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Epidemiology of General Aviation Accidents in Alaska

Accidents have been the leading cause of mortality in the State of Alaska for the past decade. The three major causes of accidental death in Alaska are motor vehicles, aircraft, and boating and other water-related activities. The Epidemiology Office, with support of the Federal Aviation Administration (FAA), has initiated a major investigation into the epidemiology of general aviation accidents in Alaska.

The seriousness of aircraft accidents as a leading contributor to morbidity and mortality in Alaska can be placed in perspective by comparing aircraft accidents to motor vehicle accidents. In 1978 there were 283,733 licensed motor vehicle drivers in the State of Alaska, and there were 280,457 motor vehicles registered. During 1978, 137 fatalities from 122 fatal accidents were recorded; 15,030 motor vehicle accidents were reported. In contrast, in 1978, there were only 10,171 pilots certified by the FAA, and 6,554 registered aircraft. Yet, in 1978, there were 100 fatalities reported from 48 fatal aircraft accidents, 58 individuals were seriously injured, and a total of 265 aircraft accidents were reported.

The fatality rate per licensed operator was 0.048% for motor vehicle operators compared 0.98% for pilots; a 20-fold difference. Pilots engaged in civil aviation in Alaska constitute a small group with a risk of accidental death 20 times higher than motor vehicle operators. Through epidemiologic investigation, the identification of risk factors within this group provides a tremendous opportunity to discover and implement preventive health strategies which will reduce aircraft accidents, morbidity, and mortality in Alaska.

The purposes of the proposed study are the following:

1. Conduct a basic epidemiologic analysis to define within the parameters of time, place, and person aircraft accidents in Alaska.
2. Identify high-risk sub-groups where specific preventive measures can be directed to reduce the number and severity of aircraft accidents in Alaska.
3. Establish ongoing collaboration with the FAA and NTSB.
4. Develop information to incorporate into ongoing preventive activities conducted by the FAA and NTSB Alaska.
5. Use the results of the epidemiologic study to develop prospective studies to research new leads identified.
6. Use information obtained to compare risk factors associated with aircraft accidents to risk factors associated with motor vehicle accidents.
7. Establish credibility in the scientific investigation of aircraft accidents in Alaska, become an ongoing resource for aircraft accident prevention, and initiate future epidemiologic studies aimed at the reduction of morbidity, mortality, and property loss associated with aircraft use in the State of Alaska.

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