is "a basis for suspending or revoking an airman, ground instructor, or medical certificate rating held by that person," the regulations are silent about the consequences of falsification by a first-time applicant who does not hold any type of certificate that could be suspended or revoked. In the past, FAA has exercised an option to deny medical certification to those individuals. FAA is considering stating its current practice in the standards.

FAA is also considering changing the regulation governing the issuance of special medical certificates to airmen who do not meet all the standards for their specific class. According to the Office of Aviation Medicine, the changes being considered would not alter its long-standing practice of certifying airmen who fail to meet the applicable medical standards after they have undergone additional testing requested by FAA. Instead, the changes would clarify administrative procedures for granting special medical certificates, specify that these certificates have an expiration date, and state the basis for termination of special certificates.

SECTION 2  
CHRONOLOGY OF EVENTS IN  
DEVELOPMENT OF REVISED STANDARDS

April 1982

FAA published the most recent changes to the medical standards in the Federal Register. FAA considered these standards to be "interim measures" and announced that it was undertaking a comprehensive review of the medical standards of 14 CFR part 67 in order to determine whether any changes were needed.

July 1982

FAA invited comments for consideration during its review of medical standards.

August 1983

FAA signed a contract with the AMA to comprehensively review the standards to determine whether any changes were needed.

December 1983

The Steering Committee for the AMA study met for the first time.

March 1986

FAA received the completed AMA study.

May 1986

FAA requested public comments on the AMA study.

June 1989

The Office of Aviation Medicine completed the initial draft of the proposed changes.

September 1989

The Office of Aviation Medicine received preliminary approval of the proposed changes from a review team composed of representatives from FAA's

- Office of Aviation Medicine,
- Office of Rulemaking,
- Office of General Counsel,
- Office of Aviation Policy and Plans,

- Office of Associate Administrator for Aviation Safety,
- Office of Civil Aviation Security, and
- Office of Flight Standards Service.

December 1989

The economic evaluation is scheduled to be completed.

January 1990

The review team's final approval of the proposed changes is expected.

February 1990

A briefing on the proposed changes is scheduled for the Executive Director for Regulatory Standards and Compliance and the Associate Administrator for Aviation Standards. Concurrence from the Associate Administrator is anticipated.

March 1990

Concurrence is expected from the Executive Director for Regulatory Standards and Compliance, General Counsel, and the Associate Administrator for Aviation Safety. Approval is also expected from the Deputy Administrator and the Administrator.

May 1990

Secretary of Transportation and Office of Management and Budget approval of the proposed changes is scheduled to be completed.

June 1990

A Notice of Proposed Rulemaking soliciting comments on the proposed changes is scheduled for publication in the Federal Register.

March 1991

After considering comments on the proposed rule, a final rule is expected to be issued.

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