

1. Report No. DOT/FAA-AM-85-12	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle  ALCOHOL REHABILITATION OF AIRLINE PILOTS		5. Report Date October 1985	
		6. Performing Organization Code	
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9. Performing Organization Name and Address FAA Civil Aeromedical Institute P.O. Box 25082 Oklahoma City, Oklahoma 73125		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address Office of Aviation Medicine Federal Aviation Administration 800 Independence Avenue, SW. Washington, DC 20591		13. Type of Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract <p>In 1976, the Federal Aviation Administration (FAA), in conjunction with the Air Line Pilots Association (ALPA) and several airline companies, initiated a plan for the certification of rehabilitated alcoholic pilots, which has had a surprising rate of success. The program itself and a number of demographic variables are examined for the entire group.</p> <p>This study involves a survey of medical records for over 500 airline pilots who have been medically certified by the FAA after a diagnosis of alcoholism. The program demonstrates an 85% rate of success since 1976. If a pilot experiences a relapse, he/she is immediately taken off flight duty and recycled back through the program. In no case where there has been a relapse has it been felt that aviation safety was compromised.</p> <p>The success of this program is due to several unique features, such as the cooperation of the pilots' union, airline companies, and the FAA to identify and treat alcoholic pilots. This program also includes peer identification and referral and an intensive 2-year followup of pilots by all three groups mentioned above.</p> <p><i>Air pilots - Disease &amp; Hygiene</i> <i>Alcoholics - Rehabilitation</i></p>			
17. Key Words  Alcoholic Pilots Rehabilitation		18. Distribution Statement  Document is available to the public through the National Technical Information Service, Springfield, Virginia 22161. <i>16</i>	
19. Security Classif. (of this report)  Unclassified	20. Security Classif. (of this page)  Unclassified	21. No. of Pages  11	22. Price

### Acknowledgment

The authors express appreciation to Ms. Shirley Dark, Mrs. Leslie Downey, and Mrs. Lisa Casey for their assistance in preparation of this study. Appreciation is also extended to Dr. Charles F. Booze, Jr., Supervisor, Medical Statistical Section, and Ms. Nova Green, Medical Qualifications Staff, for their valuable comments and suggestions.

## ALCOHOL REHABILITATION OF AIRLINE PILOTS

### INTRODUCTION

The Federal Aviation Administration (FAA) is responsible for issuing medical certificates to all pilots in the United States and some international airmen. Each pilot must have a current medical certificate to validate any pilot certificate he/she may hold. The FAA will medically certify individuals with certain disqualifying medical conditions if a determination is made that such action does not compromise air safety.

Alcoholism is a significant public health problem and is considered a disqualifying disease for medical certification under Federal Aviation Regulations, Part 67. The FAA defines alcoholism as "a condition in which a person's intake of alcohol is great enough to damage his/her physical health or personal or social functioning, or when alcohol has become a prerequisite to normal functioning." It is estimated that the rate of alcoholism in the general population is 7%. In the United States, about 15 million people may be alcoholic (2). The estimated cost of alcohol to the economy is \$89.5 billion dollars per year. This includes lost employment, reduced productivity, health care, car accidents, and excess morbidity and mortality (7).

Between 1960 and 1976, 29 pilots reported their alcoholism to the FAA; 14 were medically recertified after being grounded for a minimum of 2 years. The threat of loss of employment caused the pilots and the aviation industry to ignore alcohol abuse until the alcoholic pilot had progressed to the late stages of alcoholism (4).

In 1976 the FAA reevaluated the standards regarding medical certification of alcoholic airline pilots. This review resulted in a change in policy that allows the FAA to issue a medical certificate to a recovering alcoholic airline pilot soon after completing treatment. The pilot's continuing certification is contingent on his/her total abstinence from alcohol and 24 months of favorable reports from several monitoring sources.

The purpose of this study was to describe this population of airline pilots in terms of sociodemographic, treatment, and posttreatment variables. Some possible reasons this program has been so successful are discussed and areas for future research examined.

### METHODS

Data for this descriptive research study were obtained by review of special issuance medical records maintained by the Aeromedical Certification Branch of the FAA's Civil Aeromedical Institute in Oklahoma City, Oklahoma. These records include FAA Form 8500-8 (a physical examination report that is submitted periodically during a pilot's career), psychiatric and psychological evaluations, results of psychological tests, hospital records, and monthly and quarterly followup reports.

We reviewed 587 records of airline pilots granted special issuance after treatment for alcoholism from 1972 through 1984. The subjects were almost exclusively Caucasian males. Most possessed attributes that Kissen found to be related to successful treatment of alcoholism; e.g., older age at diagnosis, white, married, high occupational achievement, high occupational stability, and few arrests (5). The subjects were generally early or middle stage alcoholics. This also improved their chances of successful rehabilitation.

The subjects were divided into three groups. The "relapse" group included all airline pilots who had experienced a relapse after being granted a special issuance from the FAA. This includes those who have received a second or third special issuance. Airline pilots who had a relapse, later received a special issuance, and then were terminated for other medical reasons were included in this group. Figure 1 shows the number of airline pilots receiving special issuance per year by relapse status. The "success" group included only airline pilots who had one special issuance with no relapse of alcoholism. The "other" group includes airline pilots who were terminated for noncompliance with monitoring requirements and those terminated for other disqualifying medical conditions (heart disease, cancer, diabetes, nervous disorders, etc.).

Extensive pretreatment data were collected from the medical records of each airline pilot. This consisted of sociodemographic information and data regarding the health and social consequences of drinking.

## RESULTS AND DISCUSSION

An airline pilot is identified as being alcoholic in a variety of ways. Impaired performance on semiannual flight checks or difficulty experienced in adapting to new equipment often leads to inquiries about his/her use of alcohol. Coworkers are now more willing to report alcohol problems to the airline company, since help is available in most cases without threat of termination.

Sixty percent of the subjects were referred to treatment by the Air Line Pilots Association (ALPA) and/or their employers. Seventeen percent were referred by their families or other sources, such as courts or counseling centers. Twenty-three percent sought treatment voluntarily. The high rate of successful rehabilitation (85%) of airline pilots would tend to support the idea that a basically coercive program can be beneficial to both the subject and his/her employer.

In order to regain medical certification after being diagnosed as an alcoholic, an airline pilot must first undergo approved inpatient treatment and participate in an outpatient aftercare program. Psychiatric and psychological evaluations are done 1 to 3 months after treatment. To petition the Federal Air Surgeon for special issuance, each airline pilot must have a medical monitor. The monitor takes responsibility for the subsequent 24-month monitoring period and is often the airline medical director, the ALPA medical advisor, or an aviation medical examiner (AME) who is experienced in alcohol treatment and counseling.

The medical monitor then submits the following reports to the Federal Air Surgeon for evaluation:

- 1) Psychiatric and psychological evaluations.
- 2) Hospital records from inpatient treatment.
- 3) Report from aftercare program.
- 4) FAA Form 8500-8, physical examination report.
- 5) Summary of the case by medical monitor.

A special issuance is received within 1 year of treatment in 80% of the cases (see Figure 2). Monitoring requirements are specified when the special issuance is granted. Monthly reports from the flight operations supervisor of the airline and an ALPA representative attesting to the individual's sobriety are submitted to the medical monitor. Quarterly reports from the aftercare program and annual or semiannual psychiatric evaluations are also required. All followup reports are forwarded to the FAA Aeromedical Certification Branch, by the medical monitor, every 6 months or annually with his/her physical examination (FAA 8500-8). After 24 months, he/she may petition the Federal Air Surgeon to remove the monitoring requirement. The monitoring may continue if the evaluating psychiatrist, aftercare counselor, or medical monitor feels the individual has not achieved stable sobriety.

The remaining 20% of the cases in which a medical certificate is not issued within the first year are often deferred pending receipt of more information. Some airline pilots have residual effects from prolonged alcohol abuse and need more time to recover. Some cases are deferred due to pilots' lack of participation in aftercare.

Since 1976, the FAA has worked cooperatively with ALPA and airline companies to identify and rehabilitate airline pilots who have problems with alcohol abuse. Nearly 600 airline pilots have been granted a special issuance for alcoholism after treatment. The current rate of successful rehabilitation is 85%. An airline pilot was considered rehabilitated if he/she held a valid medical certificate on December 31, 1984, or retired with no relapse. This includes pilots who have relapsed one or more times and regained their medical certification.

There are approximately 39,000 airline pilots in the United States. Those who have been granted a special issuance after treatment for alcoholism probably represent only a small part of the alcohol-related problems in the airline industry.

Very few studies are available that estimate the prevalence of alcoholism among occupational groups. One such study by Mannello and Seaman in 1979 estimated the prevalence of problem drinking among railroad workers to be 19% overall. Among operating personnel (engineers, conductors), 23% were problem drinkers (6). Some occupational factors which are common to railroad conductors, railroad engineers, and pilots are irregular working hours and long layovers away from home. These factors may facilitate excessive drinking and development of addiction in some predisposed individuals.

The onset of alcoholism is slow and insidious. An individual has often alienated friends, family, and coworkers by the time alcoholism is diagnosed. In other words, he/she has effectively destroyed the social network needed to successfully recover from alcoholism (9).

The 24 months of monitoring help resolve this dilemma in several ways. Monthly monitoring forces the airline pilot to be reminded that he/she is indeed an alcoholic. Participation in Aftercare, Birds of a Feather and Alcoholics Anonymous (AA) help him/her rebuild a social network of nondrinking friends and become involved in a social environment that centers on nondrinking activities. Many airline pilots find that, after the first year or two of sobriety, their work and feelings of well-being are much improved over pretreatment levels (11).

Airline pilots receive considerable support from ALPA, coworkers, and often the airline company itself. Several airlines have their own in-house AA meetings for alcoholic employees (3). Admission of alcoholism to coworkers appears to be a major milestone in an airline pilot's recovery (1).

Seventy-nine percent of the subjects have not had a relapse since receiving special issuance. Eighty-five percent have been successfully rehabilitated, some after one or two relapses. Nine percent have relapsed one or more times and have not reapplied. One percent were terminated for failing to comply with monitoring requirements. Five percent were terminated for other medical complications (see Table I).

The mean age of the study group was 46 years. Sixty-seven percent were married at the time of treatment; another 9 percent were married but separated. The average cumulative flight time was 12,908 civil hours and 1,695 military hours. The relapse group had almost twice as many hours of military flight time as those who did not relapse. This would indicate that relapse cases may have spent a longer time in the military or perhaps participated in military reserves.

When the data are examined by employment status, 380 pilots are still flying after receiving special issuance; 66 retired at the age of 60 years; 115 dropped out (retired early, relapsed, or had other medical complications); 10 are deceased; and 16 are on strike or laid off (see Figure 3).

The mean time spent in inpatient treatment was 4 weeks and 6 days. Sixty-three percent of the families of the successes participated in treatment as opposed to 46% of the families of those who relapsed. Fifty-five percent of the families of the success group participated in aftercare for 3 months or more in contrast to 43% of the families of the relapse group. Family participation in aftercare included Alanon, Alateen, and family or group therapy at an alcohol treatment center.

Aftercare participation data were collected by number of months of participation as well as number of times attended per month. Participation in AA, outpatient group therapy, and individual counseling were examined. Little difference between groups was found. The participation overall was quite high when compared with other occupational alcoholism programs (8,10).

The relapse cases had been drinking an average of 24 years in contrast to an average of 28 years in the success group. When compared, family drinking habits indicate that the success group versus the relapse group had a higher percentage of fathers who were heavy drinkers or alcoholic (34% vs. 27%),

mothers who were heavy drinkers or alcoholic (14% vs. 5%), and alcoholic siblings (17% vs. 9%). Subjects who have an alcoholic family member may find it easier to admit their own alcoholism and consequently have a more favorable treatment outcome. Twenty percent of the success group were under 40 years of age, as opposed to 37% of the relapse group.

Little difference was found regarding physical consequences of drinking between relapse and success groups. The success group reported a higher rate of alcoholic blackouts than the relapse groups (65% vs. 51%). This may indicate that those pilots in the relapse group were less willing to admit to adverse consequences of drinking, thus indicating a strong denial system. The success groups had a lower rate of liver dysfunction than the relapse group (51% vs. 63%). Figure 4 presents the number of special issuances by crew position and relapse status.

#### SUMMARY

Of the 587 pilots who received special issuances, 380 are still flying; 66 retired at the age of 60 years; 115 dropped out (retired early, relapsed or had other medical complications); 10 are deceased; and 16 are on strike or laid off.

An airline pilot was considered rehabilitated if he/she held a valid medical certificate on December 31, 1984, or had retired with no relapse. This included pilots who relapsed one or more times and regained their medical certification. The overall rate of success is 85%.

Family participation in aftercare and treatment was considered to be a major predictor of successful treatment. This participation included Alanon, Alateen, and family or group therapy at an alcohol treatment center.

The subjects spent an average of 15 months in aftercare programs and 20 months in AA. Extended involvement in aftercare was also considered a major factor in successful treatment. The strong support of ALPA and the interest and encouragement from individual coworkers also helped improve the pilot's chance of successful rehabilitation.

A government regulatory agency (FAA), a large union (ALPA), and the managements of several airline companies have demonstrated the ability of sometimes opposing forces to work together to combat a major public health problem and enhance air safety. In 1980, Zuska and Pursch described the U.S. Navy's experience with alcohol rehabilitation. The FAA hopes that much like the Navy, the growing numbers of recovering alcoholic pilots will set off a "chain reaction of health" and ultimately make it easier for those pilots who come later to have an even greater rate of recovery.

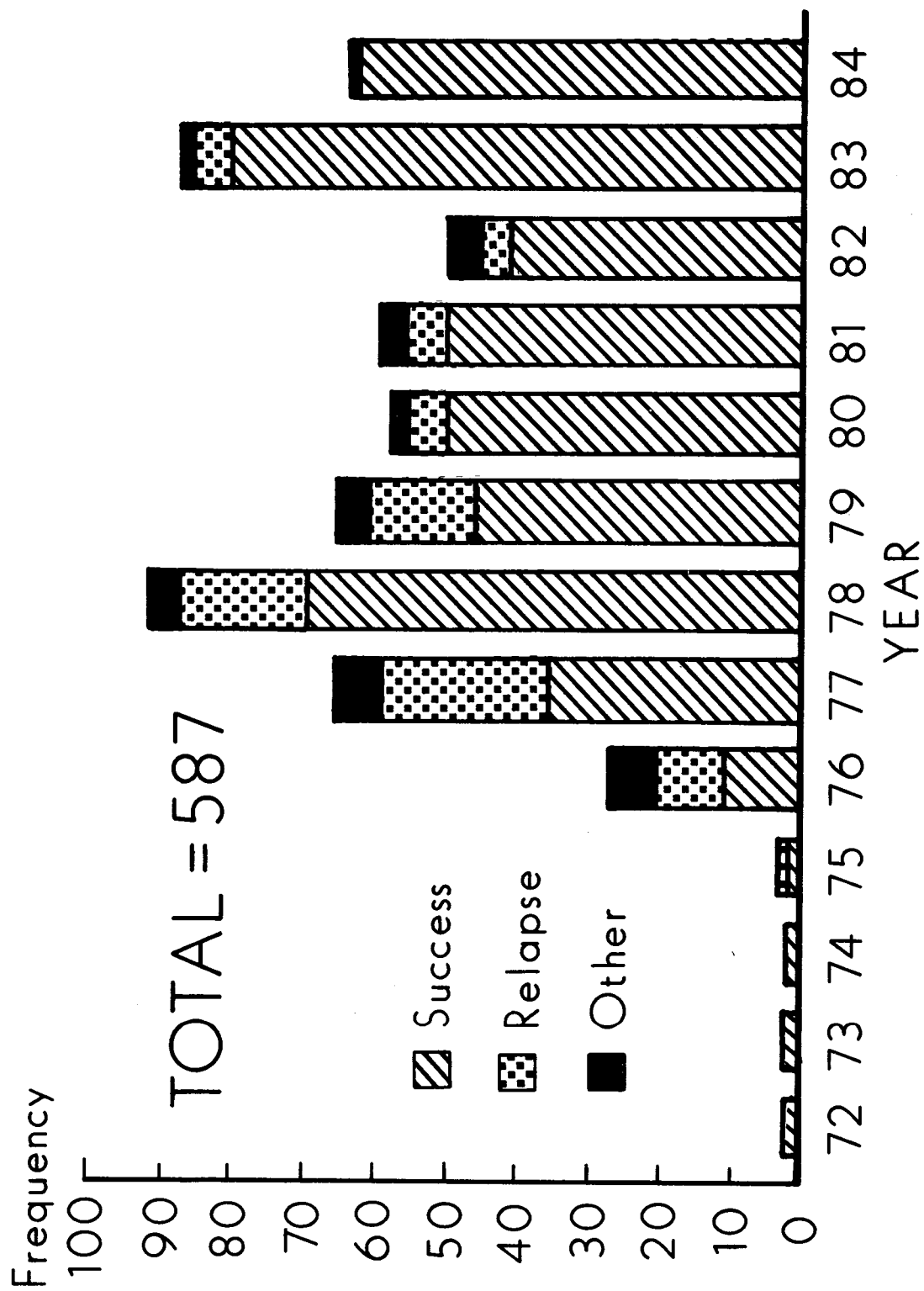


Figure 1. Number of special issuances for alcoholism granted per year, 1972 - 84.



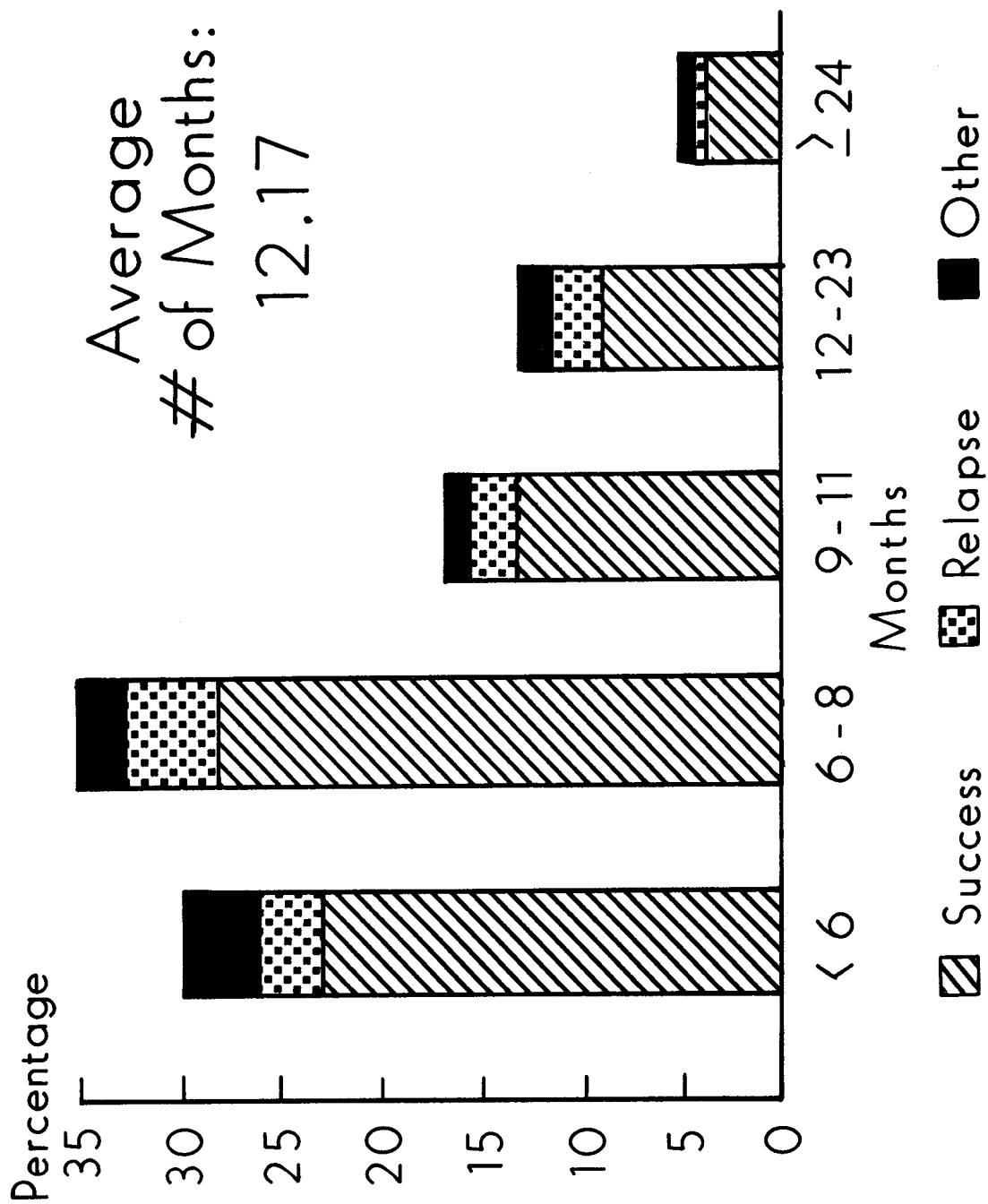


Figure 2. Time off work for airline pilots granted special issuance for alcoholism - months from treatment to special issuance.

Table I  
AIRLINE PILOTS GRANTED SPECIAL ISSUANCE FOR ALCOHOLISM BY RELAPSE STATUS

Status	Frequency	Percent
Successfully Rehabilitated - includes those still medically certified and those who retired successful		
No Relapse	462	79.0
One Relapse	37	6.0
Two Relapses	3	0.5
SUBTOTAL	502	85.5
Terminated		
One Relapse	42	7.0
Two Relapses	9	1.5
Three Relapses	1	0.2
Noncompliance	5	0.8
Other Medical Complications	28	5.0
SUBTOTAL	85	14.5
TOTAL	587	100.0

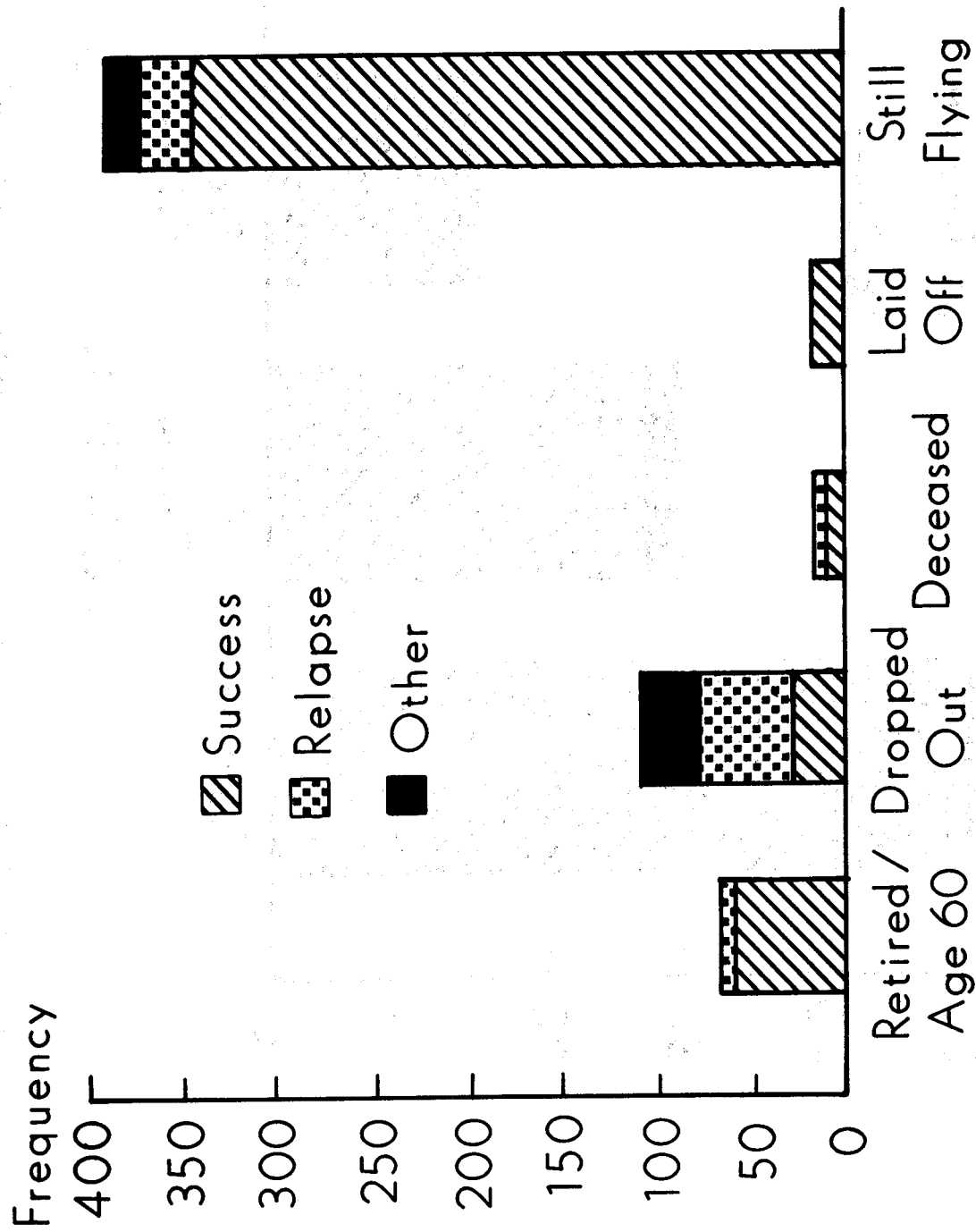


Figure 3. Current employment status of airline pilots granted special issuance for alcoholism.

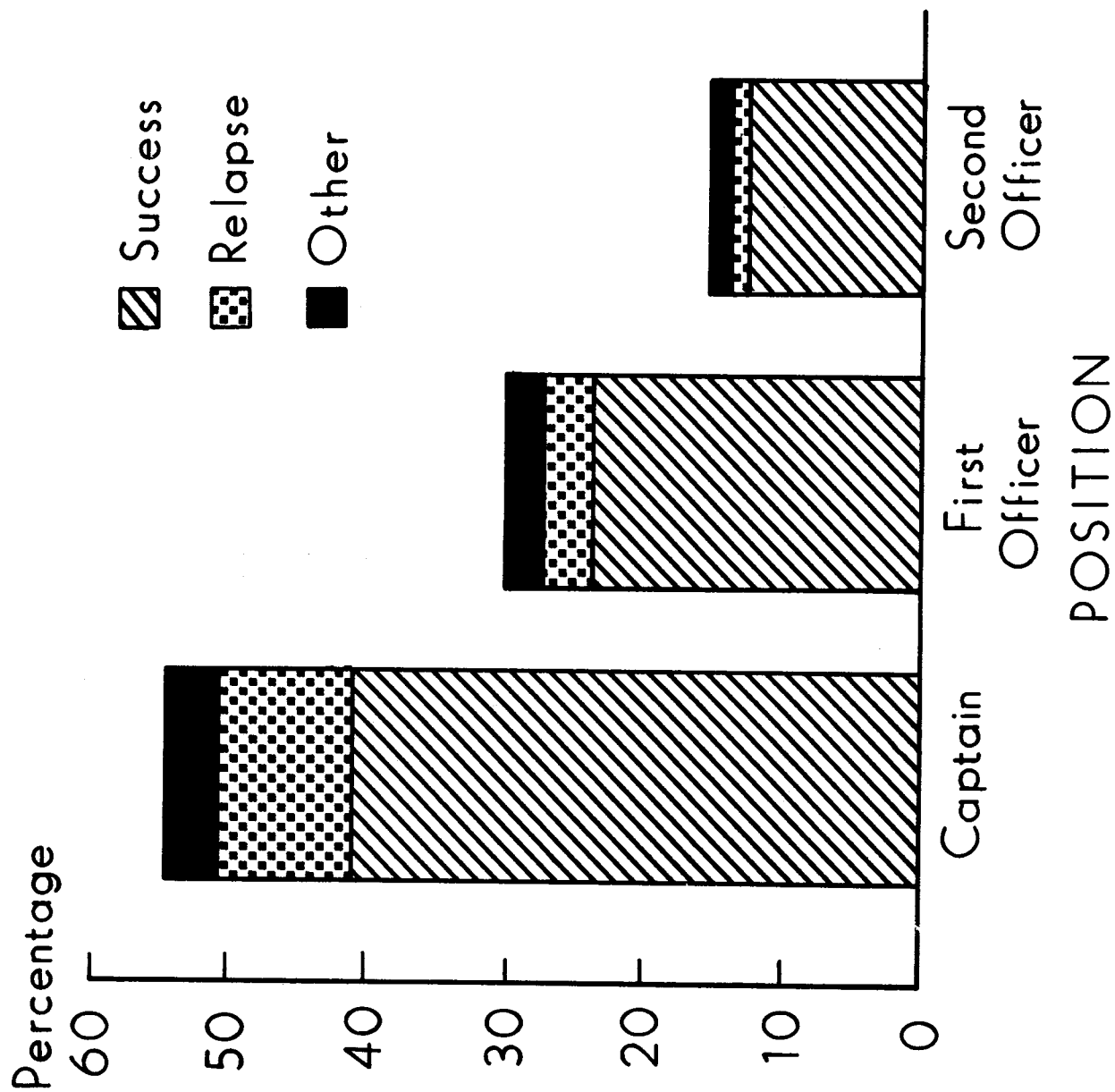


Figure 4. Crew position of airline pilots granted special issuance for alcoholism by relapse status.

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