

ARE UNITED STATES AIRLINES PREPARED TO HANDLE IN-FLIGHT MEDICAL EMERGENCIES?

I. INTRODUCTION

Soaring over the Atlantic Ocean at 40,000 feet, you suddenly find yourself having trouble breathing and you feel a tightness in your chest. You know these are symptoms of a heart attack. You think to yourself, this cannot be happening to me, especially here, on an airplane and so far from a hospital. You hope that if your condition is serious that the airline is equipped to handle a life-threatening situation. However, as your family soon discovers, it is not.

This situation does happen and could happen to you. "Each year, an unknown number of U.S. airline passengers dies not as the result of a crash or a fire, but because the medicines and equipment that might have saved their lives were not on board the plane."¹ "Roughly one out of every 10,000 airline passengers will experience an in-flight medical emergency."² In 1996, 10,471 in-flight medical emergencies were reported in the United States alone, which is an average of twenty-nine emergencies per day.³ However, accurate statistics on in-flight medical emergencies and deaths do not exist because airlines are not required to report them.⁴ The Federal Aviation Administration⁵ (FAA) only requires air carriers to report in-flight

1. John Crewdson, *Cardiac Arrest at 37,000 Feet*, CHI. TRIB., June 30, 1996, § 2, at 1.

2. Douglas W. Nelms, *One in a Million: As the Number of Medically At-Risk Passengers Continues to Increase, so Do the Odds of Having an In-flight Medical Emergency*, AIR TRANSPORT WORLD, Oct. 1, 1997, at 82. This statistic is based on a Lufthansa report and is considered the industry's "best guess" figure. See *id.*

3. See Susan Okie, *Cardiac Arrest in the Air—Without the Tools to Cope*, WASH. POST, Jan. 15, 1998, A01, A6. Heart disease accounted for 1,020 of the emergencies reported. See *id.* From 1994-1996:

American Airlines recorded some 4,800 in-flight medical emergencies of all types, including those not attended by physicians. If American's experience is similar to other airlines, there could have been more than 12,000 such emergencies aboard U.S. commercial airlines last year [1995]—an average of 32 a day, or more than 10 times the estimate produced by the FAA's 1986-1988 study.

John Crewdson, *How Many People Die on Airplanes? We're Interested in Aircraft Accidents, Not Heart Attacks, an FAA Official Says*, *Airline, FAA Data Woefully Incomplete*, CHI. TRIB., June 30, 1996, § 2, at 9.

4. See Judy Foreman, *If You Get Sick In-flight, Friendly Skies Can Turn Ugly: Flight Crews Aren't Trained to Deal with Medical Emergencies*, BOSTON GLOBE, Dec. 22, 1997 (visited Sept. 18, 1998) <<http://www.tdo.com/features/health/stories/1222/index.htm>>.

5. One of the responsibilities of the FAA is to improve and maintain safety standards for airlines, which includes safety rulemaking. See generally 14 C.F.R. § 121 (1998).

medical emergencies whenever a death occurs,⁶ an aircraft is diverted, or when the onboard medical kit is used.⁷ It is shocking to report that "[i]n an era when airline computers keep track of passengers' meal and seating preferences and the number of miles they fly, neither the Federal Aviation Administration nor the airlines can say how many people get sick on this country's airplanes or even how many die."⁸

There is disagreement among experts as to the scope of in-flight medical emergencies. Some experts believe that the number of emergencies is relatively small, while others believe that the number of people who die on flights each year is much greater than the number that die in airline crashes.⁹ Regardless of which statistic is accurate, in-flight medical emergencies, including deaths, are a significant problem and are frequently overshadowed by spectacular airline crashes.¹⁰

As air travel becomes less expensive and more accessible, the number of people expected to fly will increase; therefore, the problem of in-flight medical emergencies will likely increase as well. Boeing, a major aircraft manufacturer, estimates that air travel will rise seventy-five percent by 2006.¹¹ If more people are flying in general, more "medically at-risk" passengers will also fly.¹² In addition, more "at-risk" passengers will be

6. "[M]any airlines discourage an official declaration of death until after a passenger's body has been taken from the plane." Crewdson, *supra* note 3, § 2, at 9. With larger aircraft having several flight attendants available, CPR can be performed until the plane lands and a medical official can pronounce the passenger dead, and the airline will not have to record the death onboard. See Okie, *supra* note 3, at A6. Also, airlines do not have to provide any follow-up information on medical emergencies. See *id.*

7. See Linda L. Martin, *The Shock that Revives*, BUS. & COM. AVIATION, June 1, 1997, available in 1997 WL 10773863.

8. Crewdson, *supra* note 3, § 2, at 9.

9. See Tamar Nordenberg, *Air Aid: Medical Kits Reach New Heights* (visited Sept. 28, 1998) <http://www.fda.gov/fdac/features/1998/198_air.html>. "Published news reports . . . suggest that as many as 350 people a year die from in-flight medical problems . . . [which is] a lot more than the number of deaths from plane crashes, which range from a handful per year to more than 250, according to the National Transportation Safety Board." Foreman, *supra* note 4. "What the industry does not say is that commercial aviation is so safe that more passengers may die, on average, from in-flight medical emergencies than in aircraft accidents." Crewdson, *supra* note 3, § 2, at 9. "[A]ir travel in the U.S. is so safe that passengers are now more likely to die of an acute midair illness than in a crash." Crewdson, *supra* note 1, § 2, at 1.

10. See John Crewdson, *Ill in the Air? Don't Count on Fast Landing*, CHI. TRIB., Aug. 4, 1996, § 1, 1 at 15. Hundreds of U.S. airline passengers die every year because life-saving drugs and medical equipment were not onboard the plane. See *id.* In some cases, passengers die because the planes carrying these sick passengers do not land immediately. See *id.*

11. See Nelms, *supra* note 2, at 82.

12. See *id.*

flying as a result of the Americans with Disabilities Act.¹³ Certain aspects in the nature of flying can create problems that may not exist on the ground, especially for people who already suffer from an illness.¹⁴

An awareness of the extent of emergencies in-flight could help airlines make a cost-benefit analysis when determining what equipment to carry in preparing for these situations.¹⁵ Some experts believe airlines "should be better equipped for in-flight treatment because it's not always possible to land quickly where good medical care is available."¹⁶ From an economic viewpoint, diverting an aircraft is costly and can cause scheduling difficulties for other passengers onboard.¹⁷ Due to both the passengers' health and

13. *See id.* "The Americans with Disabilities Act states that anyone who wants to fly on an airline can, regardless of his/her physical condition." Nelms, *supra* note 2, at 82. The Americans with Disabilities Act in 1990 stated that "no person could be denied full access to public transportation because of a disability." *Airlines Adding Defibrillators* (visited Sept. 28, 1998) <<http://www.hookman.com/hc9802.htm>>. Moreover, the Air Carrier Access Act guarantees that people with disabilities will receive nondiscriminatory treatment when traveling by air. *See* 49 U.S.C.A. § 41705 (West 1997). *See also The Air Carrier Access Act—Make it Work for You* (visited Nov. 13, 1998) <<http://www.pva.org/access/aircarr/tacaa01.htm>>. In 1990, the Department of Transportation (DOT) required some airlines to design more accessible aircraft and required airlines to modify their practices to ensure that passengers with disabilities do not encounter discrimination. *See id.*

14. The Mayo Clinic has stated:

Decreased cabin air pressure at high altitudes can cause chest pain for people with severe coronary artery disease and shortness of breath for people with lung disease. Sitting for a long time in a fixed, upright position may cause blood pooling and clotting in the veins of your legs. Time zone changes may disrupt medication schedules. Variable cabin temperatures, humidity and noise or vibration levels may cause discomfort.

Mayo Clinic, *Staying Well Aloft: Avoiding In-Flight Medical Emergencies*, HEALTH OASIS (Feb. 21, 1996) <<http://www.mayohealth.org/mayo/9602/htm/in-fli2.htm>>. *See also* Farrol Kahn, *Beware of Low Flow on Aircraft*, FIN. TIMES, Mar. 23, 1998, at 19, *available in* 1998 WL 3541879 (stating air travel is a significant factor in causing blood clots).

While many fliers have the same heart attacks, strokes or other emergencies that they might have on the ground, there is also an increased risk in flight because the reduced air pressure in the cabin — often equivalent to being at about 8,000 feet altitude — means less oxygen gets into the bloodstream than at sea level. This poses a particular problem for anyone with anemia, or cardiac and respiratory problems.

Foreman, *supra* note 4.

15. *See* Joan Sullivan Garrett, *Preparing Non-Medical Personnel to Save Lives with AEDs: Corporate Aviation is in a Position to Lead the Way* (visited Sept. 28, 1998) <<http://www.medaire.com/wpflsafe.htm>>.

16. Kathryn Ericson, *Lawsuits Blame Airlines' Response to Medical Emergencies*, WEST'S LEGAL NEWS, Oct. 28, 1996, at 11440, *available in* 1996 WL 615194.

17. *See id.*

additional expenses incurred in an emergency landing,¹⁸ airlines are looking for more ways to handle in-flight medical emergencies.¹⁹

The concern of in-flight medical emergencies has prompted the U.S. government to take steps to address the issue.²⁰ The federal government has realized that its more than decade-old regulations regarding airline preparation for in-flight medical emergencies are inadequate.²¹ On April 24, 1998, President Clinton signed into law the Aviation Medical Assistance Act.²² This Act directs the FAA to review its existing regulations regarding the required equipment to be carried in emergency medical kits on commercial aircraft and the training requirements of flight attendants who use the equipment.²³ The Act requires the FAA to begin a rulemaking process to modify the existing regulations as a result of the reevaluation.²⁴ It also requires the FAA to make a determination whether to mandate defibrillators as part of the emergency medical equipment on airplanes and in airports throughout the country.²⁵ The Act also requires the airlines to make a good faith effort to report emergencies and deaths so that the FAA can get a more accurate idea of the scope of the problem.²⁶

Some issues involved in deciding what equipment and medication to carry on commercial airlines are: (1) the cost of advanced medical equipment on each plane; (2) whether the patient should be treated during flight or on the ground; and (3) the liability to the airlines and safety of the passengers on the aircraft if sharp medical instruments and drugs get into the wrong hands.²⁷ Some medical groups have warned the FAA that certain drugs and devices, if misused, "could do more damage than good."²⁸ The FAA must also take into consideration electronic interference when deciding

18. Airlines can incur costs of hundreds of thousands of dollars if a plane must make an emergency landing. See Foreman, *supra* note 4. The pilot may have to dump fuel to avoid the dangers of landing the plane with full tanks. See *id.* Also, the airline may have to put delayed passengers in hotels or on other airlines to get them to their final destinations. See *id.*

19. See *id.*

20. See generally Bryon L. Dorgan, *President Signs Dorgan-Frist Defibrillator Bill: FAA Will Reevaluate the Need for Life Saving Medical Equipment Aboard Commercial Aircraft*, GOV'T. PRESS RELEASES, Apr. 28, 1998, available in 1998 WL 7323216.

21. See *id.*

22. Aviation Medical Assistance Act of 1998, Pub. L. No. 105-170, 112 Stat. 47 (to be codified at 49 U.S.C. § 44701).

23. See *id.* § 2.

24. See Dorgan, *supra* note 20.

25. See *id.*

26. See Aviation Medical Assistance Act of 1998, Pub. L. No. 105-170, § 3, 112 STAT. 47, 47-48 (to be codified at 49 U.S.C. § 44701).

27. See Ericson, *supra* note 16.

28. Okie, *supra* note 3, at A6.

what type of medical equipment to require onboard commercial aircrafts.²⁹ "Any electronic medical equipment carried onboard an aircraft must be certified free from any potential for electronic interference with flight instruments or aircraft controls."³⁰

The purpose of this note is to evaluate the current FAA regulations on in-flight medical emergencies for U.S. carriers and compare these regulations to those of the European Union according to several standards such as: (1) the minimum emergency medical equipment required onboard; (2) the minimum training requirements for flight attendants; and (3) the extent of liability of the airline, crewmembers, and any medically-trained passenger who assist during an in-flight medical emergency. Part II will give a brief background of commercial aviation in the United States and how it has evolved into the mega industry it is today. Part III sets forth the current U.S. regulations promulgated by the FAA. Part IV explains how commercial aviation in the European Union is regulated and sets forth the laws that currently govern the European Union. Part V compares U.S. and European Union regulations. Part VI provides several recommendations to the FAA for upgrading the medical equipment required on all U.S. commercial airlines and the training given to flight attendants to deal with these problems. Also, Part VI offers a recommendation for the type of action needed to allow a crewmember or other passenger to aid a sick passenger without having to worry about a lawsuit for misdiagnosing or treating the passenger while in the air.

II. BACKGROUND

Regularly-scheduled passenger and express carriers began operating in the mid-1920s.³¹ "The premier carrier to offer sustained service was Western Air Express, which began its Salk [sic] Lake City-to-Los Angeles route on May 23, 1926."³² In 1926, little thought was given to in-flight medical emergencies. Flying was basically for the wealthy and adventurous and was mainly domestic in nature.

Between 1926 . . . and 1993 the industry grew from 6,000 passengers flying 1 million passenger miles a year—and paying a dollar a mile (in 1993 dollars) for the speedy but cramped new service—to nearly half a billion passengers flying nearly a half

29. See *In-Flight Medical Kits*, 1997: *Hearing Before the Subcomm. on Aviation of the House Comm. on Transp. and Infrastructure*, 105th Cong. 146 (1997) (statement of the Air Line Pilots Association) [hereinafter *In-Flight Medical Kits*].

30. *Id.*

31. See 1 MYRON J. SMITH, JR., *THE AIRLINE BIBLIOGRAPHY: THE SALEM COLLEGE GUIDE TO SOURCES ON COMMERCIAL AVIATION* 13 (1986).

32. *Id.*

trillion passenger miles for thirteen cents a mile.³³

In the early years, flight attendants were men — stewards³⁴ — but this practice quickly changed in the 1930s.³⁵ Airlines hired only women, whom they called stewardesses, from the 1930s to the 1970s.³⁶ On May 15, 1930, Ellen Church, a previously-trained nurse, became the premier stewardess by making her first flight for Boeing Air Transport³⁷ between San Francisco and Cheyenne.³⁸ Although passenger health was not necessarily an issue, Ellen Church, as a nurse and a stewardess, started the chapter in aviation history of flight attendants being recognized as safety professionals.³⁹ In the early years, stewardesses were role models for young women; however, they were also subjected to many sexual advances by pilots, passengers, and their companies.⁴⁰ Unfair weight and marriage stipulations were endured by female stewardesses in order to continue employment.⁴¹ For many years, flight attendants fought to be treated with more respect and to have their profession taken seriously.⁴²

Today, flight attendants are both male and female and their duties are primarily focused on safety.⁴³ Flight attendants are trained by their employers, and each training program lasts between three to seven weeks, depending on the airline.⁴⁴ Training includes classroom and in-flight simulated experiences.⁴⁵ Although a flight attendant's job consists mainly of customer service, the primary role of flight attendants is one of safety.⁴⁶ Without the proper training and equipment, flight attendants have a difficult time performing this important job.⁴⁷

In 1983, the Court of Appeals, District of Columbia Circuit, held in

33. STEVEN A. MORRISON & CLIFFORD WINSTON, *THE EVOLUTION OF THE AIRLINE INDUSTRY* 6 (1995).

34. See SMITH, *supra* note 31, at 89.

35. See *id.*

36. See *id.*

37. Boeing Air Transport was a predecessor of United Airlines. See SMITH, *supra* note 31, at 205.

38. See *id.* at 89.

39. See *Requirements for Medical Equipment on Airlines, 1997: Hearing Before the Subcomm. on Aviation of the House Comm. on Transp. and Infrastructure*, 105th Cong. 93 (1997) (testimony of Denise C. Hedges, President, Association of Professional Flight Attendants) [hereinafter *Requirements for Medical Equipment on Airlines*].

40. See SMITH, *supra* note 31, at 89.

41. See *id.*

42. See *id.*

43. See *id.* See also *Requirements for Medical Equipment on Airlines*, *supra* note 39, at 93.

44. See SMITH, *supra* note 31, at 89.

45. See *id.*

46. See *Requirements for Medical Equipment on Airlines*, *supra* note 39, at 93.

47. See *id.*

Bargmann v. Helms that the Federal Aviation Administration had authority to institute rulemaking pursuant to its statutory mandate of regulating "safety."⁴⁸ The issue in *Bargmann* was whether the FAA possessed the statutory authority to institute rulemaking to upgrade the quality of first-aid kits currently carried onboard commercial aircraft.⁴⁹ The FAA said it lacked the "power, under its mandate to regulate 'safety' in the Federal Aviation Act of 1958, to require commercial aircraft to carry medical equipment designed to treat health problems that 'occur' in flight but are not 'caused by' flight."⁵⁰ The court disagreed, holding that "the FAA has the statutory authority to proceed with a rulemaking on the subject should it deem such action advisable on the merits."⁵¹ The court emphasized that the FAA does not have to require such equipment, simply that the FAA has the authority to do so.⁵² *Bargmann* demonstrates that the FAA does have the authority to require airlines to carry equipment necessary to handle in-flight medical emergencies.

After *Bargmann* was decided, the FAA set out requirements for large commercial aircraft to carry emergency medical kits.⁵³ Besides setting minimum standards for safety equipment required onboard the aircraft, the FAA promulgates regulations for airlines to follow when training flight attendants on safety-related issues.⁵⁴ However, the question still remains whether or not those regulations and standards are enough to meet today's in-flight medical needs.⁵⁵

Some U.S. airlines have taken action beyond the FAA's minimum standards in order to make flying a safer experience for their passengers.⁵⁶ In November 1996, the FAA approved the use of biphasic external defibrillators⁵⁷ (devices to treat sudden cardiac arrest), and that same month, American Airlines became the first U.S. carrier to install defibrillators, which it placed only on its international aircraft.⁵⁸ In 1998, shortly after

48. See *Bargmann v. Helms*, 715 F.2d 638 (D.C. Cir. 1983). See also Ericson, *supra* note 16.

49. See *Bargmann*, 715 F.2d at 638.

50. *Id.* at 638-39.

51. *Id.* at 639.

52. See *id.*

53. See 14 C.F.R. § 121.309(7)(d)(ii) (1998).

54. See generally 14 C.F.R. § 121.417 (1998).

55. See generally Nelms, *supra* note 2.

56. See *id.* See also *Airlines Adding Defibrillators*, *supra* note 13.

57. See Aaron Howard, RN, *Heart Attack at 30,000 Feet*, NURSEWEEK/HEALTHWEEK, Apr. 3, 1998 (visited Nov. 21, 1998) <<http://www.nurseweek.com/features/98-4/rescue.html>>.

58. See Nelms, *supra* note 2, at 84.

placing defibrillators on only its international aircraft,⁵⁹ American Airlines equipped all its aircraft with defibrillators.⁶⁰ They also enhanced the on-board medical kit by adding more prescription medicines to treat cardiac arrest, epileptic seizures, asthma, bronchitis, psychosis, anxiety, nausea, vomiting, motion sickness, and postpartum bleeding.⁶¹

Although the FAA has not updated commercial airline regulations for in-flight medical equipment for twelve years, many airlines, such as American, are initiating the much-needed changes.⁶² Shortly after American Airlines upgraded their equipment, Delta, United and Alaska Airlines followed suit.⁶³ Regardless of the FAA ruling, in the near future, many U.S. carriers are expected to do the same.⁶⁴ Other carriers across the globe have carried defibrillators and enhanced emergency medical kits for years, setting a high standard in the industry.⁶⁵ Virgin Atlantic Airways and Qantas, the Australian airlines, have carried defibrillators for the last three years.⁶⁶ Cathay Pacific Airways based in Hong Kong and Air Zimbabwe also carry

59. In June 1997, American Airlines added defibrillators to its overwater fleet to help treat sudden cardiac arrest. See *American Airlines' Purchase of Heart Defibrillators Justified on Safety Alone but Could Also Limit Liability*, WORLD AIRLINE NEWS, Apr. 4, 1997, available in 1997 WL 8541644 [hereinafter *American Airlines' Purchase of Heart Defibrillators*]. See also *American Airlines: American Airlines Equips International Fleet with Defibrillators*, M2 PRESSWIRE, July 2, 1997, available in 1997 WL 11937470 [hereinafter *American Airlines: American Airlines Equips*]. On May 1, 1998, American started adding automatic external defibrillators and enhanced medical kits on its domestic flights. See *American Adds Defibrillators, Enhanced Medical Kits to Domestic Fleet*, AVIATION DAILY, May 1, 1998, at 193 [hereinafter *American Adds Defibrillators*]. See also John Crewdson, *Medical Gear Upgrade Lets American Airlines Keep Pace Defibrillators, Drug Kits Will Be Added to its Domestic Flights*, CHI. TRIB., Jan. 14, 1998, § 1, at 3 [hereinafter *Crewdson, Medical Gear Upgrade*]. During an American Airlines flight from Texas to Mexico, passenger Robert Giggey became the first person to be successfully saved from cardiac arrest with the use of a defibrillator onboard the airline. See John Crewdson, *Defibrillator Aboard Jet Saves Cardiac Victim*, PITT. POST-GAZETTE, Feb. 22, 1998, at A3, available in 1998 WL 5235033 [hereinafter *Crewdson, Defibrillator Aboard Jet*].

60. See *American Adds Defibrillators*, *supra* note 59, at 193.

61. See *Crewdson, Medical Gear Upgrade*, *supra* note 59, § 1, at 3. See also *American Airlines: American Airlines Equips*, *supra* note 59; *American Adds Defibrillators*, *supra* note 59.

62. See *Crewdson, Defibrillator Aboard Jet*, *supra* note 59, at A3.

63. See CNN Financial Network, *Fly the Healthy Skies* (Aug. 3, 1998) <<http://europe.cnnfn.com.fntraveler/9808/03/biztravel>>. See also *Delta Equipping Fleet with Defibrillators*, AVIATION DAILY, Jan. 15, 1998, at 84. See also *Crewdson, Defibrillator Aboard Jet*, *supra* note 59, at A3. See also *Renewed Interest for Defibrillators Aboard Aircraft*, AIR SAFETY WEEK, Mar. 9, 1998, available in 1998 WL 7199991 [hereinafter *Renewed Interest*].

64. See *Defibrillator Aboard Jet*, *supra* note 59, at A3.

65. See *id.*

66. See John Crewdson, *Hong Kong Carrier is Latest to Add In-flight Defibrillators*, CHI. TRIB., Feb. 28, 1997, § 1, at 3.

defibrillators on their aircraft.⁶⁷ The increasing concern for upgraded medical equipment is evident by the actions of these airlines.

III. Current U.S. Law: FAA Standards

The FAA has required large U.S. passenger-carrying aircraft to carry emergency medical kits since 1986.⁶⁸ However, these rules have not been revised since they were initiated.⁶⁹ Airlines must also carry basic first-aid kits on their aircraft that are readily accessible to the cabin flight attendants.⁷⁰ Approved first-aid kits must be dust-free and moisture proof, contain only approved materials and be distributed evenly throughout the aircraft.⁷¹ The minimum number of first-aid kits depends on the number of passenger seats on the aircraft, ranging anywhere from one to four kits.⁷² One approved emergency medical kit must be onboard each aircraft and be readily accessible to crewmembers.⁷³ Doctors or other health professionals are the only persons authorized to open the emergency medical kits.⁷⁴

Not only does the FAA regulate the contents of the first-aid kits and the emergency medical kit, but it also sets the training requirements for flight attendants.⁷⁵ Proper training of crewmembers, especially flight attendants, is essential for any in-flight medical emergency.⁷⁶ It is important for airlines

67. *See id.*

68. *See Requirements for Medical Equipment on Airlines 1997: Hearing Before the Subcomm. on Aviation of the House Comm. on Transp. and Infrastructure*, 105th Cong. 96 (1997) (statement of Dr. Jon L. Jordan, Fed. Air Surgeon). *See also What Aircraft Medical Kits Must Include*, GANNETT NEWS SERVICE, May 21, 1997, available in 1997 WL 8828363.

69. *See Okie, supra* note 3, at A6.

70. *See* 14 C.F.R. § 121, app. A (1998).

71. *See* 14 C.F.R. § 121, app. A (1998). With few exceptions, each first-aid kit must contain the following approved contents: sixteen one-inch adhesive bandage compresses; twenty antiseptic swabs; ten ammonia inhalants; eight four-inch bandage compresses; five forty-inch triangular bandage compresses; one noninflatable arm splint; one noninflatable leg splint; four four-inch roller bandages; two one-inch standard rolls of adhesive tape; and one pair of bandage scissors. *See id.* Arm and leg splints that do not fit in the first-aid kit may be stowed in a readily accessible location as close as possible to the kit. *See id.*

72. *See id.*

73. *See id.* The emergency medical kit must contain a blood pressure cuff and a stethoscope, both of which, according to Dr. Andrew Horne, a retired FAA official, were included primarily for effect. *See John Crewdson, A Question of Philosophy: First Aid vs. Emergency Medicine*, CHI. TRIB., June 30, 1996, § 2, at 6.

74. *See Foreman, supra* note 4.

75. *See generally* 14 C.F.R. §§ 121.400-121.429 (1998).

76. *See In-Flight Medical Kits, supra* note 29, at 146.

With only two pilots in the flightdeck, it is not possible in many instances for a pilot to assist a flight attendant in handling a medical emergency. In that case, the flight attendant must be able to handle the emergency, interact with the flight crew, and communicate with medical personnel, either on board the

to develop clear and comprehensive procedures to cover in-flight medical emergencies.⁷⁷

"Some flight attendants have first aid training. However, they are neither legally obligated nor licensed to handle passengers' medical needs."⁷⁸ During a flight attendant's initial training, the FAA requires "[e]ach training program . . . [to] provide . . . emergency training . . . with respect to each airplane type, model, and configuration, each required crewmember, and each kind of operation conducted, insofar as appropriate for each crewmember and the certificate holder."⁷⁹ Emergency training must provide, among other things, an orientation to "[f]irst aid equipment and its proper use . . . [and] [i]llness, injury, or other abnormal situations involving passengers or crewmembers to include familiarization with the emergency medical kit."⁸⁰ Each crewmember must demonstrate the use of each type of emergency oxygen system on the aircraft⁸¹ and must receive instruction in respiration and hypoxia.⁸² The majority of time during flight attendant training is spent on emergency evacuation drills.⁸³ Although flight attendants are well trained to handle an evacuation, they usually are given only minimal instruction to handle a heart attack, an epileptic seizure, or any other illness or injury that may arise unexpectedly during flight.⁸⁴ The reason they are not given extensive training on medical emergencies could be because they are not required to perform emergency care on their passengers.

United States commercial airlines are classified as "common carriers"

airplane or on the ground.

Id.

77. *See id.*

78. Mayo Clinic, *supra* note 14. The FAA does not require crews to learn CPR, but some carriers still provide CPR and other medical training. *See* Foreman, *supra* note 4.

79. 14 C.F.R. § 121.417(a) (1998).

80. 14 C.F.R. § 121.417(b)(2)(ii), (b)(3)(iv) (1998).

81. *See* 14 C.F.R. § 121.417(c)(2)(i)(C) (1998).

82. *See* 14 C.F.R. § 121.417(e)(1), (2) (1998). Hypoxia is the lack of oxygen to the brain or a "[d]eficiency in the amount of oxygen reaching bodily tissues." THE AMERICAN HERITAGE DICTIONARY 634 (2d College ed. 1985). Hypoxia occurs during decompression of the aircraft and must be treated immediately with oxygen. *See* AMERICAN TRANS AIR, INC., FLIGHT ATTENDANT INFLIGHT MANUAL, ch. 5, at 9 (Mar. 30, 1997). The "time of useful consciousness" is the duration from the start of hypoxia until the decline of a person's constructive performance. *See id.* The approximate time of "useful consciousness" is 45 seconds at 30,000 feet and 18 seconds at 40,000 feet. *See id.*

83. *See generally* 14 C.F.R. § 121.417 (1998). Emergency evacuation training consists of knowing the location, function, and operation of emergency equipment. *See id.* § 121.417(b)(2)(i)-(iv). Flight attendants are trained to operate emergency exits in order to evacuate an aircraft during an emergency landing on land, as well as deploy rafts and evacuate during a water ditching. *See id.* § 121.417(b)(2)(i), (iv). They are trained to put out fires onboard the aircraft and handle hijacking, bomb threats, and other unusual situations. *See id.* § 121.417(b)(3)(ii), (v).

84. *See id.* § 121.417(a)(3)(iv).

and are not required to provide emergency care for their passengers. Consequently, when a medical emergency occurs on board an aircraft, flight attendants, who are in immediate charge of the safety and welfare of the passengers, have several options. They can deal with the problem themselves, they can ask for the assistance of any medically trained passengers on board, or they can "radio patch" to medical personnel on the ground. In addition, they can recommend to the pilot, who always has final responsibility,⁸⁵ that the aircraft land at the nearest airport, or they may request that emergency medical personnel meet the aircraft on arrival.⁸⁶ In light of these options, a flight attendant should have enough training and equipment to feel confident in handling an in-flight medical emergency.

IV. EUROPEAN UNION LAW: JAA STANDARDS

In Europe, the fifteen members of the European Union belonging to the Joint Aviation Authorities⁸⁷ (JAA) enacted, in April 1998, requirements regarding medical emergencies on airplanes which are similar to the requirements the FAA is seeking to implement in 1999.⁸⁸ Recent deregulation has created a need to harmonize civil aviation among the European communities.⁸⁹ Before deregulation, each community acted under

85. Although the captain of an aircraft is in complete command of her plane, the reality is, a decision to land for medical reasons involves so many extra costs to the airline that the dispatchers and its medical department are usually a part of the decision-making process. See Crewdson, *supra* note 10, § 1, at 14. Extra costs include dumping fuel in order to avoid damage to the landing gear, paying extra landing and servicing fees, overtime for flight crews and rescheduling passengers' flights. See *id.* "United's pilot handbook contains the admonition that any captain considering an emergency medical landing is 'strongly advised' to contact both United's dispatchers and the airline's medical department 'before dumping fuel, diverting or otherwise compromising available options.'" *Id.* Part 121 of the Federal Aviation Regulations contains emergency provisions which state that "[i]n an emergency situation . . . [requiring] immediate decision and action[,] the pilot in command may take any action that he considers necessary under the circumstances." 14 C.F.R. § 121.557(a) (1998). For information relating to emergencies on supplemental air carriers and commercial operations, see 14 C.F.R. § 121.559 (1998).

86. See Richard O. Cummins & Jessica A. Schubach, *Frequency and Types of Medical Emergencies Among Commercial Air Travelers*, 261 JAMA 1295 (Mar. 3, 1989).

87. The 15 members of the European Union that are part of the Joint Aviation Authorities are Austria, Finland, Sweden, Spain, Portugal, Germany, Italy, United Kingdom, France, Netherlands, Greece, Belgium, Denmark, Ireland, and Luxembourg. See *The 15 Member States* (visited May 11, 1999) <<http://ue.eu.int/en/info/15states.htm>>.

88. See Barry James, *In Europe, Crews Trained to Cope with Trouble*, INT'L HERALD TRIB., Jan. 16, 1998, at 4. "National governments are responsible for airline safety in Europe, and they approve and monitor aircraft or equipment." *Id.*

89. See 1998 O.J. (C 214) 37, arts. 1.2-1.3. See also *Europe Opens Up the Skies to Competition*, EUROWATCH, Apr. 18, 1997, available in LEXIS, EURCOM Library, EURWCH File. On April 1, 1997, the European airline industry completed its final stages

its own regulations, making for an inefficient society.⁹⁰ "The governments [of the member states] set up the Joint Aviation Authorities to oversee rule-making so that airlines operate under a common set of standards."⁹¹

The Joint Aviation Authorities, like the FAA in the United States, has developed technical requirements known as JAR-OPS, which are common air safety regulations that JAA members must follow.⁹² The JAR-OPS requirements were adopted on March 28, 1995, and could be transposed into Community law in order to conform such requirements throughout the European Community.⁹³ The JAR-OPS requirements include training standards for cabin crews on commercial airlines.⁹⁴ They also make airlines ensure that cabin crews are capable of performing certain safety-related functions, including emergency procedures for an accident, a fire onboard an aircraft, depressurization of the cabin, and treating medical disorders among passengers.⁹⁵ Furthermore, they provide that the cabin crew should undergo certain medical examinations to ensure their fitness to carry out their duties.⁹⁶

The members of the European Union have developed these common standards but currently leave it to each Member State to decide its own system of implementation.⁹⁷ The Joint Aviation Authorities operate informally, and all of their decisions require unanimity among the fifteen members.⁹⁸ However, the European Union transport ministers agreed to establish a European Aviation Safety Agency (EASA) in 1999, which will operate formally "to certify compliance of aircraft, equipment and procedures with international safety standards and make sure the standards are applied uniformly by all 15 EU members."⁹⁹ The idea behind establishing a common set of standards is to reinforce the global authority of the European aviation institution.¹⁰⁰

The common safety training standards set out in JAR-OPS are similar

of deregulation, much like the United States did back in the 1970s. *See id.* Airlines in Europe were once restricted to flying within their home country and two other countries. *See id.* Now they are able to book flights that depart and terminate anywhere in Europe. *See id.*

90. *See* John Balfour, *European Aviation Safety Regulation*, AIR & SPACE LAW., Summer 1996, at 10.

91. James, *supra* note 88, at 4.

92. *See* 1998 O.J. (C 214) 37, art. 1.3.

93. *See id.*

94. *See id.*

95. *See id.*

96. *See id.*

97. *See id.* art. 1.4.

98. *European Aviation Safety Agency to Take Place of National Authorities*, AEROSPACE DAILY, June 22, 1998, at 460, available in 1998 WL 9027804.

99. *See id.*

100. *See id.*

to the internationally recommended standards¹⁰¹ and the superior training practices of the industry.¹⁰² EU sources contend that the JAR-OPS standards are sufficient to ensure a high level of safety in the industry.¹⁰³ Under JAR-OPS standards, "[a]n operator shall ensure that medical and first aid training includes: (1) [i]nstruction on first aid and the use of first-aid kits; (2) [f]irst aid associated with survival training and appropriate hygiene; and (3) [t]he physiological effects of flying and with particular emphasis on hypoxia."¹⁰⁴ Regarding safety equipment, the JAR-OPS states that an airline "shall ensure that each cabin crew member is given realistic training on, and demonstration of, the location and use of safety equipment including . . . [f]irst-aid kits, their contents and emergency medical equipment."¹⁰⁵ Airlines must also ensure that recurrent training, which occurs every twelve months, includes a section on "[f]irst aid and the contents of the first-aid kits."¹⁰⁶

One of the differences between the Federal Aviation Regulations (FARs) and the Joint Aviation Regulations (JARs) is that additional crewmembers are assigned to specialist duties under the JARs.¹⁰⁷ In the European Union, airlines can utilize additional crewmembers who are solely assigned to specialist duties¹⁰⁸ to which other requirements of the JAR-OPS are not applicable.¹⁰⁹ One of the specialist duties listed in the JAR-OPS is medical personnel.¹¹⁰ In the United States, each crewmember must meet the requirements of the FARs, regardless of whether they have a specialized duty.¹¹¹

In the European Union, cabin crews are given advanced first aid training. This training is an orientation to the physiology of flights including an emphasis on hypoxia.¹¹² European Union cabin crews are also trained to handle other medical emergencies, including choking, stress reactions, allergic reactions, hyperventilation, gastro-intestinal disturbance, air sickness, epilepsy, heart attacks, strokes, shock, diabetes, emergency

101. The Convention on International Civil Aviation "provides for implementation of the measures necessary to ensure the safe operation of aircraft[s]." 1991 O.J. (L 373) 4. This Convention was signed in Chicago on December 7, 1944. *See id.*

102. *See* 1998 O.J. (C 214) 37, art. 2.2.

103. *See* 1991 O.J. (L 373) 4.

104. JAR-OPS 1 Subpt. O, § 1, App. 1 to JAR-OPS 1.1005, ¶ 1.1005(e).

105. JAR-OPS 1 Subpt. O, § 1, App. 1 to JAR-OPS 1.1010, ¶ 1.1010 (h)(12).

106. JAR-OPS 1 Subpt. O, § 1, App. 1 to JAR-OPS 1.1015, ¶ 1.1015(b)(5).

107. *See* JAR-OPS 1 Subpt. O, § 2, IEM OPS 1.988.

108. "The additional crew members solely assigned to specialist duties to whom the requirements of Subpart O are not applicable include the following: i) Child minders/escorts; ii) Entertainers; iii) Ground engineers; iv) Interpreters; v) Medical personnel; vi) Secretaries; and vii) Security staff." JAR-OPS 1 Subpt. O, § 2, IEM OPS 1.988, ¶¶ 1.988(i)-(vii).

109. *See id.*

110. *See id.* ¶ 1.988(v).

111. *See* 14 C.F.R. § 121.417(a) (1998).

112. *See* JAR-OPS 1 Subpt. O, § 1, App. 1 to JAR-OPS 1.1005, ¶ 1.1005(e)(3).

childbirth and asthma.¹¹³ Cabin crews are given basic first aid and survival training which includes care of the unconscious, burns, wounds and fractures, and soft tissue injuries.¹¹⁴ First-aid training must also include practical cardio-pulmonary resuscitation (CPR) by each cabin crewmember in the airplane environment on a specifically designed dummy.¹¹⁵ Contrary to the JAA, the FAA does not mandate CPR by crewmembers.¹¹⁶

To maintain high safety standards, the training programs, facilities, and training organization must be duly approved by the Member State and the JAA.¹¹⁷ They must also be given formal recognition.¹¹⁸ However, the process for approval and recognition is left to the Member States themselves.¹¹⁹

Another mandatory standard in the European Union that is not a regulation in the United States is medical examinations of cabin crewmembers.¹²⁰ Each cabin crewmember receives an initial medical examination or assessment and periodic re-assessments.¹²¹ These examinations are to be conducted by, or under the supervision of, a medical practitioner acceptable to the Joint Aviation Authority.¹²² The Authority mandates that the operators maintain a medical record for each cabin crewmember.¹²³ Each crewmember must be in good health, free from any physical or mental illness which might lead to incapacitation or the inability to perform cabin crew duties, have normal cardiorespiratory function, a normal central nervous system, adequate visual acuity with or without visual correction, adequate hearing, and normal function of the ears, nose, and throat.¹²⁴ Keeping crewmembers healthy is important in ensuring that they have the strength and ability to perform all of their necessary duties, including assisting sick passengers.

113. See JAR-OPS 1 Subpt. O, § 2, IEM to App. 1 to JAR-OPS 1.1005, 1.1015 & 1.1020, ¶ 1(b)(i)-(xii). See also James, *supra* note 88, at 4.

114. See JAR-OPS 1 Subpt. O, § 2, IEM to App. 1 to JAR-OPS 1.1005, 1.1015 & 1.1020, ¶ 1(c)(i)-(iv).

115. See *id.* ¶ (d).

116. See Okie, *supra* note 3, at A6.

117. See 1998 O.J. (C 214) 37, art. 2.2.

118. See *id.*

119. See *id.*

120. See JAR-OPS 1 Subpt. O, § 1, JAR-OPS 1.995, ¶ 1.995(a)(2). See also 1998 O.J. (C 214) 37, art. 2.1.

121. See JAR-OPS 1 Subpt. O, § 1, JAR-OPS 1.995, ¶ 1.995(a)(2), (3).

122. See JAR-OPS 1 Subpt. O, § 2, AMC OPS 1.995(a)(2), ¶ 1.

123. See *id.* ¶ 2.

124. See *id.* ¶ 3(a)-(g).

V. COMPARISON OF FAA REGULATIONS AND JAA REGULATIONS

The FAA and the JAA are similar organizations. The FAA establishes the safety guidelines that airlines in the United States must follow.¹²⁵ The JAA oversees the rulemaking for safety requirements in the European Union.¹²⁶ Both organizations are responsible for mandating the type and amount of medical equipment and medication that airlines must carry and the training necessary for cabin crews.¹²⁷ Although the JAA has common standards for the members of the European Union, the system of implementation is left to the Member States,¹²⁸ whereas the FAA is the final authority in the United States.¹²⁹

Many of the standards between the two organizations are similar because they must meet international safety standards.¹³⁰ However, the European Union is more advanced than the United States in its ability to care for a sick passenger onboard an airplane. "Many foreign airlines provide more extensive medical kits than U.S. carriers, and several . . . carry defibrillators."¹³¹ Many medical kits carried by international air carriers focus on stabilizing a situation and serve as excellent models for U.S. carriers.¹³² The medication and equipment carried are based on the medical problems most commonly seen on the aircraft and are not necessarily aimed at curing or alleviating the passengers' problem.¹³³ Instead, the medicine and equipment are aimed at stabilizing ill passengers to prevent further deterioration or decline in their health.¹³⁴ Although all the U.S. carriers meet FAA requirements, Dr. Ian W. Cummings, a practicing emergency care physician and President of the Association of Emergency Physicians, stated that "the medical care offered by the domestic airlines [is] 'woefully inadequate and inconsistent[,]'" which is a feeling shared by many medical professionals.¹³⁵

125. See 14 C.F.R. § 121.1 (1998).

126. See JAR-OPS 1 Subpt. O, § 1, JAR-OPS 1.988.

127. See generally 14 C.F.R. §121 (1998); JAR-OPS 1 Subpt. O, § 1.

128. See 1998 O.J. (C 214) 37, art. 1.4.

129. See generally 14 C.F.R. § 121 (1998).

130. "[T]he 1944 Chicago Convention . . . provides for a set of universally applicable standards, compliance with which should be accepted by all parties to the Convention." Balfour, *supra* note 90, at 1 & 10.

131. Okie, *supra* note 3, at A6.

132. See *Medical Kits on Commercial Aircraft*, 1997: *Hearing Before the Subcomm. on Aviation of the House Comm. on Transp. and Infrastructure*, 105th Cong. 69, 74 (1997) (statement of Joan Sullivan Garrett, President, MedAire, Inc.) [hereinafter *Medical Kits on Commercial Aircraft*].

133. See *id.* at 74.

134. See *id.*

135. CNN Financial Network, *supra* note 63.

While the United States is just beginning to adopt standards to safeguard the in-flight health of passengers on U.S. airlines, one European carrier is looking for ways to become the industry leader in caring for sick passengers.¹³⁶

In an era when foreign [outside Europe] airlines are searching for ways to improve their in-flight medical care — British Airways is developing a system that will transmit electrocardiograms via satellite to emergency physicians on the ground — U.S. airlines are not required to carry even a thermometer or a bottle of aspirin.¹³⁷

British Airways, Lufthansa, Air France, Qantas and Alitalia, like most airlines in Europe, carry medical kits no bigger than an ordinary suitcase.¹³⁸ These kits are stocked with most of the same cardiac drugs found in hospital emergency rooms and include medications for seizures, pain relief, narcotic overdoses, psychotic behavior and drugs to stop postpartum hemorrhaging.¹³⁹ Many of those kits also contain extraordinary medical equipment such as umbilical cord clamps for use during childbirth.¹⁴⁰ By contrast, in 1994, Trans World Airlines (TWA) flight attendants who assisted in a birth during flight used shoelaces to tie the mother's umbilical cord because an umbilical cord clamp was not available.¹⁴¹

Most foreign airlines are better equipped to safeguard the health of their passengers than U.S. carriers.¹⁴² For example, "British Airways' medical kit contains nearly 90 items, including 30 drugs—10 of which, among them a narcotic painkiller, can be administered by flight attendants if there is no physician aboard."¹⁴³ In addition, many foreign airlines carry endotracheal tubes and bag-valve-masks (used to assist respiration).¹⁴⁴ Air Canada follows the European philosophy for safeguarding the health of its air travelers and carries most of the same drugs and devices as the European carriers.¹⁴⁵ Considering these higher standards, it is not surprising that nearly all major foreign airlines disagree with the FAA's approach of limiting the ability of commercial airlines to handle medical situations that

136. See Crewdson, *supra* note 73, § 2, at 6.

137. *Id.*

138. *See id.*

139. *See id.*

140. *See id.*

141. *See id.*

142. *See generally id.*

143. *Id.* § 2, at 6.

144. See Crewdson, *supra* note 1, § 2, at 2.

145. See Crewdson, *supra* note 73, § 2, at 6.

arise during flight.¹⁴⁶

The United States, unlike Canada, has not followed the European carriers and fails to carry advanced medical kits onboard their aircraft to assist in saving lives.¹⁴⁷ Currently, the FAA must determine whether the United States will carry advanced medical equipment and medication like European carriers or stand by the outdated philosophy that, when safeguarding the health of passengers, "less is more."¹⁴⁸

Legislation is necessary to provide airlines, crewmembers and medical volunteers immunity from prosecution for attempting to save a person's life during flight.¹⁴⁹ "So-called 'good Samaritan' laws, which give legal protection to health professionals who offer emergency assistance on the ground, do not apply in the air, a potential disincentive for going to the aid of a fellow passenger."¹⁵⁰

Good Samaritan statutes have been in existence for nearly fifty years.¹⁵¹ These laws resulted from perceptions that potential rescuers would ignore highway accident victims due to the fear of liability.¹⁵² The legislators envisioned a simple answer to the problem when they enacted statutes "creating immunity from civil liability for those who volunteered in medical emergencies."¹⁵³

However, modern emergency medical systems did not exist during the 1950s and 1960s when most of these laws were passed.¹⁵⁴ Before advanced emergency medicine existed, society greatly relied upon individuals to provide care to injured persons in accident situations.¹⁵⁵

Today, each state and the District of Columbia have Good Samaritan laws.¹⁵⁶ The majority view is to provide immunity for Good Samaritans assisting an injured person regardless of his or her medical background, while the minority of states only extend immunity to individuals with medical training.¹⁵⁷ The two purposes of Good Samaritan laws are (1) "encouraging

146. *See id.*

147. *See id.*

148. *See id.*

149. *See In-Flight Medical Kits*, *supra* note 29, at 147.

150. Foreman, *supra* note 4.

151. *See* Bridget A. Burke, Note, *Using Good Samaritan Acts to Provide Access to Health Care for the Poor: A Modest Proposal*, 1 ANNALS HEALTH L. 139, 140 (1992).

152. *See id.*

153. *Id.*

154. *See id.*

155. *See id.*

156. *See id.*

157. *See id.*

emergency volunteerism," and (2) "providing immunity for such action."¹⁵⁸ However, these state laws do not apply in the air.¹⁵⁹ United States commercial airlines and their passengers would benefit from federal legislation encouraging volunteerism and providing immunity for those who assist in an in-flight medical emergency.¹⁶⁰ Unless the FAA acts to limit legal liability to airlines, cabin crews, and volunteers, it seems useless to spend time worrying about equipment, or medical training for flight attendants because so many people are apprehensive of being sued for using their knowledge and training.¹⁶¹

The legal liability to the airlines, medical volunteers, and cabin crews who assist during an in-flight medical emergency is startling.¹⁶² Joan Sullivan Garrett, President of MedAire, Inc., in her testimony before the House Aviation Subcommittee, noted, "[t]oday, we're finding that in nearly 80 percent of our [MedLink] calls, a medical professional — a physician, nurse or emergency medical technician — has volunteered their [sic] services."¹⁶³ However, in many cases, medical personnel are reluctant to respond to a crewmember's request for assistance or give concrete opinions or recommendations because of their fear of liability.¹⁶⁴ Good Samaritan legislation is essential to alleviate these concerns, or the eagerness of people to assist will drastically decline.¹⁶⁵ Having a federal law that protects health care workers who in good faith render emergency medical care during flight is necessary legislation.¹⁶⁶

VI. A RECOMMENDATION TO THE FEDERAL AVIATION ADMINISTRATION

An airplane is not a place to have open-heart surgery. With the right equipment and trained personnel, however, it is a place wherein passengers can feel comfortable knowing that the chances of surviving a heart attack or any other medical emergency is as good in the air as being on the ground. An airline crew should have equipment to save lives and be prepared to treat in-flight medical emergencies. Just because a person has an emergency at 40,000 feet does not mean the condition is not treatable or that a life cannot

158. *Id.* at 141.

159. *See Medical Kits on Commercial Aircraft, supra* note 132, at 75. *See also* Foreman, *supra* note 4.

160. *See generally Medical Kits on Commercial Aircraft, supra* note 132, at 75. *See also* William S. Broomfield, Letter to the Editor, *In-Flight Emergencies: Doc Riders in the Sky*, 263 JAMA 233, 234 (1990).

161. *See Medical Kits on Commercial Aircraft, supra* note 132, at 75.

162. *See id.*

163. *Id.*

164. *See id.*

165. *See id.*

166. *See generally id.*

be saved. Advanced emergency medical kits and first aid training for flight attendants are even more essential for an airline than carrying a raft and training flight attendants on water-ditching procedures,¹⁶⁷ which all U.S. carriers are required to do.¹⁶⁸

A. Mandatory Reporting of In-Flight Medical Emergencies is Needed to Show the Scope of the Problem

Because airlines are not required to report in-flight medical emergencies, it is difficult to fully understand the problem. It is important to analyze what problems U.S. carriers face and to then make recommendations accordingly. Although the European Union and Australia have upgraded their medical equipment onboard aircraft, what is good for other countries is not always good for the United States. It is also important to learn from other countries and not just follow in their footsteps. By defining an in-flight medical emergency and then requiring U.S. airlines to report these emergencies to the FAA, the FAA can determine what emergencies occur most frequently without having to merely speculate. This mandatory process of reporting in-flight medical emergencies would allow the FAA to obtain concrete information before making drastic changes that could cost airlines millions of dollars. Once the types of medical emergencies that are most likely to occur onboard are determined, the FAA can plan its attack accordingly. The situation should be evaluated continually and changes made over time.

It is important to understand that just because British Airways carries certain medical equipment does not mean the same equipment is important for a U.S. carrier to have onboard. Different countries have different lifestyles, diets, and habits, and therefore, they also have different medical problems. Once it is known from which medical ailments Americans truly suffer, U.S. airlines can predict what conditions to treat during flight and carry the necessary equipment.

B. Requiring Passengers to Disclose Potentially Life-threatening Illnesses Prior to the Day of Departure

Besides requiring airlines to report in-flight medical emergencies, the FAA should require passengers to report potentially life-threatening illnesses to the airline before the day of departure, possibly even when they purchase

167. A water-ditch is an emergency landing made in the water. Flight attendants are required to learn the equipment and procedures for ditching. See 14 C.F.R. § 121.417 (b)(3)(iii) (1998).

168. See *id.* § 121.417(b)(2)(i).

their ticket.¹⁶⁹ This would allow the airlines to make special provisions for that passenger's care if an emergency arises.¹⁷⁰ "Passengers with diabetes mellitus, coronary artery disease, a history of recent surgery, asthma, emphysema, seizure disorders, and sickle cell disease would be most likely to be affected by air travel and, thus, a mechanism for notification of the airline should be instituted for people with such illnesses."¹⁷¹

C. *Emergency Physicians' First Aid Kit Wish List*

MedAire,¹⁷² which provides an emergency medical hotline for airlines that subscribe to their services, has developed an emergency physicians' first aid kit wish list.¹⁷³ This list includes items that would assist in identifying the immediate threat to the patient's health and stabilizing the patient's condition until proper emergency medical care is available.¹⁷⁴ The items on the wish list include an automated blood pressure cuff and stethoscope, which are

169. See Burton J. Glass, Letter to the Editor, *In-flight Emergencies: Doc Riders in the Sky*, 263 JAMA 233, 234 (1990).

170. See *id.*

171. *Id.*

172. "MedAire was founded in 1986 with the mission of providing immediate expert medical support to people facing medical emergencies in remote locations — whether they were on land, in the air or at sea." *Medical Kits on Commercial Aircraft*, *supra* note 132, at 69. MedAire's clients are located in more than 36 countries, with British Airways announcing recently that they will become the newest airline to use MedLink's services. See *id.* See also *British Airways Looks to MedAire for Support in Managing In-Flight Medical Emergencies*, BUS. WIRE, April 22, 1998, available in WL EURONEWS Database. In the aviation industry, MedAire's most well known service is its 24-hour emergency medical hotline service called MedLink. See *Medical Kits on Commercial Aircraft*, *supra* note 132, at 70.

Anytime a client has a medical situation on board their aircraft, no matter where in the world they are flying, they can contact, via satellite or standard air-to-ground voice/data communication services, the MedLink Communications Center and talk directly and immediately to one of [MedLink's] 16 board certified emergency physicians.

....

MedLink is based within the emergency department of Good Samaritan Regional Medical Center, Phoenix, Arizona, a Level I Trauma Center, which gives . . . emergency physicians additional access to specialists in more than 45 fields of medicine as well as a certified regional poison control center.

Medical Kits on Commercial Aircraft, *supra* note 132, at 70. The physicians who answer these calls assist non-medical personnel in collecting data, helping the victim and stabilizing crisis situations. See *id.* Because of MedLink, many airlines reduced their number of diversions for in-flight medical emergencies by more than 90% within the first year of service with MedLink. See *id.* Currently, MedLink takes approximately 150 calls a month. See *id.* at 71.

173. See *Medical Kits on Commercial Aircraft*, *supra* note 132, at 72-74.

174. See *id.* at 72.

used to obtain heart rate and blood pressure.¹⁷⁵ Also on the wish list is a self-injectable syringe of epinephrine, which allows a patient to self-administer a standard dose of synthetic adrenaline in the case of severe allergic reaction.¹⁷⁶ Diphenhydramine (Benadryl) may also be used to treat allergic reactions, but this medicine can be administered orally and is available in liquid form for children.¹⁷⁷ Also available is an albuterol metered dose inhaler, which provides quick relief in the event of an asthma attack and is handy if a person forgets his inhaler.¹⁷⁸ Finally, one of the most desired pieces of equipment is an automated external defibrillator (AED), which can be used by nonmedical personnel to deliver an electric shock to passengers who are experiencing specific cardiac arrhythmias, namely ventricular fibrillation or ventricular tachycardia.¹⁷⁹

D. AEDs Onboard Planes will Save Lives

Although it is important for the FAA to understand the emergencies faced on U.S. carriers before making decisions regarding what additional equipment and medications to require on airlines, an AED and cardiac-related drugs should be required on U.S. commercial aircraft immediately, as is evident by the growing number of U.S. carriers taking the initiative to carry them now.¹⁸⁰ As stated earlier, the FAA does not have accurate statistics on in-flight medical emergencies; however, according to a 1996 Air Transport Association (ATA) study, sudden cardiac arrest accounted for nearly one-third of the industry's emergency landings.¹⁸¹ In 1996, the ATA recorded more than 183 in-flight cardiovascular emergencies, resulting in forty-two fatalities.¹⁸² Joan Sullivan Garrett, president of MedAire, Inc., stated that "[o]f all the first aid tools available to the flight crew, the AED is without question one that can make a real difference between life and

175. *See id.*

176. *See id.* at 73.

177. *See id.*

178. *See id.*

179. *See id.* at 73-74.

180. *See id.* at 72-74. *See also American Airlines' Purchase of Heart Defibrillators*, *supra* note 59. *See also Airlines Adding Defibrillators*, *supra* note 13. *See also Delta Equipping Fleet with Defibrillators*, *supra* note 63, at 84.

181. *See CNN Financial Network*, *supra* note 63. *See also Airlines Adding Defibrillators*, *supra* note 13 (stating that cardiac problems are the major cause of diversion and that neurological and respiratory problems are the second and third causes). Another report, however, shows OB/GYN-related situations third instead of respiratory problems. *MedAire President and In-Flight Medical Emergencies Become Focus of 45th International Congress of Aviation and Space Medicine in Oslo Norway* (Aug. 15, 1997) <<http://www.medaire.com/nricasm.htm>>.

182. *See Howard*, *supra* note 57.

death.”¹⁸³ With the use of an AED, followed by prompt medical attention, the survival rate for a victim of cardiac arrest during a flight increases to a level similar to all cardiac arrest cases.¹⁸⁴ In addition, using AEDs on airplanes improves the overall safety of the flight by decreasing the number of medical-related diversions.¹⁸⁵ AEDs weigh less than ten pounds, are smaller than a laptop computer, and cost less than \$4,000.¹⁸⁶ For example, “Heartstream’s ForeRunner, based on proprietary technology, is small, lightweight, durable and easy to use and maintain. It is battery operated and requires no outside electrical power source.”¹⁸⁷ The growing number of airlines in the United States and Europe using defibrillators¹⁸⁸ indicates that the benefits of these small and relatively inexpensive machines outweigh the costs.

Early defibrillation is endorsed by both the American Heart Association (AHA) and the European Resuscitation Committee (ERC).¹⁸⁹ Defibrillation, both in and out of the hospital, is considered a basic life support skill for rescuers.¹⁹⁰ Time is critical when dealing with sudden cardiac arrest.¹⁹¹ The ability to successfully resuscitate a person decreases by about ten percent with each passing minute before defibrillation is performed.¹⁹² “With both the AHA and the ERC backing the concept of early defibrillation as the standard of care, it follows that flight crews should be trained to use and have access to AEDs.”¹⁹³

“The American Heart Association estimates that 100,000 lives a year could be saved if AEDs were broadly deployed in areas where large groups of people gather, such as on aircraft, in sports arenas and office buildings.”¹⁹⁴

[T]he presence of an AED and trained crew members can mean the difference between life and death. With an AED, treatment [on an airplane] can begin within those crucial first 10 minutes when the patient has the best chance of survival, thereby avoiding the 30-or-more-minute wait until diversion takes place

183. Garrett, *supra* note 15.

184. *See id.*

185. *See id.*

186. *See* Martin, *supra* note 7.

187. *American Airlines: American Airlines Equips*, *supra* note 59.

188. *See supra* notes 56-67 and accompanying text.

189. *See* Garrett, *supra* note 15.

190. *See id.*

191. *See* CNN Financial Network, *supra* note 63.

192. *See id.*

193. Garrett, *supra* note 15.

194. *American Airlines: American Airlines Equips*, *supra* note 59.

and EMS arrives.¹⁹⁵

The goal of the American Heart Association is to make AEDs accessible to the public and "make the device as common, useful and accessible as fire extinguishers while supporting training and preventing misuse."¹⁹⁶ When a passenger is suffering from cardiac arrest, diverting the plane to the nearest airport is too slow.¹⁹⁷

While the shock from the AED may bring the person back from the brink of death . . . the battle for survival has really just begun. [After a successful defibrillation,] [t]he focus must [next] be on stabilizing the patient and providing expert care until [the pilot can get the plane on the ground] . . . whether at the scheduled destination or a closer airport to which the aircraft has been diverted.¹⁹⁸

With favorable statistics from foreign airlines and encouragement from the American Heart Association, the FAA should mandate the use of AEDs by all commercial U.S. airlines.

E. Cardiac Life-support Drugs Can Supplement AED Revival

Since cardiac arrest is the most common cause of medical diversions in the aviation industry,¹⁹⁹ in addition to carrying defibrillators, it is only logical for airlines to carry medicine to help treat sudden cardiac arrest. Like the medications carried on many European carriers, the medicines chosen by the FAA to be carried on commercial airlines should focus on stabilizing the patient.²⁰⁰ Aircraft medical kits should have advanced cardiac life-support drugs in order to treat a patient after AED revival.²⁰¹ The only drug currently required by the FAA in the emergency medical kit that is carried specifically for heart patients is nitroglycerine.²⁰² When deciding

195. Garrett, *supra* note 15. See also John Crewdson, *Defibrillator Saves 1st Life Aboard a U.S. Plane*, CHI. TRIB., Feb. 20, 1998, § 1, 1 at 13.

196. *Requirements for Medical Equipment on Airlines*, *supra* note 39, at 93.

197. See *Airlines Adding Defibrillators*, *supra* note 13. "You die in four to eight minutes if your heart action is not restored . . . [and t]here's not an airline in the world that can get a plane down and an E.M.S. team aboard that quickly." *Id.*

198. Garrett, *supra* note 15.

199. See Okie, *supra* note 3, at A6.

200. See *supra* notes 130-135 and accompanying text.

201. See CNN Financial Network, *supra* note 63.

202. See *Airlines Adding Defibrillators*, *supra* note 13. Epinephrine is also carried in the emergency medical kit for heart patients; however the amount carried in the kit is inadequate to treat a heart patient. See 14 C.F.R. § 121 app. A (1998). See also Crewdson, *supra* note 73, § 2, at 6.

what medications to place in the emergency medical kit, the FAA must take into consideration the danger of the drugs if they get into the wrong hands.²⁰³

Flight attendants must exercise care when allowing access to medical kits by medical passengers volunteering in an emergency.²⁰⁴ Not all trained medical professionals are qualified to give all the medications that would be carried in the emergency medical kit.²⁰⁵ A ground-based physician would speak with the medical volunteer on the aircraft to determine if the person is qualified to administer the necessary medication.²⁰⁶

F. Regulation of AEDs

The Food and Drug Administration (FDA) regulates AEDs.²⁰⁷ A doctor must prescribe an AED; therefore, the prescribing physician is responsible for whoever is using the AED on the cardiac victim.²⁰⁸ In the corporate world, where AEDs are currently being utilized, the company's medical director or a contracted emergency physician can fill the role of "medical control."²⁰⁹ The physician's approval of the use of the AED alleviates the liability of the company's flight department.²¹⁰

G. Training for Effective Response

Initial training on the AED is typically only four to six hours and varies depending on the number of students in the class.²¹¹ Because of the AED's importance as a life-saving device, AED training should be a priority during a flight attendant's initial training program and given as much time and consideration as training for emergency procedures and evacuations.²¹² The goal of AED training is for the flight attendants to become comfortable using the machine, so that, in the event they need to use the AED during a flight, they will know what to expect from the machine and feel confident using it.²¹³ Currently, flight attendants for American Airlines are given three hours of classroom training, along with self-guided videotapes and manuals.²¹⁴ Company flight departments can train the crews themselves if they are

203. See Okie, *supra* note 3, at A6.

204. See *Medical Kits on Commercial Aircraft*, *supra* note 132, at 74.

205. See *id.*

206. See *id.*

207. See Martin, *supra* note 7.

208. See *id.*

209. See *id.*

210. See *id.*

211. See Garrett, *supra* note 15.

212. See *id.*

213. See *id.*

214. See *Renewed Interest*, *supra* note 63.

properly equipped to do so, or they can hire an outside company, such as MedAire, to train the crews.²¹⁵

The simplicity of AED operation is a compelling reason for installing AEDs on commercial aircraft. An AED provides a visual display of the heart rhythm to assist the rescuer in assessing the cardiac victim's condition.²¹⁶ The chance of survival during cardiac arrest decreases by about ten percent each minute.²¹⁷ "Unless defibrillation occurs within the first 10 minutes, it is not likely to be successful."²¹⁸

Before using an AED, a flight attendant or volunteer medical assistant must first check the victim for breathing and a pulse.²¹⁹ The AED is only used when the cardiac victim is not breathing, has no pulse and is unconscious.²²⁰ The AED will not shock unless it is necessary.²²¹ The machine is also used in conjunction with CPR.²²² To use an AED, the person operating the machine connects two adhesive pads with cables to the patient.²²³ These pads record the heart rhythm and, if necessary, deliver the electric shock.²²⁴ If the airplane is equipped with a totally automated defibrillator, the rescuer turns on the device, and the machine analyzes the heart rhythm and determines whether to send a shock.²²⁵ If the airline chooses a semi-automatic defibrillator, the rescuer sets up the machine the same as the automated defibrillator, but the rescuer must respond to the machine's voice prompts.²²⁶

On an aircraft, the semi-automatic defibrillator is probably safer than the automatic defibrillator.²²⁷ The automatic defibrillator will send the shock if needed, regardless of the surrounding circumstances.²²⁸ In contrast, the semi-automatic version gives the rescuers more control over when to send

215. See Martin, *supra* note 7.

216. See Delta Equipping Fleet with Defibrillators, *supra* note 63, at 84.

217. See Crewdson, *supra* note 195, § 1, at 13.

218. *Id.*

219. See Martin, *supra* note 7.

220. See *id.*

221. See *id.*

222. See *id.*

223. See *id.*

224. See *id.*

225. See *id.* The machine has a voice synthesizer that gives a warning to all bystanders to "stand clear" and then it delivers the shock. See *id.*

226. See *id.* The semi-automatic defibrillator has "a 'press to analyze' button to start rhythm analysis and a 'press to shock' button to deliver the shock if the device identifies a shockable rhythm." *Id.* The AED determines itself if more shocks are needed after it analyzes the victim's heart rhythm. See *id.* The voice prompt coaches the rescuer by explaining each step. See *id.* Once the machine is set-up, it virtually does all the work. See *id.*

227. See *id.*

228. See *id.*

the shock, thereby allowing a rescuer who is flying in turbulent conditions to avoid sending hazardous stray voltage.²²⁹

H. *U.S. Airlines will Experience a Cost-savings From Having Defibrillators Onboard*

Qantas Airlines has stated that besides saving lives, it is also saving money on expensive diversions by having defibrillators onboard.²³⁰ From September 1991 to August 1996, all Qantas B747 and B767 international aircraft have carried defibrillators and have trained cabin crews to handle cardiac arrest with medical volunteers and radio advice from Qantas physicians in Sydney.²³¹ During a five-year period of time, defibrillators were used eighty-seven times, including forty-seven times for monitoring seriously ill passengers and forty times for treating cardiac arrest.²³² The realistic goal of equipping aircraft with defibrillators is not necessarily to save every victim, but rather to give each one as fair a chance of survival as possible.²³³

I. *Flight Attendant Training Requirements for All In-flight Medical Emergencies*

Besides training to handle sudden cardiac arrest, flight attendants should have additional training for other medical situations commonly occurring on airplanes.

[B]asic first aid training provides a good foundation of information and skills to flight crews. However, . . . consideration should be given to placing more time and emphasis in training on knowledge and skills that are important in managing the types of situations that make up 80 percent of the onboard medical situations — and less of an emphasis on first aid situations that are rarely if ever seen on board.²³⁴

229. *See id.*

230. *See American Airlines' Purchase of Heart Defibrillators*, *supra* note 59. *See also* Nelms, *supra* note 2, at 84.

231. *See* Garrett, *supra* note 15.

232. *See id.*

233. *See id.*

234. *See Medical Kits on Commercial Aircraft*, *supra* note 132, at 74. MedLink reports that 80% of its calls fall into one of five categories: (1) neurological; (2) cardiac; (3) respiratory; (4) gastrointestinal; and (5) endocrine. *See id.* at 71. However, 44% of medical-related diversions were cardiac related; 30% neurological; and 7% gastrointestinal. *See id.* at 72.

Greater emphasis should be placed on assessment and early recognition skills, the ability to obtain a pulse and respiratory rate, the ability to gather proper information on the victim's medical history, emergency airway management, the use of personal protection equipment, and learning more about the risks of bloodborne pathogens.²³⁵ With all this information, a flight attendant can feel more confident in assessing the condition of an ill passenger during the course of the flight.

J. A Federal Good Samaritan Law Would Relieve Crewmembers and Volunteers of the Fear of Liability

Before the FAA mandates any emergency medical training or equipment, Congress should protect airlines, crewmembers and volunteer medical professionals through limited liability when assisting with in-flight medical emergencies. According to Joan Sullivan Garrett, President of MedAire, Inc., "unless action is taken to appropriately limit liability to airlines, flight crews and medical professional volunteers . . . there is little value in spending time worrying about equipment, or worrying about training when everyone is fearful, and rightly so, of being sued for using what they know."²³⁶

"[M]edical professionals are becoming scared, and even refusing to get involved in offering medical help for fear of legal liability. The legal liability to volunteers, to the airlines and to their flight crews is staggering."²³⁷ Good Samaritan legislation is critical in order to reduce these concerns.²³⁸

Edward A. Mertis, Air Transport Association Senior Vice President, expressed during his testimony before the House Aviation subcommittee that there is a need for protection against the "litigious environment."²³⁹ Mertis informed the subcommittee that "[o]ur medical consultants have told us of instances in which trained medical personnel traveling as passengers would not offer concrete opinions and recommendations as a result of their fear of liability. Moreover, carriers and in-flight personnel share that concern."²⁴⁰ These concerns are reasonable due to the insufficient legal protection for these medical consultants. Although every state and the District of Columbia have some form of Good Samaritan law to protect a person who assists during an emergency, there is no similar federal statute.²⁴¹

235. See *id.* at 74-75.

236. *Id.* at 75.

237. *Id.*

238. See *id.*

239. Nelms, *supra* note 2, at 85.

240. *Id.*

241. See *id.*

"[A] federal 'good samaritan' law could very well be the start of positive malpractice reform."²⁴² "Our laws must take into account the immediacy of an in-flight emergency and give trained physicians the room to act to save lives."²⁴³ A medical professional who volunteers assistance during an in-flight medical emergency should not have to run the risk of being sued for any adverse outcome. To encourage off-duty medical personnel to render medical care, the law should fully protect the person responding to the emergency from legal liability. The medical personnel should only be held liable if the care given is grossly negligent, similar to the majority of state Good Samaritan laws.²⁴⁴

The Indiana Good Samaritan law, which protects volunteer caregivers on the ground, is an example of the type of legislation that the FAA should adopt to protect airline employees who provide medical assistance during an in-flight emergency.²⁴⁵ The Indiana statute provides protection for "[a]ny person, who in good faith gratuitously renders emergency care at the scene of an accident."²⁴⁶ The caregiver shall not be held civilly liable for any personal injury damages as a result of any act or omission in giving the emergency care, "or as a result of any act or failure to act to provide or arrange for further medical treatment or care for the injured person."²⁴⁷ This protection does not apply to acts or omissions amounting to gross negligence or willful or wanton misconduct.²⁴⁸

"Emergency" characterizes the nature of the care given in the particular situation, while the word "accident" defines the circumstance that causes the need for emergency care.²⁴⁹ In order to utilize the Good Samaritan defense, the care must be emergency in nature and must be essential as a result of an "accident."²⁵⁰ An "accident" in its common meaning, "may be deemed to be 'any mishap or untoward event not expected or designed.'"²⁵¹

A federal law protecting volunteer caregivers who assist during an in-

242. Broomfield, *supra* note 160, at 234.

243. *Id.*

244. Rolanda Moore Haycox, Note, *Changes in Health Care Law in 1993 Bring New Challenges for Providers*, 27 IND. L. REV. 1119, 1124 (1994).

245. See IND. CODE ANN. §§ 34-30-12-1 to -2 (1998). See also Haycox, *supra* note 244, at 1124.

246. Haycox, *supra* note 244, at 1124. See also IND. CODE ANN. § 34-30-12-1 (1998).

247. Haycox, *supra* note 244, at 1124. See also IND. CODE ANN. § 34-30-12-1 (1998).

248. See IND. CODE ANN. §§ 34-30-12-1 to -2 (1998). See also Haycox, *supra* note 244, at 1124.

249. See Haycox, *supra* note 244, at 1126.

250. See *id.* See also IND. CODE ANN. § 34-30-12-1 (1998).

251. Haycox, *supra* note 244, at 1126.

flight medical emergency would be welcome legislation.²⁵² Before the FAA can require airlines to adopt new standards for training and equipping their crews to deal with in-flight medical emergencies, Congress must pass legislation creating limited liability for airline personnel and passengers who assist during medical emergencies.²⁵³

K. *Summary of Recommendations*

The FAA should update its decade-old regulations which currently result in needless deaths and inefficient, unscheduled landings. The changes in its regulations should include requiring AEDs and other medical equipment on commercial aircraft. Necessarily, regulations should require proper training for airline personnel. These improvements will provide passengers on U.S. airlines with the same chance of life as passengers on foreign airlines.

Dr. Andrew Horne, a retired FAA official, said “[o]ur thing in the FAA . . . has always been that the best thing for the patient is [to] get them on the ground as soon as you can. We’ve never wanted to encourage physicians to play God while they’re flying on an airplane.”²⁵⁴ Dr. Jon Jordan, the chief medical officer of the FAA, testified to Congress “that arguments had been advanced that planes should not be flying hospitals, and that too much equipment might discourage pursuit of the ‘proper course of action,’ namely, getting the plane down and the passenger to a hospital.”²⁵⁵

However, over ten years ago when the current regulations were implemented, the majority of routes flown by U.S. carriers originated and terminated in the United States.²⁵⁶ Since that time, the number of international flights has dramatically increased.²⁵⁷ When flying over the ocean, it is not realistic to rely on the ability of the pilot to find a quick place to land the aircraft to find medical help. Thus, there is ample justification for changing the out-dated, decade-old regulations, which turn otherwise treatable conditions into lethal situations.

VII. CONCLUSION

The United States has always been a leader in the aviation industry. However, when dealing with in-flight medical emergencies, the United States

252. See Broomfield, *supra* note 160, at 234.

253. See *Medical Kits on Commercial Aircraft*, *supra* note 132, at 75.

254. Crewdson, *supra* note 73, § 2, at 6. Dr. Andrew Horne wrote a regulation in 1986 “telling U.S. airlines what medical supplies they must have on board.” *Id.*

255. *Airlines Adding Defibrillators*, *supra* note 13.

256. See Crewdson, *supra* note 73, § 2, at 6.

257. See *id.*

has taken a different path than most other countries in the world. It is time for the United States to look at the success of the European Union and other countries in carrying advanced medical equipment onboard their aircraft and providing exceptional training for flight attendants. It would be a tragedy for this country to follow an out-dated philosophy of "less is more" when it comes to safeguarding the health of passengers. Indeed, statistics show that precisely the opposite is true.

Most people will go through their lives without facing an in-flight medical emergency. However, just because this risk is small does not mean it should be overlooked.²⁵⁸ There are many instances when society protects itself against small risks.²⁵⁹ For example, most people do not have a problem paying taxes to support their community's ambulance and fire services, even though the chance is small that they will ever have to use these services.²⁶⁰

Lifeguards are found at community pools and country clubs, but they rarely have to rescue anyone from drowning.²⁶¹

"It is beyond dispute that the vast majority of airline passengers will never become seriously ill in the air, much less die on an airplane."²⁶² Whether it is worth spending millions of dollars to save a somewhat small number of lives depends on the value of those lives in the eyes of our government and the airlines.²⁶³ When society deems a hazard to an innocent life as identifiable and immediate, it will likely acknowledge that saving that particular life is worth whatever it costs.²⁶⁴ The outlook changes when it involves saving a hypothetical life which is not yet in danger and which may never be in danger if proper action is taken.²⁶⁵ That is the situation we are currently facing. As 10,471 medical emergencies were reported in 1996,²⁶⁶ it is evident that the problem is too big to ignore. In order to give American passengers a chance at survival, the FAA should upgrade its decade-old

258. See John Crewdson, *Facing the Issue of Extra Costs: Expense of Better Kits and Equipment Would be Justified by Saving Just 3 Lives Per Year. Society will Pay to Protect Against Risks Small and Large*, CHI. TRIB., June 30, 1996, § 2, at 10.

259. See *id.*

260. See *id.*

261. See *id.*

262. *Id.*

263. See *id.*

264. See *id.*

265. See *id.*

266. See Okie, *supra* note 3, at A6.

medical emergency standards to comply with the needs of passengers in the new millennium.

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