

FLIGHT ATTENDANT FATIGUE: CAMI FOLLOW-ON STUDIES AS DIRECTED BY CONGRESS

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Introduction: Research literature suggests that all human performance is vulnerable to sleep loss and daily variations in physiological processes tied to underlying body-clock mechanisms. Significant research on these factors has resulted in limited application to flight crew operations. Very little research has been accomplished with cabin crewmembers with virtually no application. Performance of cabin duties is critical to safety and security for the flying public, particularly in the event of an emergency. The extent and impact of sleep loss and fatigue on cabin crewmembers and the performance of their duties within current duty regulations are unknown. **Background:** A Congressional directive to the Civil Aerospace Medical Institute (CAMI) research regarding flight attendant fatigue was initiated in 2005. **Method:** CAMI contracted with NASA Ames Research Center to conduct literature and incident report reviews and examine a range of typical flight attendant schedules to assess potential vulnerability to fatigue. **Results:** In a 2007 report, NASA concluded that a fatigue-related impact on performance was likely under the current regulations and suggested six areas of research that would facilitate understanding and government-industry decision making. **Discussion:** The recommendations included: 1) Scientifically-based, randomly-selected flight attendant *Survey of Field Operations*. 2) *Field Research on the Effects of Fatigue* to explore the impact of schedules, circadian factors, and sleep loss on flight attendants. 3) *Validation of Models for Assessing Flight Attendant Fatigue* in conjunction with field operations. 4) Follow-up *Focused Study of ASRS Incident Reports*. 5) *Study of International Policies and Practices* to see how other countries address these issues. 6) *Training* benefits and initial development of information on fatigue, its causes and consequences, its interaction with circadian rhythms, and how and when to employ countermeasures. The panel members that follow will provide discussion of the results of each of these recommendation studies.

NATIONAL DUTY, REST, AND FATIGUE SURVEY

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Introduction: Aviation is a 24/7 operation that produces a variety of challenges for cabin crew members, including extended duty periods, highly variable schedules, frequent time zone changes, and increased passenger loads. While these operational requirements are necessary, they are suboptimal for the human body's biological rhythms in managing sleep and alertness. **Methods:** A 124-question survey was disseminated to flight attendants representing 30 operators (regional = 17, low-cost = 7 and network = 6) to examine the factors contributing to cabin crew fatigue. The survey addressed 7 main topics: work background, sleep, health, workload and duty time, fatigue, work environment, and general demographics. Participants included 9,180 cabin crewmembers who voluntarily and anonymously completed the survey and met criteria for inclusion in the report. **Results:** The majority (83%) of cabin crewmembers indicated they had experienced fatigue while on duty in the previous bid period. Of those who responded, 92%

reported that fatigue was a common occurrence, and 93% believed that flight attendant fatigue represents a safety risk. Reported fatigue factors included length of duty, consecutive duty days, rest, and inadequate nutrition. The most frequently identified fatigue factors were length of duty (10-13 hrs) and missed meals. Scheduling and rest factors made up 9 of the 10 most common recommendations made to reduce fatigue. The most common recommendations included: eliminate reduced rest, do not mix continuous duty overnight with early-morning report times, maintain consistent scheduling, limit number of flight segments/legs, limit number of duty hours allowed, start scheduled rest period on arrival at hotel, lengthen rest periods, do not schedule several hour breaks or “airport sits” between flight segments/legs, schedule enough time between flight segments/legs for meals, and provide flight attendants with food and beverage on flights.

Discussion: Results suggest improved fatigue management education and an examination of operator scheduling practices.