"Fatigue Management, Assessment and Evaluation: An Operational Perspective"

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Abstract
This presentation outlines the evolution and structure of a fatigue risk management system in an international airline. The programme commenced with an intention to use scientific methodology to drive decisions on rostering and scheduling. Early work involved gaining confidence of both management and union groups in a data-driven system, and evaluating available methods for collecting and analysing fatigue data. An important component of the programme is a non-jeopardy fatigue reporting system which can be confidential if requested. The programme is administered by a multidisciplinary Crew Alertness Study Group.

Since being established, the group has conducted scientific studies on a number of routes, initially for pilots and subsequently cabin crew as well. In several cases the study recommendations have led to changes to rostering or scheduling. Besides operational studies, the group is involved in education and training of crew, and in advice to management on fatigue-related matters. Over time, the management has developed confidence to accept the advice of the group based on previous experience and existing data, and on a number of occasions changes have been made to planned duties on the basis of this advice. Important to the success of the programme are the combined involvement of management, pilot (and cabin crew) representatives and medical/scientific resources. Crucial to the success is the commitment of management to act upon the data-driven recommendations. Another important component is regular external review by a panel of respected experts.

A large "top of descent" study was initiated to evaluate subjective alertness at the conclusion of a duty. This has led to a published article and another is in preparation. We have also surveyed pilots on 4 occasions over the past decade and demonstrated a progressive trend towards less fatigue impact; one of these surveys has been published. We have also assisted other airlines with fatigue studies. A PDA-based test kit incorporating subjective ratings and a validated performance test, were developed and made available publicly.

The structure and progression of the system will be presented, as well as representative data from a number of the studies. The future challenges for the group will be discussed, including the place of fatigue predictive models in designing crew work schedules, and the potential for universal data collection on board.

Main Points

- Identify the crucial components of a fatigue risk management system within a commercial airline

- List the major obstacles to establishing a system and how to overcome them
- Discuss ways to measure the success of a fatigue management programme within a safety management system

A copy of Captain Greg Fallow's biographical information and presentation slides are provided in Appendix B.