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14 CFR Parts 11 and 121
Emergency Medical Equipment Requirement; Final Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 11 and 121

[Docket No. 21369; Amdts. No. 11-29 and 121-188]

Emergency Medical Equipment

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment requires certificate holders to carry in their aircraft medical kits containing equipment for use in the diagnosis and treatment of medical emergencies that might occur during flight time. The amendment further requires each certificate holder to report such medical emergencies annually for 2 years after implementation of the rule and to describe how the medical kit was used, by whom, and the outcome of the medical emergency. The intended effect of this amendment is to enhance the potential for diagnosis and initial treatment of medical emergencies during flight time.

EFFECTIVE DATE: August 1, 1986.

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SUPPLEMENTARY INFORMATION:

Background

Section 121.309 of the Federal Aviation Regulations (FAR) provides, in pertinent part, that no person may operate an airplane unless it is equipped with approved first-aid kits for treatment of injuries likely to occur in flight or in minor accidents. These kits must be one to four in number (depending on the number of aircraft passenger seats), be distributed as evenly as practicable throughout the aircraft, and be readily accessible to the crewmembers. Each first-aid kit includes such items as antiseptic swabs, ammonia inhalants, various bandages, tape, splints, scissors, and burn compound.

By letter and petition dated March 3, 1981, Sidney M. Wolfe, M.D., and Eve Bargmann, M.D. Public Citizen Health Research Group of the Aviation Consumer Action Project (ACAP), 2000 P Street, NW., Washington, DC 20036, petitioned to amend §§ 121.309(d) and 121.333(e)(3) of the Federal Aviation Regulations (FAR) to require the carriage of emergency medical equipment in commercial flights in addition to that carried in the first-aid kit. That petition was published verbatim in the **Federal Register** on August 20, 1981 (46 FR 42278). The FAA received comments from 370 interested persons on that petition for rulemaking.

Those commenters expressing support of the proposal urge that U.S. air carriers be required to have on board their aircraft emergency medical equipment and medication that would enable crewmembers and/or medically qualified passengers to respond to any in-flight medical emergency.

A number of physicians describe their involvement in in-flight medical emergencies. Those emergencies include such conditions as myocardial infraction, allergic reaction to food, acute asthma, epileptic seizures, and childbirth. Several commenters provided suggestions as to the specific types of emergency equipment and medication that should be carried.

Those commenters opposing the proposal express concern about the potential added cost to the traveler and the possible use of medical equipment and/or medication by unqualified individuals.

The majority of physicians who commented on the ACAP petition agree that the first-aid kits now required on aircraft by Part 121 of the FAR are inadequate for purposes of diagnosing and treating most in-flight medical emergencies. These physicians strongly recommend that diagnostic equipment be provided on all flights as well as equipment and medication that may be used for the treatment of medical emergencies that may be expected to occur. Many of these physicians indicate the need for "good samaritan" legislation to protect from liability those that use the medical equipment to treat in-flight medical emergencies. Whether or not such protection would be desirable, it would require legislation and is beyond the scope of FAA rulemaking authority.

On March 14, 1985, the FAA published Notice of Proposed Rulemaking (NPRM) No. 85-9, Emergency Medical Equipment, in the **Federal Register** (50 FR 10444). This NPRM proposed amendments to Part 121 of the FAR enhancing the potential for care of medical emergencies occurring during flight time, and an amendment to Part 11 of the FAR on reporting and recordkeeping requirements pursuant to the Paperwork Reduction Act. These proposed amendments include the requirements for the carriage of a medical kit on each passenger-carrying flight that would contain equipment and drugs to provide basic life support during medical emergencies that might occur during flight time, additional crewmember training consisting of familiarization with the medical kit, and annual reports of in-flight medical emergencies resulting in use of the kit for a period of 2 years after the effective date of the rule.

In making this proposal, the FAA recognized that unresolved issues remain regarding medical kits to be carried in operations conducted under Part 121 of the regulations. Public comment was specifically invited in the notice on such matters as who would be considered qualified to use the proposed kit, the user's licensing requirements, and whether or not the kits should be required on all flights or limited to flights of long duration where diversion to a ground facility is not possible.

Analysis of Comments

The FAA received approximately 140 public comments in response to NPRM No. 85-9, Emergency Medical Equipment. It is noteworthy that the public response to the NPRM includes comments from several medical associations, air carrier associations, labor organizations, and air carrier certificate holders, as well as interested individuals and providers of equipment and consultant services. This is in contrast to the public response to the publication of the petition in 1981 when the comments were largely from individuals. Since that time, bills have been introduced in both the United States Senate and House of Representatives to require the carriage of medical equipment in commercial aircraft.

Of 46 individual physicians commenting on the NPRM, 44 support expanded medical kits. Some, however, believe that the proposed kit is too sophisticated and that some of the drugs should be deleted because of the potential for misuse. Some believe that the requirement should be limited to only certain air carriers conducting long over-water flights, and that responses to the reporting requirement should be used to determine the future need for medical kits on air carriers. Others recommend additional equipment and drugs ranging from bandages to cardiac monitor/defibrillators, and that a physician should be required on every

transoceanic flight. Some physicians believe that "good samaritan" protection from liability is necessary to ensure that physicians will voluntarily provide assistance in the event of a medical emergency.

Only two physician commenters are opposed to the proposed requirement for the carriage of medical kits on air carriers. One, while opposed to the kit, voices strong support for required reporting of all in-flight medical emergencies and believes that the data acquired would provide a basis for the development of "intelligent regulations." This physician also believes that the presence of the proposed medical equipment on board would result in a tendency "to try to make do with the available equipment," thereby delaying any decision for immediate landing. He states that such a delay may result in risk to the ill person greater than the benefit of the available medical equipment. Another physician states that a stethoscope and a blood pressure recording cuff might be provided, but opposes more equipment and drugs because of the likelihood of misuse.

Seven registered nurses commented on the NPRM. Of the five in favor of expanded medical kits, some are concerned about misuse of the equipment and drugs, and one believes that "good samaritan" protection from liability is necessary. Two believe that a registered nurse should be included in the cabin crew complement on every flight. Two registered nurses oppose the NPRM. Both are concerned that the possible misuse of the equipment may be more detrimental to the patient than the alternative of first-aid procedures and immediate diversion to a ground facility. One of the commenters said that, "No one can predict when a medical emergency will arise. Being in your own home, a car, a bus, a train, the supermarket, etc., does not carry a guarantee that emergency help will be available. Having drugs and equipment available will not guarantee reversal of a crisis situation either. Improper use of these items might prove more disastrous. No commercial airline should have to assume this responsibility."

There were numerous comments from non-medical individuals favoring medical kits being required on air carrier aircraft. Very few of these commenters, however, address such issues as who should be authorized to use the kits. Many comments are anecdotal in nature, relating the commenters' experiences or those of friends involved in medical emergencies which occurred in flight.

Seven non-medical individuals are opposed to the proposal. One questioned his personal physician regarding the NPRM. His physician was reportedly concerned with the proposed drugs and stated that they should be used only by a physician trained in their usage and that not all physicians would be qualified to use those drugs. He further stated that some of the drugs should be used only with sophisticated monitoring equipment which would not be available. One opposing commenter, a flight attendant, states that because of the low frequency of in-flight medical emergencies, the cost-benefit ratio and the possibility of misuse of the equipment, the requirement for medical kits is not warranted. Other non-medical individuals opposing the NPRM express concern about misuse of the kit and the possibility of those using the kit not being qualified. One believes that the risks of misdiagnosis and misapplied drugs far outweigh the small potential benefit of saving a life by use of that kit.

Nine providers of medical equipment and consultant services are in favor of expanded medical kits on air carrier aircrafts, as is the National Transportation Safety Board.

Four air carrier labor organizations responded to the NPRM. The Air Line Pilots Association (ALPA) favors the proposals, but indicates concern for issues not addressed. The expressed issue of most concern is that of liability for kit use and the need for "good samaritan" legislation to protect crewmembers and physicians who might provide in-flight medical assistance. The Airline Operations Control Society opposes the proposal for several reasons. They believe the surgical instruments could be used to hold a person hostage during a hijacking, the presence of the proposed drugs would result in security problems, and there would be a potential for misuse of the kit by an improperly trained person. This organization also believes that if the medical kits are to be required, "good samaritan" legislation is necessary to protect crewmembers as well as users of the kit. Two flight attendant unions favor the NPRM and also recommend an "expanded first-aid kit" for use by flight attendants. One of the flight attendant groups provides information on the carriage of medical equipment by certain European airlines, indicating that a physician's kit (similar to the medical kit proposed in NPRM 85-9) is "mandatory for flights in which an airport cannot be reached in 90 minutes," and that the first-aid kit (similar to those now required on United States air carrier aircraft) "is mandatory on every flight when an airport cannot be reached in 60 minutes."

Eight small air carriers operating under Part 121 of the Federal Aviation Regulations oppose the NPRM, most stating that their flights are short and that the probability of an individual qualified to use the kit being on board is not as high as it is among the large air carriers using larger aircraft and making longer flights. They raise issues including liability for us of the kit, security of the equipment and drugs, and training requirements for crewmembers. Several note that it would be necessary for an air carrier to employ a physician to procure the drugs and they are concerned with licensing requirements when the drugs must be replenished in another state.

Three air carrier associations responded with comments opposing the NPRM. The Air Transport Association (ATA), representing the major scheduled air carriers in the United States, questions the justification for the requirement for carriage of the medical equipment and drugs on air carrier aircraft. The ATA cites the American Medical Association (AMA) Commission on Emergency Medical Service's independent study to evaluate the problem of in-flight medical emergencies on commercial airlines. This study suggests that the frequency of life-threatening medical emergencies on commercial flights is not high. The study concludes that the first-aid kits currently carried are satisfactory. The ATA also raises such issues as liability for use of the medical equipment, security of the drugs, syringes and needles in the kit, who is qualified to use the kit, the U.S. Drug Enforcement Administration (DEA) regulatory requirements concerning controlled substances, and the concern that air carrier procurement of drugs will require employment of appropriately licensed physicians. The ATA further discusses the potential for misuse of the kit and the possibility that hesitation in diversion of a flight because of the presence of a kit could prove detrimental to the patient. ATA states that "proper consideration of this rule must await the results and analysis of the proposed 2-year reporting requirement to determine the need for carriage of medical kits."

Also commenting are the Regional Airline Association (RAA) and the National Air Carrier Association, Inc. (NACA). The RAA, representing approximately 100 "short haul" regional and commuter air carriers, objects to the requirement that their members operating under Part 121 carry the

proposed medical kit on their aircraft. These aircraft normally seat 31 to 50 passengers with 1 flight attendant crewmember and are never more than 30 minutes from an airport where professional and competent medical assistance can be obtained. The RAA further states that they are unaware of any in-flight medical emergencies in commuter/regional operations that would have benefitted from the proposed medical kit. Both the RAA and NACA raise the same issues of liability, security, potential for misuse, accountability for controlled substances, and need for a physician in order to procure the proposed drugs in the kit.

Seven associations representing physicians and two associations representing nurses responded to the NPRM with comments varying from full support to total opposition. Their responses also contain constructive criticism concerning the proposed contents of the kit.

The AMA cites the 1981 study by its Commission On Emergency Medical Services on in-flight medical emergencies aboard commercial air carriers, noted previously. The AMA also discusses its other activities in this area, including: its encouragement of physicians to carry medical kits when they travel that contain instruments and drugs with which they are familiar; AMA publications on the contraindications to air travel for persons suffering from certain illnesses and conditions; and, AMA support for federal legislation providing "good samaritan" immunity to physicians and other qualified individuals offering emergency medical assistance on board aircraft. The AMA comment includes opposition to the requirement for a medical kit containing surgical equipment and drugs because of its belief that the potential for misuse outweighs any benefit that might be gained through the availability of such equipment. The AMA supports expansion of the current kit to include stethoscope, sphygmomanometer, airways, splints, tongue blades, and flashlight.

The American College of Emergency Physicians does not support the NPRM as proposed. They believe that there are inadequate data and experience to support the list of medical equipment and drugs proposed either from a medical or cost-benefit perspective. They further state that these data are needed to ensure that an enhanced emergency medical kit best meets the needs of the flying public. They recommend that the FAA devise and implement a data collection system which generates detailed information concerning in-flight medical emergencies so that better decisions can be made about the contents of the emergency medical kit.

The Civil Aviation Medical Association (CAMA) opposes the requirement for medical kits on domestic flights and questions the need for such kits on transoceanic flights. CAMA expresses concern about the potential for misuse of the kit and raises issues including liability and the identification of qualified users of the kit. CAMA further states that most critical medical emergencies can be managed well with relatively simple cardiopulmonary resuscitation.

Four other physicians associations generally favor the proposal, two of which mention the importance of "good samaritan" protection from liability if the kit is to be used effectively. These associations are the American Academy of Family Physicians, the American College of Chest Surgeons, the American Society of Anesthesiologists, and the American Osteopathic Association.

The Emergency Nurses Associations (ENA) supports the general concept of expansion of the medical kit but does not believe controlled substances and most cardiac drugs should be included. The ENA recommends that nitroglycerin, epinephrine, and Benadryl (diphenhydramine) be included. The ENA also supports "good samaritan" protection from liability.

The American Association of Critical-Care Nurses (AACN) also support the general intent of the NPRM but expresses concern about the possibility of misuse of the medical equipment and/or drugs proposed. The AACN makes recommendations concerning recordkeeping and raises the question of how crewmembers will identify a qualified user of the kit. The AACN states that the proposed injectable cardiac drugs should not be included in the kit unless a cardiac monitor is available, and that qualification to use the kit should include special training in emergency care.

Discussion

After careful review and analysis of comments on the publication of both the ACAP petition and NPRM No. 85-9, several unresolved issues remain. Many commenters believe that "good samaritan" protection from liability is necessary for effective use of the proposed medical kit. Such protection would immunize any personnel who utilized the kit in the diagnosis and treatment of medical emergencies that might occur during flight time from the consequences of their own negligence. Many states have "good samaritan" laws in effect but there exists no provision in current Federal law affording such protection. It is not clear whether the Federal government should provide this protection, or it is properly a matter for state law. The applicability of state laws to personnel utilizing medical kits in an aircraft during flight time is also unclear.

Some commenters believe that the proposed requirement for the carriage of medical equipment should only apply to flights of long duration (such as transoceanic) where immediate diversion to a ground facility is not possible. Others believe that the equipment should be required on all flights.

In addition, all the drugs proposed in the NPRM require procurement by a licensed physician. Controlled substances present a special problem because of state and federal inventory and accountability requirements and the potential for misuse and pilferage.

With regard to these issues, the FAA has considered other significant information pertaining to the proposed requirement for the carriage of emergency medical equipment on air carrier aircraft. Of special note are concerns expressed by the Senate Commission on Commerce, Science and Transportation. In Senate Report 99-93 dated June 27, 1985, on the In-flight Medical Emergencies Act, the committee said:

> Although the Committee supports carriage of an enhanced medical kit aboard commercial aircraft, it is clear that these kits should not contain dangerous surgical instruments, such as scalpels or other incisive devices, or controlled substance, as defined in the Comprehensive Drug Abuse Prevention and Control Act of 1970 (21 U.S.C. 801 et seq.). These items, even in the most sophisticated of hospital emergency facilities, must be handled with extreme caution and only in conjunction with the elaborate diagnostic equipment and expertise available at such facilities. They are not suitable for carriage in an onboard medical kit.

In consideration of all the views expressed, the FAA has determined that the carriage of an expanded medical kit on passenger-carrying operations conducted under Part 121 of the regulations is appropriate. As noted above, it has been suggested that such kits need not be required on flights of short duration or those that seat a limited number of passengers. The FAA concludes, however, that the presence of kits on such flights is essential to ensure that appropriate medical equipment and medication are available for immediate use in the event of a medical emergency

involving any air carrier traveler. In so doing, it is recognized that the likelihood for use of the kit on such flights will be less than on flights which have a large number of passengers, are of longer duration, or where the flight cannot be readily diverted to a ground facility. Nevertheless, medical emergencies may occur on these flights and qualified medical personnel may be present to provide assistance. In addition, although ground facilities may be close by, some medical emergencies may result in loss of life, distraction of crewmembers; and disruption of flight routine, unless treatment is provided immediately.

While may commenters expressed the belief that "good samaritan" legislation is necessary to protect from liability those persons who use the kit, existing state "good samaritan" laws may apply in certain circumstances and, in any event, the FAA believes that the absence of such legislation does not justify a withdrawal of the proposal. In this respect, the FAA believes that, in the event of an emergency, qualified medical personnel will voluntarily come forward, just as they do now, to provide assistance and, when indicated, use the medical equipment and medication made available. We note that Congress is considering legislation regarding good samaritan laws.

The required contents of the medical kit are modified by the elimination of all surgical instruments and controlled drugs. This resolves or reduces many of the concerns regarding security, the potential for liability for use of the kit, the burden of required DEA recordkeeping and accountability, congressional concerns, and the objections of numerous commenters, as discussed previously. The surgical instruments eliminated consist of the hemostats, scalpel, surgical scissors, and the tracheal airway set. The controlled substances deleted consist of the morphine sulfate injection, amobarbital injection and diaszepam injection. Several prescription drugs that require monitoring equipment or which have a significant potential for misuse are also deleted. These consist of lidocaine HC1 injection, atropine sulfate injection, sodium bicarbonate injection, prochlorperazine injection, and aminophylline injection. Because of the retention of certain prescription drugs in the kit that are adequate for the short-term treatment of acute allergic reactions and bronchospasm, the FAA believes upon re-evaluation that the adrenocortical steroid injection is unnecessary and, therefore, this item is deleted. Because of the elimination of the parenteral cardiac drugs, the intravenous set and 5% dextrose injection, used for their administration, are not necessary. The prescription drugs retained in the kit consist of nitroglycerin tablets, epinephrine injection, diphenhydramine injection, and 50% dextrose injection. These drugs do not have the same potential for misuse or require monitoring equipment as do those drugs deleted. It is recognized that certificate holders will require the assistance of licensed physicians in obtaining these drugs. No flashlight is included in the kit since regulations currently require the carriage of operable flashlights as emergency equipment.

While modification of the contents of the proposed medical kit somewhat reduces its potential for use in providing basic life support during medical emergencies, the equipment and drugs retained still enhance the diagnostic and treatment capability of users of the kit. At the same time, the modification eliminates equipment and drugs which, if misused, could compromise the health of the passengers and the safety and security of the flight. The training requirement for crewmember familiarization with the emergency medical kit remains as proposed.

As recommended by numerous commenters, the rule requires the maintenance of records and the reporting of medical emergencies as proposed. An analysis of the results at the termination of the reporting requirement in 2 years will provide the FAA with information on medical emergencies occurring in flight so that any necessary changes can be made to the medical kits, training of personnel, or related matters.

The regulations do not specify who should be permitted to use the kit. The FAA has determined that resolution of this question must be left to each air carrier since it depends, to some extent, upon the nature of and circumstances surrounding each medical emergency.

The effective date of this rule has been established as the first day of the seventh month after publication in the **Federal Register.** Thus, 6 months is provided for each Part 121 air carrier to acquire appropriate medical kits, install the kits on each airplane, and develop procedures for the use, control, maintenance, recordkeeping, and reporting requirements associated with the kits.

Regulatory Evaluation

The total costs of implementing the amendment to require emergency medical kits include the cost of equipping existing passenger aircraft which will become subject to the rule, the installation of emergency medical kits in new aircraft manufactured during the 10-year period covered by this evaluation, physicians' services related to procuring the contents of the kits, the fuel penalty resulting from the added weight of the emergency medical kits, and the maintenance costs.

Certain costs of the rule are different than those of the NPRM. Since some contents of the proposed kit have been deleted in the rule, the cost for purchase and maintenance of the kit is lower than that stated in the NPRM. Also, the lighter weight of the kit reduced the fuel weight penalty. However, the cost for physicians' services related to procuring the contents of the kits is an additional cost which was not stated in the NPRM.

Each aircraft will be equipped with one emergency medical kit regardless of the number of individual first-aid kits on the aircraft. The FAA has estimated that such emergency medical kits can be purchased and installed for approximately $100 per unit. The cost of equipping existing passenger aircraft with emergency medical kits has been estimated to be approximately $233,000 (2,333 aircraft x $100).

Indications are that approximately 140 newly manufactured aircraft will be delivered annually for Part 121 passenger operations during the 10-year period following implementation of the rule. The total discounted present value is approximately $90,000 for equipping newly manufactured aircraft with emergency medical kits.

To determine the fuel costs for the additional weight of the emergency medical kits, the FAA estimates that during each year of the 10-year period following implementation of the proposal, an average of 3,103 emergency medical kits will be aboard passenger aircraft operated under Part 121. Each emergency medical kit weighs approximately 7 pounds, and each additional pound of weight will result in an estimated average fuel consumption of 15 gallons per year per aircraft. Based on a fuel price of 89.4 cents per gallon, each emergency medical kit will result in an average additional fuel cost of slightly more than $94 per year. The present value cost of the additional fuel consumption during the 10-year period is estimated to be $1,880,000.

Maintenance costs for the emergency medical kits are based on an average requirement of 2 person-hours in labor annually, assuming that the average wage rate (including benefits) will be $35 per hour and that 10 percent of the emergency medical kits will require replacement at a unit cost of $100. The present value of maintenance costs is

estimated to be approximately $1,600,000.

Modification of the requirements for instruction in the handling of emergency situations under § 121.417(b)(3)(iv), to include familiarization with the emergency medical kit, results in a negligible increment of training time. Therefore, no additional cost is ascribed to this modification.

Purchasing certain contents of the kits, including prescription drugs, makes necessary an additional cost for the periodic services of physicians. This cost is based on one physician's consultation per month at $250 per consultation to provide for a bulk purchase for prescription contents for the kits of a carrier operating under FAR Part 121. Currently, there are 80 carriers actually operating under Part 121, although more than 100 are certificated to do so at a particular time. The total discounted present value of consulting services 1 day per month at $250 per day for 80 carriers during the 10-year period is estimated to be $1,547,000. We note that many airlines currently employ, or contract with, physicians for medical services.

The costs for creating and maintaining records on how the required emergency medical kit was used, by whom, and the outcomes of medical emergencies are based on an expected average requirement of 1 person-hour in labor per medical emergency. The costs for submitting these records or a summary to the FAA is a negligible amount of time and expense for postage and handling of the reports. Although the amended § 121.715 requires record maintenance for 2 years, FAA anticipates that after 2 years these records will continue to be created and maintained voluntarily for other reasons, including standard policies and procedures relating to liability insurance and handling of prescription drugs. Assuming that the average wage rate (including benefits) will be $35 per hour, and that an average of 2,500 medical emergencies would occur in flight per year, the present value of in-flight medical emergency costs for creating and maintaining records is estimated to be approximately $564,000.

The present value of all estimated costs resulting from the emergency medical kit amendment during the 10-year period following implementation is $5,914,000.

The FAA cannot estimate easily the prospective number of lives that may be saved or the reduction of in-flight morbidity by providing additional equipment and medications, but some insight into the potential benefits can be gained from a major air carrier's experiences with in-flight deaths and in-flight medical emergencies. A major commercial air carrier under Part 121 has tracked in-flight deaths for approximately 4 decades.

The FAA has estimated the number of in-fligth deaths occurring annually for all carriers by calculating the proportion of the annual number of deaths in flight to the annual number of passengers carried by the major carriers. Then, the same proportion of annual "estimated in-flight deaths" is applied to the total annual number of passengers carried by all Part 121 carriers. Using this method of analysis, the FAA estimates that over a period of 4 decades, approximately 840 in-flight deaths occurred on all carriers. Moreover, the number of deaths in flight, as a proportion of passengers carried, has grown progressively smaller in successive years as the number of annual enplanements has increased at a rapid rate. The annual in-flight deaths vary in number within a small range, and the FAA further estimates that approximately 21 deaths currently occur in flight annually. These estimates are based upon historical information provided to the FAA by an air carrier. Public estimates of in-flight deaths range to 100 annually.

From historical information, the FAA estimates that a great majority of the in-flight passenger deaths are elderly people suffering from terminal illnesses such as cancer and heart disease. Many of these in-flight deaths occur quietly and without others being aware of the onset of the medical emergency. However, some in-flight deaths can be prevented with the new rules. The number who might be saved is uncertain, but based on fragmentary information obtained from airline data, the estimate is about 10 percent of in-flight deaths. Thus, according to FAA estimates (21) and public estimates (100), about 10 percent of the annual in-flight deaths, or 2 to 10 persons, might have been helped annually by an emergency medical kit.

For purposes of economic studies, the FAA values a life at $650,000 in 1983 dollars. The expected number of lives that could be saved over the 10-year period is 21 to 100. The expected present discounted value of the lives that could be saved over the 10-year period ranges from $8.4 million to $41.9 million. This is derived by discounting the value of life at a 10 percent rate.

Based on these estimates, the benefit/cost ratio ranges from a low value of 1.42 ($8.4 million ÷ $5.9 million) to a high of 6.76 ($41.9 million ÷ $5.9 million). The FAA's preliminary judgment is that the lower ratio will prevail. Clearly, information gained in the course of implementing the amendment will help in refining estimates about future costs and benefits.

Trade Impact

The amendment will have little or no impact on trade for both U.S. firms doing business in foreign countries and foreign firms doing business in the United States. The amendments will affect only U.S. air carriers because foreign air carriers are not subject to Part 121. Foreign air carriers are prohibited from operating between points within the United States; therefore, they will not gain any competitive advantage over the domestic operations of U.S. carriers. In international operations, foreign air carriers would realize some minor cost advantages over U.S. air carriers if the foreign countries do not require similar emergency medical equipment. However, these costs are negligible in comparison to the overall costs of providing international passenger services; therefore, the rule change will essentially have no trade impact.

Regulatory Flexibility Determination

The small entities affected by the amendment are the small air carriers which are regulated under Part 121. The FAA has published a size threshold of nine or fewer operating aircraft as a standard for small air carriers. According to FAA data for the period ended April 1983, 45 passenger air carriers which were subject to Part 121 operated nine or fewer aircraft.

The impact on small entities will be in direct proportion to the number of aircraft they will be required to equip with the emergency medical kit. The average annualized net compliance cost for a small carrier to meet the emergency medical kit requirements is estimated to be approximately $217 per aircraft. The FAA has adopted threshold values that define small entities and significant economic impact, and these values are stated in FAA Order 2100.14. The threshold values for economic impact are adjusted for inflation and are expressed here in 1983 dollars. The threshold value for small entity carriers is a maximum number of nine aircraft owned or operated. The threshold values for significant economic impact are an annualized cost of $47,506 for scheduled carriers and $3,314 for unscheduled carriers.

Since the annualized cost per aircraft is $217 per year, a small entity carrier with the maximum number of aircraft, nine, would not meet the cost impact criteria for either scheduled or unscheduled air carriers (9 x $217 is less

than $3,314). Therefore, this amendment is not expected to have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

Conclusion

Since the amendment contained in this document would enhance the potential for diagnosis and initial treatment of in-flight medical emergencies, and the amendment could possibly save two lives per year, the estimated benefits exceed the estimated costs of implementing this amendment. For the reasons discussed above, I certify that under the criteria of the Regulatory Flexibility Act, these amendments do not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required. In addition, for the same reasons, the amendment does not involve a major rule under Executive Order 12291. Because it involves important DOT policy, the amendment is considered significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the regulatory evaluation for this regulatory action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified under the caption **"FOR FURTHER INFORMATION CONTACT."**

Paperwork Reduction Act

Information collection requirements in this regulation (§ 121.715) have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511) and have been assigned OMB Control Number 2120–0523.

List of Subjects

14 CFR Part 11

Reporting and recordkeeping requirements, Air carriers, Air transportation.

14 CFR Part 121

Aviation safety, Safety, Air carriers, Air transportation, Aircraft, Drugs, Common carriers, Medical kits.

Adoption of the Amendment

In consideration of the foregoing, Parts 11 and 121 of the Federal Aviation Regulations (14 CFR Parts 11 and 121) are amended, as follows:

PART 11—GENERAL RULEMAKING PROCEDURES

1. The authority citation for Part 11 is revised to read as follows:

Authority: 49 U.S.C. 1341(a), 1343(d), 1348, 1354(a), 1401 through 1405, 1421 through 1431, 1481, 1502, 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983).

2. By amending § 11.101 by adding a new OMB Control Number to the table in paragraph (b), as follows:

§ 11.101 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

* * * * *

(b) * * *

121.715	2120–0523

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

3. The authority citation for Part 121 is revised to read as follows:

Authority. 49 U.S.C. 1354 (a), 1355, 1356, 1357, 1401, 1421 through 1430, 1472, 1485, and 1502; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983).

4. By amending § 121.309 by revising paragraph (d) to read as follows:

§ 121.309 Emergency equipment.

* * * * *

(d) *First-aid and emergency medical equipment.* Approved first-aid kits and, on passenger flights, an emergency medical kit for treatment of injuries or medical emergencies that might occur during flight time or in minor accidents must be provided and must meet the specifications and requirements of Appendix A.

* * * * *

5. By amending § 121.417 by revising paragraph (b)(3)(iv) as follows:

§ 121.417 Crewmember emergency training.

* * * * *

(b) * * *

(3) * * *

(iv) Illness, injury, or other abnormal situations involving passengers or crewmembers to include familiarization with the emergency medical kit; and

* * * * *

6. By adding a new § 121.715 as follows:

§ 121.715 In-flight medical emergency reports.

(a) For a period of 24 months commencing with the effective date of this rule, each certificate holder shall maintain records on each medical emergency occurring during flight time resulting in use of the emergency medical kit required under Appendix A, diversion of the aircraft, or death of a passenger or crewmember. These records shall include a description of how the medical kit was used, by whom, and the outcome of the medical emergency.

(b) The certificate holder shall submit these records, or a summary thereof, to its assigned FAA Principal Operations Inspector within 30 days after the end of each 12-month period during the 24 months specified in paragraph (a).

7. By amending Appendix A to Part 121 by revising the title, by adding a subheading before the current text, and by adding a new subheading and text, as follows:

Appendix A—First-Aid Kits and Emergency Medical Kits

First-Aid Kits

* * * * *

Emergency Medical Kits

The approved emergency medical kit required by § 121.309 for passenger flights must meet the following specifications and requirements:

(1) Approved emergency medical equipment shall be stored securely so as to keep it free from dust, moisture, and damaging temperatures.

(2) One approved emergency medical kit shall be provided for each aircraft during each passenger flight and shall be located so as to be readily accessible to crewmembers.

(3) The approved emergency medical kit must contain, as a minimum, the following appropriately maintained contents in the specified quantities:

Contents	Quantity
Sphygmomanometer	1
Stethoscope	1
Airways, oropharyngeal (3 sizes)	3
Syringes (sizes necessary to administer required drugs)	4
Needles (sizes necessary to administer required drugs)	6
50% Dextrose injection, 50cc	1
Epinephrine 1:1000, single dose ampule or equivalent	2
Diphenhydramine HCl injection, single dose ampule or equivalent	2
Nitroglycerin tablets	10
Basic instructions for use of the drugs in the kit	1

Issued in Washington, D.C. on December 31, 1985.

Donald D. Engen,

Administrator.

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