



Highlights of [GAO-04-54](#), a report to the Ranking Democratic Member, Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

Over the years, the traveling public, flight attendants, and the medical community have raised questions about how airliner cabin air quality contributes to health effects, such as upper respiratory infections. Interest in cabin air quality grew in 2003 when a small number of severe acute respiratory syndrome (SARS) infections may have occurred on board aircraft serving areas that were experiencing outbreaks of the disease. In 2001, a National Research Council report on airliner cabin air quality and associated health effects recommended that additional research be done on the potential health effects of cabin air.

GAO reviewed what is known about the health effects of cabin air, the status of actions recommended in the 2001 National Research Council report, and whether available technologies should be required to improve cabin air quality.

What GAO Recommends

GAO recommends that FAA develop detailed plans for its research and surveillance program on cabin air quality, improve the public's access to information on the health risks of flying, and assess the costs and benefits of requiring HEPA filters in commercial aircraft.

www.gao.gov/cgi-bin/getrpt?GAO-04-54.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

AVIATION SAFETY

More Research Needed on the Effects of Air Quality on Airliner Cabin Occupants

What GAO Found

Despite a number of studies of the air contaminants that airline passengers and flight attendants are potentially exposed to, little is known about their associated health effects. Reports on airliner cabin air quality published by the National Research Council in 1986 and 2001 concluded that more research was needed to determine the nature and extent of health effects on passengers and cabin crew. Although significant improvements have been made to aircraft ventilation systems, cabin occupants are still exposed to allergens and infectious agents, airflow rates that are lower than those in buildings, and air pressures and humidity levels that are lower than those normally present at or near sea level.

The 2001 National Research Council report on airliner cabin air quality made 10 recommendations, 9 of which directed the Federal Aviation Administration (FAA) to collect more data on the potential health effects of cabin air and to review the adequacy of its standards for cabin air quality. FAA has addressed these 9 recommendations to varying degrees as it attempts to balance the need for more research on cabin air with other research priorities (e.g., passenger safety). However, some in the aviation community, including some of the committee members who produced the report on cabin air, do not feel that FAA's planned actions will address these recommendations adequately. For example, most members were concerned that FAA's plan for implementing the report's key recommendations on the need for more comprehensive research on the health effects of cabin air was too limited. FAA plans to address these recommendations in two parts—the first, which started in December 2003, and the second, which will start in December 2004 and end in late 2006 or early 2007. However, FAA lacks a comprehensive plan, including key milestones and funding needs. In addition, most committee members thought that FAA's response to a recommendation for it to improve public access to information on the health risks of flying was inadequate. We also had difficulty accessing this information on FAA's Web site.

Several technologies are available today that could improve cabin air quality, (e.g., increasing cabin humidity and pressure or absorbing more cabin odors and gasses); however, opinions vary on whether FAA should require aircraft manufacturers and airlines to use these technologies. GAO found that one available technology, high-efficiency particulate air (HEPA) filtering, was strongly endorsed by cabin air quality and health experts as the best way to protect cabin occupants' health from viruses and bacteria in recirculated cabin air. While FAA does not require the use of these filters, GAO's survey of major U.S. air carriers found that 85 percent of large commercial airliners in their fleets that recirculate cabin air and carry more than 100 passengers already use these filters. However, the use of HEPA filters in smaller commercial aircraft that carry fewer than 100 passengers is much lower. The cost to retrofit the smaller aircraft to accept the HEPA filter, if it were made mandatory, could be expensive.