

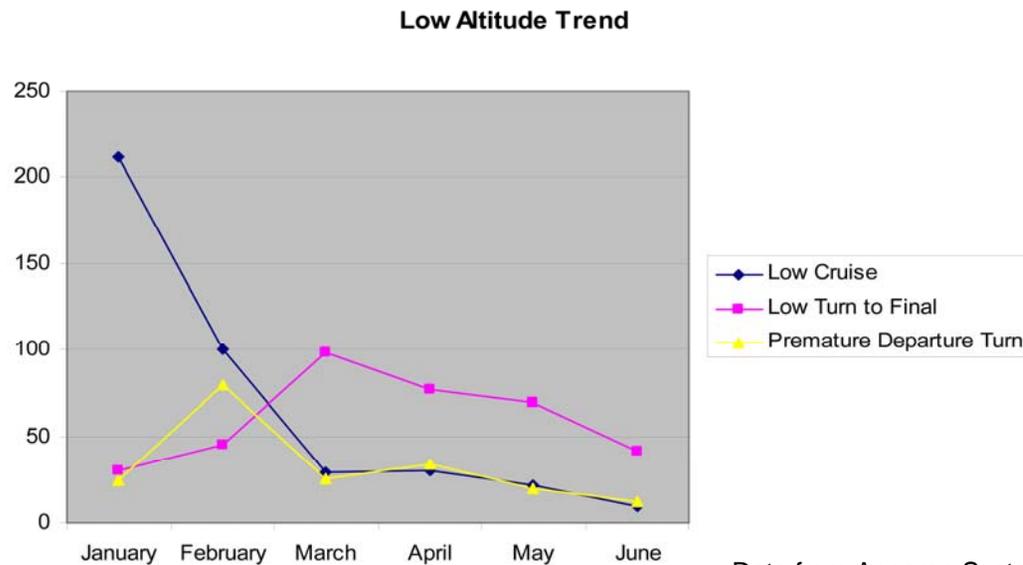
Flight Data Acquisition

A Data Driven Approach to Safety Improvements in Helicopter Emergency Medical Services (HEMS)



Why we need flight data...

- How can you fix what you don't know?
- How can you improve what you don't measure?



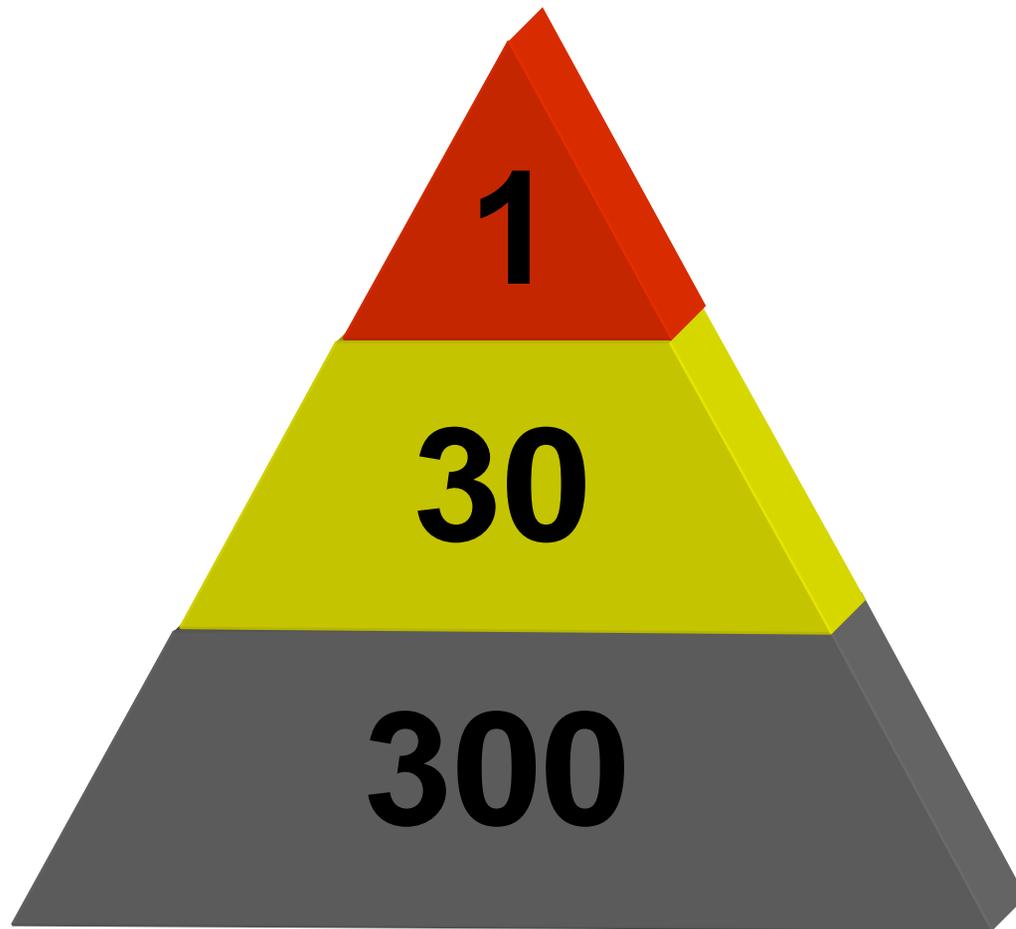
Data from Appareo Systems LLC, Feb 2008

Reasons for flight data acquisition...

- Support implementation of Flight Operations Quality Assurance (FOQA)
- Can be utilized for training
- Data validation in the event of an incident
- Accident prevention due to operational oversight
- Additional data source in accident investigation
- Acquisition of fleet data for operator
- Recommendation of the International Helicopter Safety Team



Accident prevention starts early...



The accident that finally occurs.

For the few incidents that are reported, which ultimately results in...

Hundreds near misses, incidents and events go unreported...

The Heinrich Pyramid

What is a FOQA Program?

Flight Operations Quality Assurance (FOQA) is a program designed specifically to enhance flight safety...

- Controlled, automated data for entire flights and fleets
- Monitors overall trends
- Confidential debriefing of flight crews
- Modifies behavior non-punitively

International Helicopter Safety Team (IHST) Background

- Goal to reduce international helicopter accident rate by 80% by 2016
- Industry regulator, manufacturer, operator, etc. participation
- Joint Helicopter Safety Analysis Team (JHSAT) analyzes accidents and makes recommendations.
- Joint Helicopter Safety Implementation Team (JHSIT) implements JHSAT Recommendations.



JHSAT Standard Problem Statements

U.S. Joint Helicopter Safety Analysis Team: Year 2000 Report

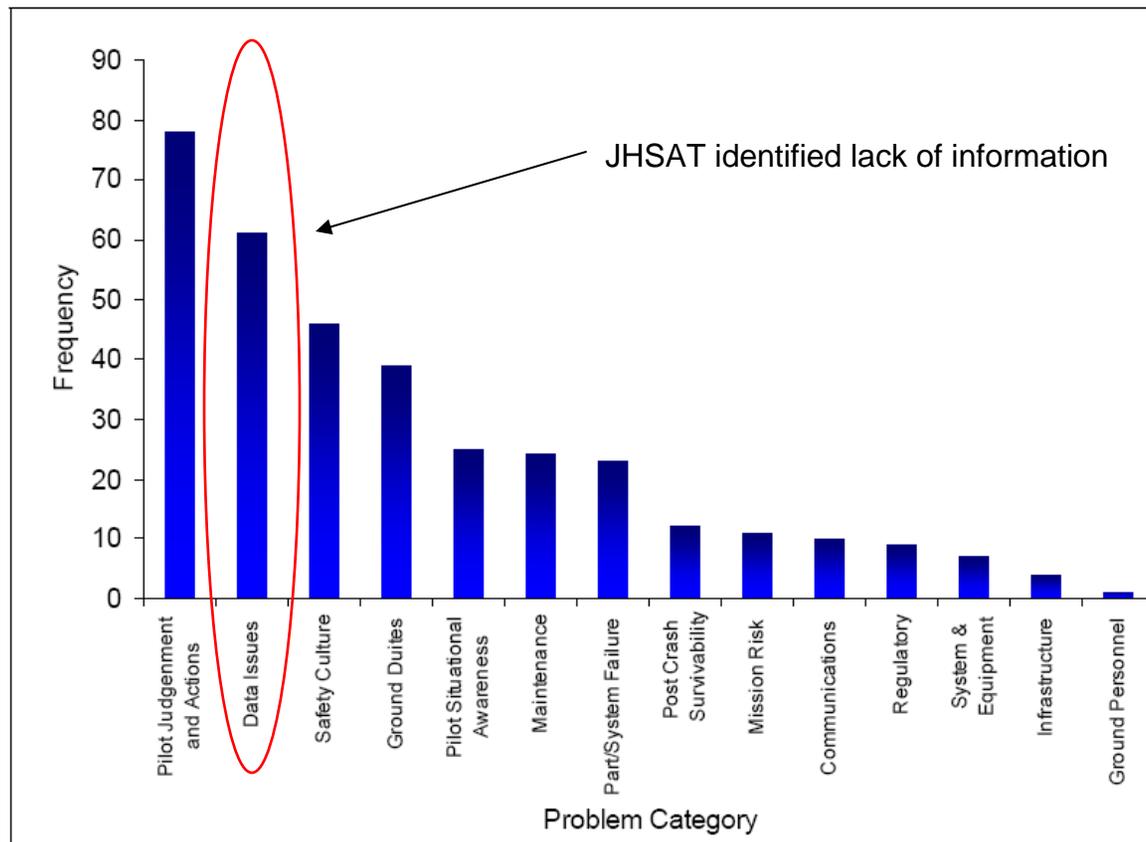
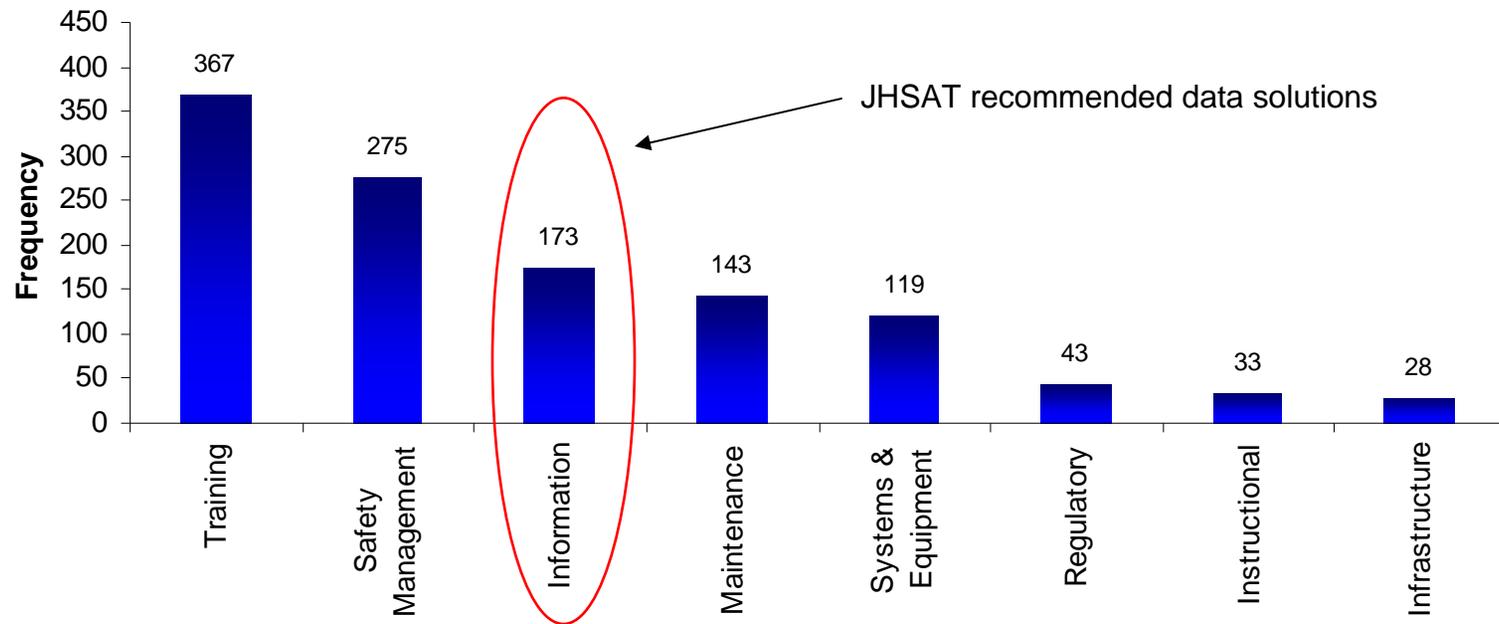


Figure 6-8. Percent of Accidents in which Problem Categories were identified at least once

JHSAT Recommendations

JHSAT Intervention Categories



US JHSAT Recommendations:

- Utilize **flight data monitoring** systems such as HOMP or FOQA to evaluate flight operations and to address unsafe/undesirable flight crew habits.
- Install flight data retrieval systems such as:
 - Cockpit image recorder
 - Flight parameter recorder
 - Cockpit information recorder
 - Quick Access Recorder (QAR)
 - Multi-function data acquisition unit (MFDAU)
 - Cockpit voice flight data recorder (CVFDR)

To summarize...

- Flight operations quality assurance (FOQA) is intended to prevent incidents/accidents through proactive identification of problem areas
- Flight data can be used in training to improve safety
- Flight data can assist investigators in identifying safety issues and recommending solutions

