GENERAL AVIATION SAFETY

Additional FAA Efforts Could Help Identify and Mitigate Safety Risks

Why GAO Did This Study

Although the U.S. aviation system is one of the safest in the world, hundreds of fatalities occur each year in general aviation—which includes all forms of aviation except commercial and military. The general aviation industry is composed of a diverse fleet of over 220,000 aircraft that conduct a wide variety of operations—from personal pleasure flights in small, piston aircraft to worldwide professionally piloted corporate flights in turbine-powered aircraft. According to 2011 National Transportation Safety Board (NTSB) data, 92 percent of that year's fatal accidents occurred in general aviation. The majority of general aviation accidents are attributed to pilot error.

GAO was asked to examine the (1) characteristics of and trends in general aviation accidents from 1999 through 2011 and (2) recent actions taken by FAA to improve general aviation safety. GAO analyzed NTSB accident data, reviewed government and industry studies and other documents, and interviewed FAA and NTSB officials and industry stakeholders.

What GAO Recommends

GAO recommends, among other things, that FAA require the collection of general aviation aircraft flight-hour data in ways that minimize the impact on the general aviation community, set safety improvement goals for individual general aviation industry segments, and develop performance measures for the significant activities underlying the 5-year strategy. Department of Transportation officials agreed to consider GAO's recommendations and provided technical comments, which GAO incorporated as appropriate.

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What GAO Found

The number of nonfatal and fatal general aviation accidents decreased from 1999 through 2011; more than 200 fatal accidents occurred in each of those years. Airplanes—particularly single-engine piston airplanes—flying personal operations were most often involved in accidents. Most general aviation accidents are attributed to pilot error and involved a loss of aircraft control. Some segments of the industry experienced accidents disproportionately to their total estimated annual flight hours. For example, among the airplane categories we reviewed, experimental amateur-built airplanes were involved in 21 percent of the fatal accidents but accounted for only 4 percent of the estimated annual flight hours. In another example, corporate operations were involved in about 1 percent of fatal accidents while accounting for 14 percent of estimated annual flight hours. We can draw some conclusions about general aviation accident characteristics, but limitations in flight activity and other data preclude a confident assessment of general aviation safety. The Federal Aviation Administration's (FAA) survey of general aviation operators, on which the agency bases its annual flight-hour estimates, continues to suffer from methodological and conceptual limitations, even with FAA's efforts to improve it over the years. To obtain more reliable data, FAA has discussed requiring that flight-hour data be reported, such as during annual aircraft maintenance inspections. FAA has set a goal to reduce the fatal general aviation accident rate per 100,000 flight hours by 10 percent from 2009 to 2018. However, given the diversity of the industry and shortcomings in the flight activity data, this goal is not sufficient for achieving reductions in fatality rates among the riskier segments of general aviation. Further, achieving the goal could mask continuing safety issues in segments of the community.

FAA has embarked on several initiatives to meet its goal of reducing the fatal general aviation accident rate by 2018. These include the renewal of the General Aviation Joint Steering Committee (GAJSC) with a data-driven approach and the implementation of the Flight Standards Service's 5-year strategy. The GAJSC, a government-industry partnership, focuses on analyzing general aviation accident data to develop effective intervention strategies. The 5-year strategy involves numerous initiatives under four focus areas: (1) risk management, (2) outreach and engagement, (3) training, and (4) safety promotion. The FAA Safety Team, which is composed of FAA staff and industry volunteers, will be responsible for carrying out significant portions of the strategy. While the GAJSC's efforts are modeled on an approach deemed successful in contributing to a reduction in fatal commercial aviation accidents, the 5-year strategy has shortcomings that jeopardize its potential for success. For example, the strategy lacks performance measures for the significant activities that comprise it. Without a strong performance management structure, FAA will not be able to determine the success or failure of the significant activities that underlie the 5-year strategy.