

**JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION
OF THE VIRGINIA GENERAL ASSEMBLY**

**Review of
Air Medevac Services
in Virginia**

House Document No. 14

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Philip A. Leone

Preface

Item 16I of the 1998 Appropriations Act directed JLARC to study the air medevac system in Virginia. The study was prompted by concerns about the adequacy of funding for air medevac providers and about continued availability of the service statewide.

This study found that air medevac coverage is adequate in most areas of the State. However, there are some inconsistencies in service that should be addressed. The location of the helipad for MCV Hospitals should be moved to a more appropriate site closer to the emergency room. Additionally, the Department of State Police should arrange for two medical crew members, the industry standard, upon acquiring a larger helicopter for its MedFlight I service.

In terms of the adequacy of funding, this review found that although commercial providers reported operating at a loss, it appears unnecessary for the State to subsidize the commercial providers at this time. However, because there is a concern as to whether all programs can remain in operation over the long term, the Department of Health and Department of State Police should develop a contingency plan for the continuation of air medevac services in any part of the State which loses service. Further, the Department of Health needs to strengthen planning and coordination activities for the air medevac system. Reviewing the regulations governing the air medevac providers is a necessary step, as well as updating the statutorily-required statewide Emergency Medical Services plan.

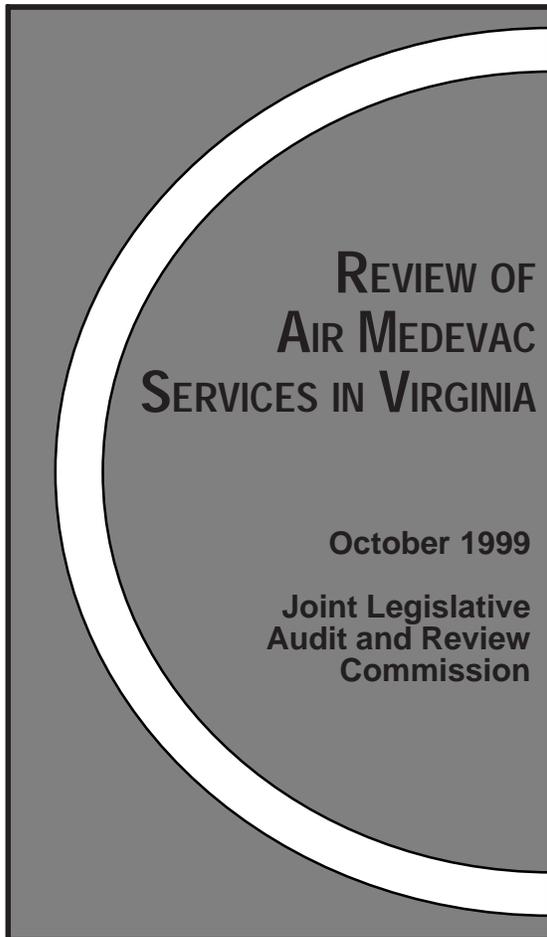
On behalf of the JLARC staff, I would like to thank the staff of the Department of Health, the Department of State Police, MCV Hospitals, the commercial air medevac providers, and the Chesterfield Department of Fire for their assistance during our review.



Philip A. Leone
Director

October 21, 1999

JLARC Report Summary



Air medical evacuation (medevac) services play an important role in the spectrum of emergency medical care. The key advantage of the providers of these services is that they quickly deliver a high level of medical care to the site of an accident or medical emergency, and rapidly transport seriously ill and injured patients to higher levels of medical care. In addition, in many accident situations, the medevac crew provides the highest level of medical care on site.

More than 3,700 air medevac missions were flown in Virginia during 1998. The seven air medevac programs based in Vir-

ginia flew 90 percent of these missions. Three of the Virginia providers are operated by police agencies and four are affiliated with major hospitals. Five out-of-state air medevac providers also respond to calls in Virginia.

Item 16I of the 1998 Appropriations Act directed the Joint Legislative Audit and Review Commission (JLARC) to study the air medevac system in Virginia. The study was prompted by concerns about the adequacy of funding for air medevac providers and about continued availability of the service statewide.

Medevac Coverage Is Adequate in Most Areas, with Some Inconsistencies

Air medevac coverage appears to be adequate in most areas of the State. Response times to accidents, as reported by medevac providers, appear to be reasonable. Virginia-based providers cover most of the State, however, some out-of-state medevac programs also provide these important services for Virginia residents in several areas of the state (see map, next page).

While access to air medevac services overall is satisfactory in most areas, some inconsistencies in the programs pose the potential for problems. First, MedFlight I, which serves Central Virginia, generally flies with only one medical crew member, a paramedic. All of the other medevac programs licensed by the Virginia Department of Health (VDH) fly with a medical crew of two: typically, a paramedic and a flight nurse. Although there is no evidence that patient care has suffered from the use of one medical crew member, it may be appropriate for MedFlight I to upgrade the size of the helicopter it uses routinely, so that it can provide for additional on-board medical staff.

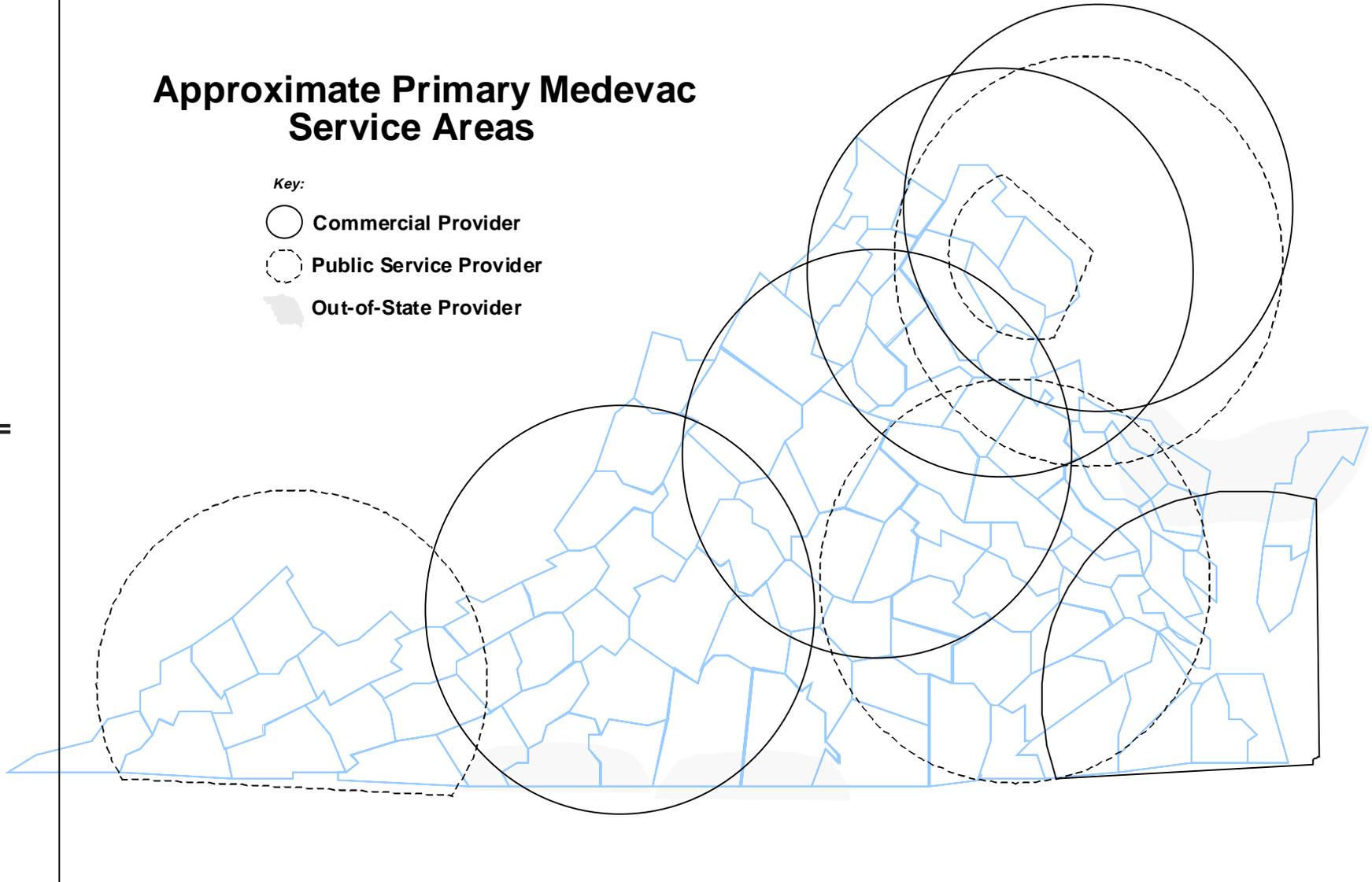
Approximate Primary Medevac Service Areas

Key:

○ Commercial Provider

⊖ Public Service Provider

■ Out-of-State Provider



Another concern with regard to MedFlight I is the location of the helipad at MCV Hospitals. The current helipad is 0.7 of a mile from the hospital. As a result, a ground-based ambulance must meet the MedFlight I helicopter and transport the patient through downtown Richmond to the emergency room. According to MedFlight I staff, this prolongs the time required for the patient to gain access to the hospital's medical staff, and inhibits the effectiveness of the air medevac program. MCV Hospitals should move its helipad to an appropriate location with more direct access to the emergency room.

Adequacy of Service Could Be Threatened by Financial Losses

Statewide access to air medevac services is dependent on a mix of public and commercial providers. Virginia's four commercial air medevac providers each reported that they operated at a loss in the most recent fiscal year. Financial data submitted by three of the commercial providers indicate that losses in the providers' most recent fiscal year were substantial (see table, below). In each case, these losses came after three or more preceding years of equal or greater losses.

These reported losses may be at least partly offset by "downstream" revenue, payments made for medical treatment provided at the hospital after a patient is brought in by helicopter. Some medevac staff sug-

gested that in past years these revenues tended to offset losses incurred by the medevac operation, but that such revenues have declined with the popularity of managed care plans. JLARC staff cannot verify the providers' claim that medevac losses led to losses for their affiliated hospitals, so it would appear unnecessary for the State to subsidize the commercial providers at this time. However, several years of reported medevac losses raise the question of whether the programs can remain in operation over the long term.

Virginia Needs a Contingency Plan

The uncertainty about whether chronic money-losing services will remain in operation underscores the concern about the continuity of medevac services in the event a provider ceases operation. A significant gap in services could result, although it is likely that one or more of the remaining providers would attempt to cover calls for service from the affected area, at least for a short time. However, staff at several providers indicated they were uncertain as to how long such a "fill-in" service could continue, and indicated concern about the adequacy of coverage if their existing crews were expected to routinely handle a substantial increase in activity. The distances involved could also lead to a deterioration of service.

If any of the medevac providers outside Northern Virginia ceases operations, it could mean the lack of air medevac services

in a large part of the Commonwealth. Neither the State Police nor any local police department is currently equipped and staffed to provide permanent air medevac service beyond the current service level.

To address this concern, the Virginia

Net Losses Reported by Virginia-Based Air Medevac Providers			
Provider	Net Hospital Revenue 1997	Reported Medevac Loss (FY98)	Consecutive Years of Equal or Greater Losses
A	\$75,103,302	(\$501,836)	6
B	48,748,553	(\$611,527)	3
C	37,331,726	(\$2,696,737)	4
D	12,151,852	N/A	N/A

Department of Health and the State Police should develop a contingency plan for continuation of air medevac services in any part of the State which loses service. The plan should indicate whether an adjoining provider or the State Police would provide interim or permanent coverage of an area should an existing provider cease operations. The two agencies should report their plan and recommendations to the House Appropriations and Senate Finance Committees in time for the 2001 Session.

The Medical Costs of State Police Medevac Service Could Be Partially Recovered

Currently, all of the commercial carriers bill for their services. Reimbursements may come from private health insurance, Medicaid, Medicare, and other sources. The State Police do not bill for services provided by either MedFlight I or MedFlight II. This has raised the issue of taxpayers supporting the cost of a service in two areas of the State, while in other areas individuals must pay for service directly. This concern can be partially addressed by recovering the medical costs of Medflight operations. Such an approach would resemble that of the New Jersey State Police, which provides the helicopters and pilots but does not charge for the aviation related costs. Instead, the New Jersey hospitals supplying the medical crew bill the flown patient for medical services.

In the case of MedFlight II in Abingdon, an agreement with Bristol Regional Medical Center could address billing for medical services. The question of managing billing activities for the medical costs of MedFlight I in the Richmond area is more complicated, because the medical crew is supplied by Chesterfield County and not by a medical facility with a billing function already in place. However, Chesterfield County is considering billing for its rescue squad operations and could provide for recovery of medical costs in the near future. An additional op-

tion would be an inter-agency agreement for billing services between the County and the hospital receiving patients from MedFlight I. Revenues that would be generated should reimburse Chesterfield County or MCV for medical services (depending on who provides the medical crew members), and the billing agency for administrative costs. If only half of the FY 1998 medical costs were recovered, for example, Chesterfield County could have recovered about \$150,000, and Bristol Regional Medical Center could have expected to recover \$200,000.

Planning and Regulation by the Department of Health Needs to Be Strengthened

The Department of Health is responsible for developing a plan for air medevac and for regulating providers. The department's performance in both areas has been weak. Although there is a statutory requirement that the statewide EMS plan be revised every three years, the existing plan has not been revised for 16 years. The Office of Emergency Medical Services (OEMS) within VDH has developed an in-house planning tool in its *Five-Year Plan*, but this document does not focus on the EMS or air medevac systems and contains staff-oriented goals that do not indicate how these goals will be achieved.

OEMS needs to play a stronger role in the planning and coordination of air medevac services. Some problems could be resolved through timely involvement by OEMS. For example, the proliferation of wireless communications towers along highway rights-of-way pose a potential hazard to helicopters responding to accident scenes. OEMS should coordinate with the Virginia Department of Transportation (VDOT) to determine the location of the towers, and make the information available to air medevac programs. As another example, OEMS should collect data about service areas and missed flights, which

would facilitate planning and help to assure an adequate level of services statewide.

The Board of Health promulgated regulations covering all emergency medical services, including air medevac services, in 1991. The regulations did not address some key elements of air medevac service, so members of the Medevac Committee, an advisory committee of the EMS committee, adopted additional guidance in 1991 for air medevac providers. This additional guidance was labeled “voluntary” standards, as

they are not adopted by the State Board of Health, and thus lack the force and effect of law. The Virginia air medevac providers indicate they comply with these voluntary standards, although they determine their own compliance. Some of the voluntary standards appear to cover important areas of air medevac operations. Therefore, VDH should review these voluntary standards and identify which should be included in permanent regulations.

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I. Introduction

Item 16I of the 1998 Appropriations Act (Appendix A) directed the Joint Legislative Audit and Review Commission (JLARC) to study “the state Air Medevac System to ensure the continuation of an excellent and efficient statewide emergency medical evacuation services system.” The language requires that:

The study shall include, but not be limited to, the availability of air medical evacuation services, administrative protocols of service providers, the need for statewide alternatives and options, and the mission, operations, coordination and funding of public and private air medevac programs.

The study was prompted by concerns about the adequacy of funding for air medevac providers and about continued availability of the service statewide.

Air medevac services play an important role in the spectrum of emergency medical care. The key advantage of these providers is that they quickly deliver a high level of medical care to the site of an accident or medical emergency, and rapidly transport seriously ill and injured patients to higher levels of medical care. Regulations of the Virginia Department of Health (VDH) require that the level of medical care provided by air medevac services meet basic life support (BLS) specifications. The medevac programs in Virginia all meet a higher standard and provide Advanced Life Support (ALS) service. This means that, in many accident situations, the air medevac crew provides the highest level of medical care on site.

At least 12 rotary-wing (helicopter) air medevac programs provide services in Virginia. Seven are based in Virginia, including three operated by police agencies and four that are affiliated with major hospitals. Additional out-of-state air medevac providers frequently respond to calls in Virginia, including two operated by out-of-state police agencies and three operated by out-of-state hospital-based providers. Over 3,700 medical missions were flown in Virginia in 1998.

The remainder of this chapter provides information on air medevac programs in Virginia and the role of the Department of Health in overseeing the programs, and overviews the financing of the programs. The chapter also provides information on JLARC’s review of air medevac services and the overall organization of the report.

AIR MEDICAL EVACUATION SERVICES IN VIRGINIA

Air medevac providers provide two basic types of service: they rapidly transport critically injured individuals to an appropriate hospital facility for treatment, and they transport patients between medical care facilities when a doctor determines that care at another location may be more appropriate.

Helicopter transportation of persons with critical injuries often provides the quickest access to advanced medical care. In fact, the person credited with inventing and developing the helicopter in the 1930s and 1940s was apparently motivated in part by the prospect of quickly transporting injured persons. Practical air medevac services originated with the military. Helicopters were first used to airlift injured soldiers during the Korean War. Various American police departments, notably the Maryland State Police, began using helicopters to rapidly transport injured patients in the 1960s. Hospital-based air medevac services began in the early 1970s at several locations, including Denver and Chicago.

Emergency air medevac operations are designed to take maximum advantage of the “Golden Hour:” the patient’s chance of surviving major illness or injuries is much greater if treated within the first hour after the incident. Helicopters can bypass traffic and terrain problems and transport the injured person directly to a hospital’s emergency room, often landing within a few steps of the emergency room’s doors. Some states, notably Maryland, appear to have used this “Golden Hour” idea in siting medevac services within 30 minutes of every part of the state.

Air Medevac in Virginia Began in the 1980s

The use of helicopters to rapidly transport injured persons from an accident scene to an emergency room began in the Commonwealth in the early 1980s. The first air medical evacuation service located in Virginia was Life-Guard 10, established in Roanoke in 1981. The 1981 General Assembly also took initial action concerning medevac operations when it directed the Virginia Department of Health (VDH) to work with the Department of State Police to establish a statewide air medical evacuation system.

During the early 1980s air medevac services expanded to cover most of the State. The loose network that developed is a mixture of public and private providers. In most areas of Virginia, private or commercial air medevac providers are operated by a major hospital. However, no private or commercial medevac providers came forward to provide service in two large geographical areas – Southwestern Virginia and Central Virginia. Consequently, the Department of State Police (DSP) requested and received funding to provide air medevac services primarily for “scene work” – accident scenes in those two geographical areas. DSP currently refers requests for inter-facility transfers to commercial providers, according to the DSP Superintendent, and makes such a flight only after a commercial provider turns it down. DSP named their operations Med-Flight I, operating out of the Chesterfield County airport, and Med-Flight II, operating out of the airport at Abingdon.

Air medevac services operated by police agencies mostly respond to accident scenes, highway crashes, and other serious-injury accidents. Commercial air medevac programs also respond to accident scenes, although these providers usually handle a large number of inter-facility transfers. Air medevac helicopters, regardless of who operates them, are generally called to an accident scene by local police, rescue squads,

or other public safety officials. Medevac helicopters are usually dispatched and monitored by their own communications center.

Profile of Current Providers

Currently, there are 12 rotary-wing aircraft (helicopter) programs that furnish air medevac services in Virginia. Table 1 lists the programs and the number of flights they made to accident scenes and to transfer a patient from one medical facility to another. The air medevac services based out of state that provide service in Virginia include the following:

- the U.S. Park Police and MedStar, both based in Washington, D.C.;
- Maryland State Police, which is the primary provider of accident scene medevac response in Maryland, comes into portions of Virginia out of five base locations;
- Life Flight, operated by Duke University Medical Center in Durham, North Carolina; and
- North Carolina Baptist AirCare, affiliated with Wake Forest University Baptist Medical Center in Winston-Salem, North Carolina.

Several of the Virginia based providers travel to out-of-state locations when needed. The locations of the principal air medevac providers serving Virginia, and their approximate Virginia service areas, are shown in Figure 1.

Virginia is also home to several fixed-wing air ambulance services. As is true with all air medevac providers, these are licensed by the Federal Aviation Administration (FAA) and by VDH. The fixed-wing providers generally transport stabilized medical patients between hospitals, and often travel to other states. These providers do not generally respond to crash scenes or other emergency situations, and so are excluded from the scope of this study.

Between the Virginia-based police and commercial air medevac providers, most areas of the State are afforded coverage. Some locations within Virginia may receive coverage primarily from out-of-state providers. The Danville and Halifax county areas, for example, receive medevac services primarily from LifeFlight, based in Durham, North Carolina. Accomack county receives medevac services from Maryland State Police. Certain other areas are relatively distant from an air medevac provider, which often means longer response times. Medevac providers are geographically dispersed, more as a result of where hospitals or trauma centers are located than through efforts to provide planned or uniform access to these services across the State.

Table 1 indicates that more than 3,700 air medevac missions were flown in Virginia during 1998. Overall, 49 percent of the flights were made to accident scenes,

Table 1

Virginia Medical Missions Flown by Air Medevac Providers 1998

Provider	Flights to Accident Scenes	Inter-Facility Transfers	Total Medical Missions
Fairfax Police	209	1	296*
State Police MedFlight I (Richmond)	162	1	264*
State Police MedFlight II (Abingdon)	241	46	379*
Life-Guard 10 (Roanoke)	159	271	430
Medical AirCare (Fairfax)	286	427	713
Nightingale (Norfolk)	249	251	500
Pegasus (Charlottesville)	295	500	808*
Virginia Providers Total	1,601	1,597	3,390*
Maryland State Police	33	2	35
U.S. Park Police (D.C.)	23	0	23
Life Flight (Duke University Medical Center)	3	91	94
N.C. Baptist AirCare (Winston-Salem, N.C.)	0	131	131
MedStar (D.C.)	185	198	383
Grand Total	1,845	1,888	3,733*

*Includes medical missions terminated prior to completion.

Source: JLARC survey of medevac providers.

and 51 percent were made for the purpose of transferring patients between medical facilities. The Virginia-based providers flew 3,390 of the missions. Out-of-state providers handled the remaining missions. Of the 3,390 flights handled by in-state providers in 1998, the police providers made 28 percent of the flights. The four commercial providers carried out the remaining 72 percent.

Medevac Services Tend to Be Located at Level I Trauma Centers

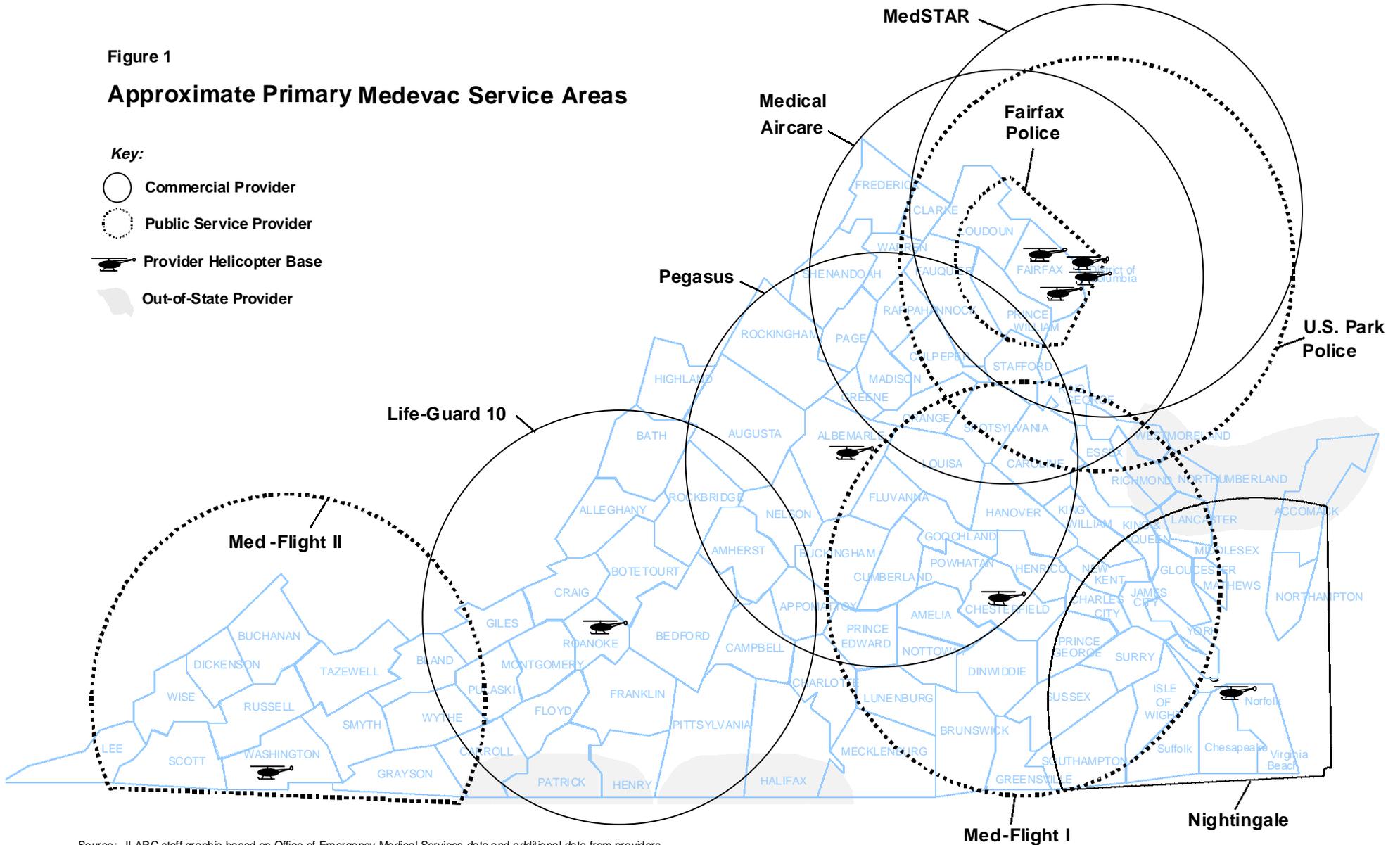
Although not a requirement for Level I designation, all of the Level I Trauma Centers have air medevac services at or associated with their facilities. In addition, one Level II Trauma Center (Bristol Regional) is associated with an air medevac provider (MedFlight II). This reflects in part the fact that patients who are injured badly enough to need air medevac services tend also to need quick access to a high level and wide variety of medical skills and equipment not always available from the nearest

Figure 1

Approximate Primary Medevac Service Areas

Key:

-  Commercial Provider
-  Public Service Provider
-  Provider Helicopter Base
-  Out-of-State Provider



Source: JLARC staff graphic based on Office of Emergency Medical Services data and additional data from providers.

rescue squad nor from the hospital closest to the accident scene. Not all hospitals, nor all with emergency rooms, are considered trauma centers.

VDH identifies three levels of trauma centers. Statewide, eleven medical facilities have been designated as trauma centers (Table 2). The key differences between the three levels are the ability to respond quickly to a wide range of traumas.

Level I trauma centers provide the highest level of trauma care 24 hours per day, and have a full service trauma team available on site to care for every aspect of injury. This team requires personnel with special emergency medicine training, including doctors in 19 specialties, radiology and operating room personnel, respiratory therapists, a trauma nurse coordinator, specialized diagnostic equipment, and a full range of inpatient and outpatient clinical services. Level II trauma centers have many of the same requirements as Level I centers, although certain specialized types of surgery are considered “desirable” rather than “essential” functions as in the Level I facilities, and the full trauma team does not have to be on-site at all times. A Level III trauma center, which is the lowest designation, includes less immediate access to a trauma team and lesser requirements for specialized surgical availability.

Table 2

Virginia’s Designated Trauma Centers

Level I Trauma Centers	
Carilion Roanoke Memorial Hospital	Roanoke, VA
Fairfax Memorial Hospital	Falls Church, VA
Medical College of Virginia Hospitals	Richmond, VA
Sentara Norfolk General Hospital	Norfolk, VA
University of Virginia Medical Center	Charlottesville, VA
Level II Trauma Centers	
Bristol Regional Medical Center	Bristol, TN*
Riverside Regional Medical Center	Newport News, VA
Virginia Beach General Hospital	Virginia Beach, VA
Level III Trauma Centers	
Carilion Radford Community Hospital	Radford, VA
Chippenham Medical Center	Richmond, VA
Columbia Montgomery Regional Hospital	Blacksburg, VA

*A hospital in an adjoining state may be recognized as providing “equivalent” services if it can verify that 50 percent of the injured population served by the hospital reside in Virginia.

Source: Statewide Pre-hospital and Inter-hospital Trauma Triage Plan, Senate Document No. 15, 1997; Virginia Department of Health.

FEDERAL AND STATE OVERSIGHT OF AIR MEDEVAC PROVIDERS

Federal and State requirements provide a context within which air medevac services must operate. The Federal Aviation Administration (FAA) promulgates and enforces standards for the operation of aircraft and the training and certification of pilots. The *Code of Virginia* and regulations promulgated by the Board of Health set out standards and requirements for medical equipment and medical personnel on board an air medevac aircraft. In addition, the *Code of Virginia* and Board regulations also provide some limited direction for the development of a statewide air medevac system.

Federal Regulations Cover Aircraft and Pilots

FAA regulations provide guidance on the operation of aircraft and the training and certification of pilots in the United States. These regulations include airworthiness, certification of aircraft, safety, and training.

FAA regulations make an important distinction in whether an aircraft is used “for hire,” or whether the aircraft is used as part of a public service. If a fee is charged for use of the aircraft, the provider falls under the “air taxi” requirements of Federal Aviation Regulations (FAR) Section 135. When no fee is assessed and the service is provided by a public service agency, then the requirements of FAR Section 91 must be met.

In general, FAR 135 requires an extra margin of safety since commercial aircraft are approved to carry passengers for hire. For example, under FAR 135 a pilot must hold an “instrument rated” license, meaning that the pilot may take off and land from certain airports using only instruments as well as under visual conditions. As another example, an aircraft operating under FAR 135 must meet more stringent requirements, which differ depending on the particular airport. Pilots and aircraft operating under FAR 91 have fewer restrictions and can take off with limited visibility. This permits public safety aircraft to respond in varying weather conditions. The commercial hospital-based medevac providers operate under the provisions of FAR 135.

Medevac services provided by police agencies operate under FAR 91. Police helicopters are often involved in search and rescue missions as well as other activities that require greater flexibility in responding than permitted under FAR 135. If police agencies charged for any of their helicopter-related activities, they would be required to comply with the provisions of FAR 135 and would be more limited in accepting emergency missions. Many police agencies, including DSP, believe such limitations could significantly reduce their effectiveness in the use of aircraft.

State Law and Regulations Cover Medical Crews

Because federal regulations cover the aircraft and pilots, State law and regulations focus primarily on requirements for a statewide emergency medical services system and the services provided under that system. State statutes authorize the Virginia Board and Department of Health to regulate and license emergency medical providers, and to develop a statewide emergency medical services plan. According to the *Code of Virginia*, the plan is required to include:

...establishing a statewide air medical evacuation system which shall be developed by the Department of Health in coordination with the Department of State Police and other appropriate agencies.

The *Code of Virginia* authorizes VDH to regulate many aspects of emergency medical services, including air medevac services. Under the *Code*, the regulations must prescribe:

- training and certification of EMS personnel;
- the medical equipment, supplies, vehicles, and personnel required for each type of service rendered;
- requirements for vehicle maintenance and sanitation; and
- operating procedures, record keeping, and other agency operations.

VDH regulations classify rotary-wing aircraft (helicopters) used for emergency medical services (EMS) as “class F” EMS vehicles, of which there are two types. All class F EMS vehicles used to deliver basic life support are required to have a flight crew comprised of a licensed pilot and an attendant-in-charge who, at a minimum, is a certified emergency medical technician (EMT). Class F EMS vehicles used for delivering advanced or specialized life support must have a licensed pilot and an aeromedical specialist who is either an emergency medical technician (EMT), a physician, or a registered nurse – depending upon the type of care being delivered. Any additional attendants must be at a minimum a certified EMT.

The Virginia Department of Health’s Role with Air Medevac Services

Air medevac services in Virginia are provided by a loosely connected group of providers that operate with minimal State involvement or coordination. At the State level, the Office of Emergency Medical Services (OEMS) and the Emergency Medical Services (EMS) advisory board are required to perform oversight and advisory functions for the statewide EMS system, including air medevac services.

Office of Emergency Medical Services. The Office of Emergency Medical Services (OEMS), a component of the Virginia Department of Health (VDH) is assigned a role by the *Code of Virginia* in coordinating the air medevac system. The three major functional areas for OEMS include the following:

- licensure and certification based on minimum standards for ground and air ambulance vehicle design, equipment, and personnel;
- training of emergency medical personnel; and
- planning, development and coordination of other aspects of emergency medical services.

OEMS also has a responsibility to develop a statewide emergency medical services plan which, under the *Code of Virginia*, is to be reviewed every three years. OEMS personnel also provide staff assistance to the State emergency medical services advisory board.

OEMS has statutory authority to certify and regulate the qualifications of emergency medical services personnel, and has authority to set requirements for, to inspect, and issue and revoke permits for emergency medical services vehicles. OEMS personnel inspect and license medevac providers every two years. The FAA also inspects the aircraft and certifies the pilots.

Medevac services in Virginia operate without any State-level coordination. For example, the State does not operate a central dispatch system that dispatches all medevac crews. Nor is there any State-provided means of coordinating communications among the air medevac providers. Even data collection by OEMS appears to be very limited. This approach contrasts with that of Maryland, where most medevac services are provided by the Maryland State Police, dispatched by a single call center.

EMS Advisory Board. The *Code of Virginia* establishes a State emergency medical services advisory board consisting of at least 24 members appointed by the Governor and representing key EMS-related agencies, associations, and consumers. Duties of the advisory board include advising the State Board of Health on issues related to emergency medical services, reviewing and revising the statewide emergency medical services plan, and reviewing the organization and funds associated with the statewide emergency medical care system.

The advisory board has many standing committees related to individual topic areas. The State Medevac Committee is one of those committees and represents all air medical evacuation programs licensed to operate in Virginia. The mission of the committee is to advise the EMS advisory board and the Commissioner of Health on the air medevac system, including recommending standards and regulations. An OEMS employee staffs the committee.

FUNDING AND REIMBURSEMENT OF AIR MEDEVAC PROVIDERS

Funding and reimbursement issues provided an impetus for this study. Private air medevac service providers have reported to JLARC staff that they are losing money and are concerned that they may at some point in the future have to cease operations. Funding and reimbursement are pivotal issues because there is no contingency plan in place if a private provider were to cease operations.

Several funding or reimbursement sources currently exist for medevac providers. Direct funding sources include Medicare, Medicaid, private insurers, and – for the State Police – the State appropriations process. The Rescue Squad Assistance Fund (part of the \$2-for-Life program) provides equipment and training funds for nonprofit emergency medical providers, although air medevac providers have been reluctant to apply for these funds. Several private providers have made it clear to JLARC staff that they would like to receive additional State funding.

One source of funding for the private providers is Medicaid payments from the Department of Medical Assistance Services. Although rates were recently increased, the funding provided appears to be minimal. Medicaid reimbursement rates and the overall level of Medicaid funding for medevac services will be addressed in Chapter III.

Medicare is an additional source of funding for air medevac services, although Medicare imposes conditions on the receipt of payments with which providers find it hard to comply. For example, according to Pegasus staff, to receive payment from Medicare for air ambulance services, a physician must request the helicopter to transport the patient. With crash scene work, it is often the rescue squad, first responder, or law enforcement officers on the scene who request a medevac flight. Thus, Pegasus staff indicated that 25 percent, or 40 of 155, Medicare claims filed from October 1998 through December 1998 were denied due to a lack of physician certification. Upon subsequent appeal most of these claims were paid. Some private insurers have similar qualifications for reimbursement of air medevac services. The private providers have complained that the trend toward managed care and other changes in the industry have led to reduced reimbursement rates.

JLARC REVIEW

Item 16I of the 1998 Appropriations Act directs JLARC to “study the state air medevac system to ensure the continuation of an excellent and efficient statewide emergency medical evacuation services system.” The requirement also directs JLARC to focus on the availability of air medevac services, the administrative protocols of the providers, the need for statewide options, and the mission, operations, coordination, and funding of public and private air medevac programs (Appendix A).

Research Activities

In response to the study mandate, JLARC staff undertook a variety of activities. A principal method of collecting information was conducting interviews. In total, JLARC staff interviewed approximately 60 individuals to collect information about air medevac services. These interviews included VDH and DSP staff, as well as medical directors, flight crew members, emergency medical staff and other employees at all seven rotary-wing medevac providers based in Virginia. JLARC staff also collected information from several internet websites, including ones maintained by several out-of-state air medevac providers.

As part of the review, JLARC staff requested that each air medevac program provide certain basic flight and finance data. The purpose of this data collection was primarily to collect descriptive information about the number and types of flights flown by the providers, as well as to collect financial information about the viability of the medevac business. All of the four commercial providers were willing to make limited financial information available, although comparisons were made difficult because not all supplied the same types of information.

Field work for this study included visits to the seven Virginia-based rotary-wing air medevac providers. Staff also visited three out-of-state providers, including the Maryland State Police, based near Baltimore, and MedStar and the U.S. Park Police, both based in the District of Columbia. Information was also collected by telephone from selected additional out-of-state providers.

Report Organization

This chapter has presented an overview of emergency air medevac services in Virginia, and has reviewed the statutory and regulatory framework within which such services operate. Chapter II discusses the adequacy of air medevac services in Virginia, examines concerns about the funding of services, and outlines how funding could impact future availability. Chapter III reviews the adequacy of planning, coordination, and regulation of air medevac services by the Virginia Department of Health.

II. Air Medevac Services and Funding

Virginia has a mix of public service and commercial providers that provide air medevac services in the State. State government in Virginia has not played a dominant role in establishing the accident scene air medevac system, in contrast to Maryland where one state agency is the primary provider of accident scene medevac services for the entire state. The providers in Virginia constitute a loose network that routinely handles a substantial volume of scene work and inter-facility transfers, thus providing adequate coverage over most of the State.

The commercial providers report, however, that they continue to experience significant financial losses as a result of their medevac operations. This financial situation raises concerns about the future viability of commercial air medevac services in Virginia. While none of the commercial providers reported any plans to discontinue service, the State would be prudent to plan for the withdrawal by one or more of the commercial providers. To date, no such contingency plans have been developed either by the Virginia Department of Health (VDH) or the Department of State Police (DSP). The State may want to evaluate several options for the future of medevac services in Virginia.

ADEQUACY OF AIR MEDEVAC SERVICES

A mixture of public and private providers, based both inside and outside the State, deliver air medevac services in Virginia. However, air medevac coverage for most of the State appears in most cases to be adequate.

Some improvements could be made to make the services more consistent across the State. For example, MedFlight I should adopt the industry standard and always fly with two medical crew members. This will require DSP to acquire larger helicopters. In addition, the helipad serving MCV Hospitals should be moved closer to the hospital to improve the service to Central Virginians.

Medevac Coverage Is Adequate in Most Areas

Medevac coverage appears to be adequate in most areas of the State. Response times to accidents, as reported by providers, appear to be generally reasonable, although some portions of Virginia are at the outer limits of the in-state providers' service areas where response times can be longer. Virginia-based providers are not able to cover the entire State, however. Informal arrangements by out-of-state air medevac programs cover some areas of Virginia, as illustrated in these instances:

LifeFlight is an air medevac program based at Duke University Medical Center in Durham, North Carolina. LifeFlight handles the trans-

fer of patients from hospitals in Danville and Halifax county, although accidents in this area requiring a medevac helicopter generally receive service from either Life-Guard 10 in Roanoke or MedFlight I out of the Richmond area.

* * *

North Carolina Baptist, in Winston-Salem, handles transfers from four hospitals in the Galax to Martinsville area along the Virginia-North Carolina boundary. Portions of this corridor are also covered by Life-Guard 10 and by MedFlight II out of Abingdon.

* * *

The Maryland State Police air medevac program reaches into parts of the Northern Neck and several other areas along the State line. Most of these areas are at the edge of the in-state providers' service areas. Maryland State Police have adopted a rule limiting their coverage of Virginia to no more than 30 miles from the State line, on condition that other providers are unable to provide the coverage.

The out-of-state providers perform important services for Virginia residents. There is some concern that accident victims needing air medevac service in some of these areas may have only limited access to medevac services due to the distances involved. There are also concerns about what happens when out-of-state providers take a patient out of the state. For example, a VDH staff member stated that one of the providers noted that when a patient is taken to Maryland and subsequently dies, the family may have some difficulties in retrieving the body of the patient. VDH has not determined whether this example is a valid concern, however. VDH should assess these concerns and others that may pertain to patient care out-of-state and should determine whether there are barriers to Virginians receiving what VDH would deem as adequate service.

Because some out-of-state providers may provide virtually exclusive coverage to an area of the State, OEMS needs to encourage more participation of the out-of-state providers in Virginia's medevac system. One way to encourage such participation is through the Medevac Committee, a subcommittee of the Emergency Medical Services Advisory Board. Currently, MedStar and the U.S. Park Police are members of the Medevac Committee. The Office of Emergency Medical Services (OEMS) of the Virginia Department of Health (VDH) should invite other out-of-state providers to be a part of the committee as well as enabling out-of-state providers to have a contact through which to transmit their concerns.

Recommendation (1). All out-of-state air medevac providers doing business in Virginia should be afforded the opportunity to be members of the Medevac Committee.

Consistency of Services Varies Across the State

Many aspects of air medevac services within Virginia appear to be reasonably consistent among providers. For example, all the programs provide care that is at least equivalent to advanced life support. Training and staff credentials at all the programs equal or exceed the State standards. Most of the programs have a similar level of staffing and have helicopters with generally similar medical equipment on board.

There are some important differences between the programs, however. One of the police providers (MedFlight I) flies most of the time with a single medical crew member, while the other providers typically fly with two medical crew members – generally a paramedic and a flight nurse. In addition, MCV Hospitals, a Level I trauma center, has inadequate access to medevac service because its helipad is remote from the emergency room.

One Provider Does Not Always Use Two Medical Crew Members. All but one of the Virginia-based medevac providers flies with a pilot and two medical staff members (Table 3). MedFlight I normally flies with a crew of two - a pilot and one paramedic. The number of persons on board MedFlight I is limited because one of the helicopters used for MedFlight I is smaller than most of the helicopters used by the other air medevac programs in Virginia and heavier than helicopters of the same size. Another of the helicopters currently in use for MedFlight I also limits access to the patient while in flight. The photographs in Figure 2 (page 17) indicate some of the limitations of the current aircraft. DSP personnel stated that they would like to have two paramedics on board at all times, although they did not believe that patient care suffered as a result of flying with only one paramedic. While the aircraft currently used for MedFlight I are also used for medevac programs in other states, all but one of the Virginia providers have recognized their limitations and have upgraded to larger helicopters.

Having a larger helicopter available at all times, and the ability to fly with an additional staff member, could be important in some cases for MedFlight I. Although there is no evidence that patient care has suffered, it may be appropriate for MedFlight I to upgrade the size of its helicopters so that the program can routinely fly with two medical personnel. This would provide a level of medical service similar to the other Virginia-based providers. This also would be consistent with the industry standard of flying with two medical crew members. The additional full-time paramedic or flight nurse could be provided by Chesterfield County or by MCV Hospitals. Since MCV is the trauma center most often used by MedFlight I, it may be appropriate to involve MCV medical staff more directly in MedFlight I patient care.

MCV Hospitals' Helipad Is Inadequate for a Level I Trauma Center. MCV constitutes the only Level I trauma center in Virginia that does not have a helipad on-site, a situation which has existed since medevac services began in 1984. This presents several problems for the quality of medical care. Exhibit 1 describes the existing situation at MCV Hospitals. The current location requires that an ambulance meet

Table 3

Virginia-Based Air Medevac Providers

Name	Patients Most Often Taken To	Type of Helicopter	Medical Crew
Fairfax Police	INOVA Fairfax Hospital	Bell 206L-IV Bell 407	2 paramedics
State Police MedFlight I (Richmond)	MCV Hospitals	American Eurocopter BO105, Bell Long Ranger, Bell Jet Ranger	1 paramedic*
State Police MedFlight II (Abingdon)	Bristol Welmont Regional Hospital	American Eurocopter BO105, Bell Long Ranger, Bell Jet Ranger	1 paramedic, 1 flight nurse
Life-Guard 10 (Roanoke)	Carilion Roanoke Memorial, and Roanoke Community Hospital	Bell 412 SP	1 paramedic, 1 flight nurse
Medical AirCare (Fairfax)	INOVA Fairfax Hospital	Bell 412 HP	1 paramedic, 1 flight nurse
Nightingale (Norfolk)	Sentara Norfolk General Hospital	BK-117	1 paramedic, 1 flight nurse
Pegasus (Charlottesville)	UVA Medical Center	Bell 230	1 paramedic, 1 flight nurse

*Occasionally flies with two paramedics, depending on helicopter.
Source: JLARC survey of providers.

Exhibit 1

MCV Helipad Is Too Remote

The helipads at all Virginia Level I Trauma Centers, except for MCV Hospitals, are within a few yards or a short elevator ride from an emergency room. At MCV Hospitals, the helipad for medevac helicopters is located about 0.7 of a mile from the MCV Hospitals emergency room entrance. This distance requires a ground-based ambulance to meet the helicopter at the helipad, transfer the patient from the helicopter into the ambulance, travel eight blocks through downtown traffic and then unload the patient into the emergency room.

A paramedic with MedFlight I, the most frequent user of the helipad, stated that the additional movement of patients made use of MCV Hospitals more complicated, and he was concerned with the prolonged time required for the patient to gain access to the hospital. A MedFlight I pilot reported that ambulances were sometimes late in meeting the helicopter, further delaying the patient's access. The chairman of MCV's emergency medicine department indicated the location was remote and unsatisfactory.

Staff at MCV Hospitals are currently reviewing possible locations for a new helipad which will be much closer to the emergency room.

Source: JLARC staff analysis of interviews.

Figure 2

Space Limitations of State Police Helicopters

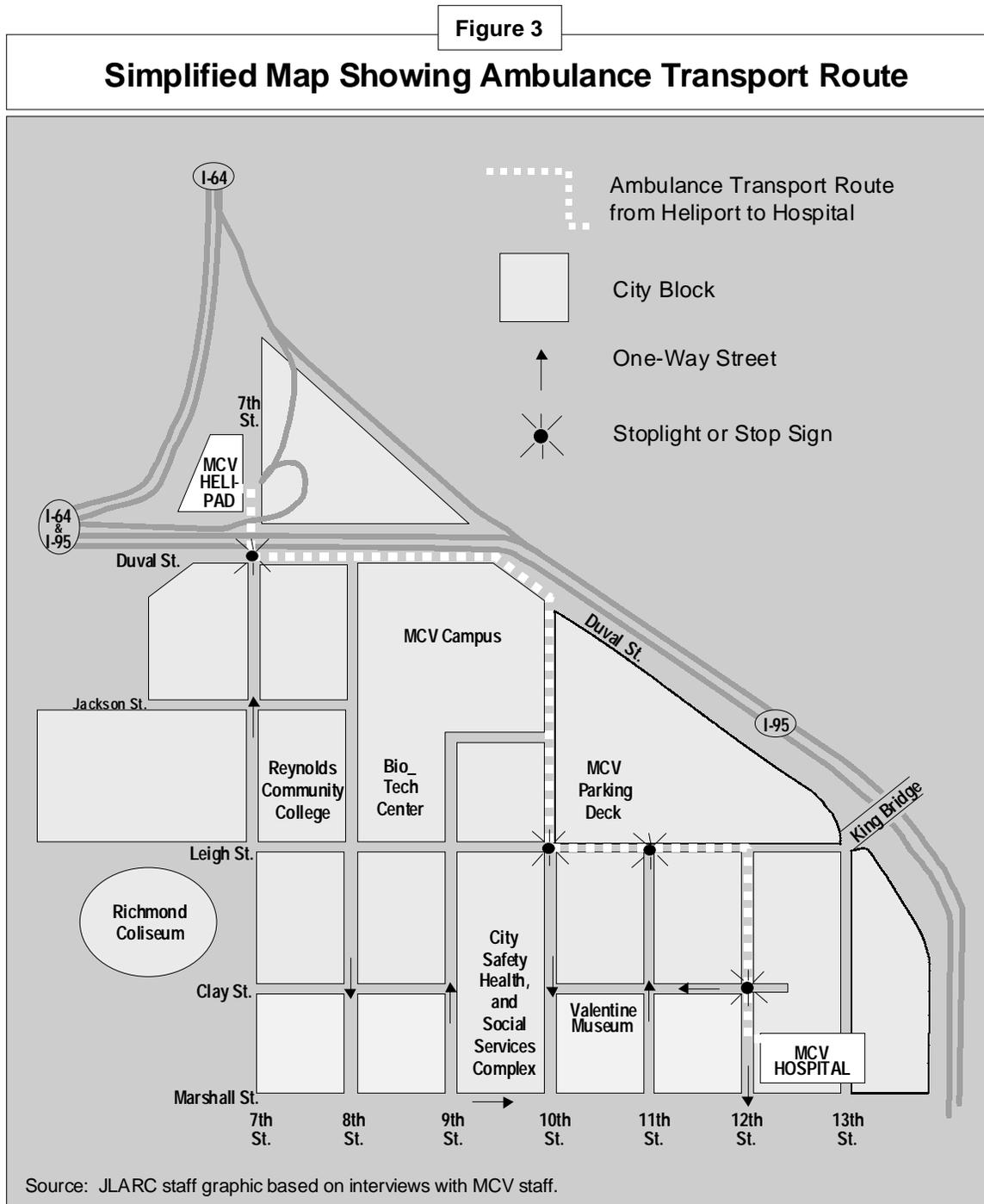


The BO-105 helicopter (shown at left) used by MedFlight I limits medical access to the patient. The patient is placed on the stretcher with legs toward the rear, in a “tunnel” which limits medical treatment to the patient’s torso and above.

Larger helicopters are used by commercial medevac providers in Virginia. The photo below shows the unrestricted access to the patient in the Bell 412 helicopter used by LifeGuard 10. This helicopter can easily carry two patients and two medical personnel as well as a pilot.



the helicopter and take the patient through downtown Richmond traffic approximately 0.7 mile to MCV (Figure 3). The use of ground transportation creates the potential for additional problems and unnecessarily delays patient access to the hospital. Considering the time-based factor associated with critical and emergency care, MCV should relocate the helipad.



***Recommendation (2).* The Virginia Department of State Police should assess the need and costs to acquire one or more larger helicopters for its air medevac program. The State Police should report its findings to the House Appropriations and Senate Finance Committees prior to the 2000 Session.**

***Recommendation (3).* The Department of State Police should have an additional paramedic or flight nurse for MedFlight I so that two medical personnel are present on the helicopter for all air medevac flights. Chesterfield County or MCV Hospitals or should provide the additional medical staff.**

***Recommendation (4).* MCV Hospitals should move its helipad to an appropriate location with direct access to the emergency room.**

MEDEVAC PROVIDERS REPORT CONTINUING LOSSES

Three of the four air medevac providers that charge fees report three or more consecutive years of operating at a financial loss. Staff with the fourth provider stated that they also operated at a loss, although their organization was unable to provide financial data supporting this claim.

These losses are due to several reasons, according to the providers, including the lack of insurance coverage for air medevac services and low reimbursement rates by health insurers. Revenue attributable to patients flown to a hospital may also be declining due to other changes in health care financing, such as the trend toward managed care organizations which often do not cover all transportation costs.

While air medevac operators may not fully recover their operating expenses, they do bring many patients to their affiliated hospitals. Without the medevac service, in many instances these patients and their associated revenue would have gone to another hospital. Because medevac services bring a substantial amount of patient revenues to their respective hospitals, the financial status of medevac programs can not be evaluated separately from that of the overall facility.

The State should take several steps in response to the reported losses and to the concern about continuity of service. Although Medicaid payments for air medevac services represent a limited proportion of total patient revenue, one step should be to ensure that these payments are reasonable. Without legislative intervention, other revenue sources, such as private insurance, remain primarily outside State influence. Chronic losses reported by medevac providers also suggest that the State needs to have a contingency plan for responding in the event a provider ceases operations.

Providers Report Losses

All four commercial air medevac providers reported that they operated at a loss in the most recent fiscal year. Data supplied by three providers indicates that their losses in the most recent fiscal year ranged from \$501,836 to \$2,696,737 (Table 4). In each case these losses came after three or more preceding years of equal or greater losses. The fourth provider indicated that it had incurred losses, but due to changes in internal accounting procedures was unable to quantify them.

As is shown in Table 4, each of the affiliated hospitals generated net revenues well in excess of the medevac losses. Medevac losses appear to be more than offset by other hospital activities and by “downstream” revenue, which includes payments made for medical treatment provided after a patient is brought to a hospital by helicopter. Without medevac, these patients along with their associated revenue may have gone to a different hospital. Some medevac staff suggested that, at least in past years, these revenues tended to offset losses incurred by the medevac operation. Financial data from one provider supports this suggestion (Exhibit 2). Medevac staff also indicated that such revenues have declined with the popularity of managed health care plans, which tend to pay less of a patient’s overall medical charges.

The reported medevac losses must be viewed against this broader background. As noted in the 1986 State medevac plan proposed by the Medevac Committee:

To sell a medevac program to a board or a hospital chief executive officer, one must look at the helicopter as: (1) a source of patients, especially those who would have gone elsewhere or would have died; (2) a complement to a trauma, burn, neonatal, or other tertiary care service; (3) a contribution to the EMS system; (4) a visible symbol of the quality of care in the sponsoring hospital; and (5) a method of retaining a hospital’s market share. For a number of years, hospital

Table 4

Net Losses Reported by Virginia-Based Air Medevac Providers

Provider	Net Hospital Revenue* 1997	Reported Medevac Loss (FY98)	Consecutive Years of Equal or Greater Losses
A	\$75,103,302**	(\$501,836)	6
B	48,748,553	(\$611,527)	3
C	37,331,726	(\$2,696,737)	4
D	12,151,852	N/A	N/A

*Net revenue consists of net patient revenue and other gains in excess of total operating expenses.

**Combines operating expenses and revenues from two affiliated hospitals.

Source: JLARC review of data from Virginia Health Information, Inc., and provider financial data.

Exhibit 2**Downstream Revenues Generated by Air Medevac Services**

One commercial medevac program supplied JLARC staff with financial data that indicates the total gross hospital charges generated by patients brought to the hospital by the medevac service. Due to internal accounting procedure changes, the most recent data the provider could supply was for FY 1996.

The average per-patient gross hospital charge for FY 1996 was \$23,790 for patients brought to the hospital by air medevac. For the 842 patients flown, the total hospital charges were \$20,031,238. Of this total, \$3,183,501 or \$3,781 per patient was due to air medevac services, and \$16,847,737 or \$20,009 per patient was due to additional medical services.

“Downstream” charges for this hospital thus amounted to an additional \$20,009 per air medevac patient. Actual revenue collected may be less than this amount.

Source: JLARC staff review of provider financial data.

helicopter services have been able to justify their existence through the perceived new revenue generated by the patients.

Staff of some commercial providers have indicated that “downstream revenue” should not be considered when gauging their financial viability, since the mode of transportation does not determine how injured or sick a patient may be and thus how costly the medical care for the patient may be. Additionally, these staff suggest that helicopter programs should be self-sufficient, generating enough revenue to cover the cost of operating the programs. This would help ensure that this mode of emergency transportation remains available.

None of the air medevac staff interviewed for this study indicated any awareness that their hospital planned to discontinue air medevac services, despite the losses. Any request for State funding for these providers should take additional factors into account, such as the net revenues of the affiliated hospital and the less tangible but positive community image gained from air medevac operations. Nonetheless, the difficulty of sustaining these losses in the future may threaten the continued provision of air medevac services. The State has several options for dealing with this possibility which will be discussed later in this chapter.

State Payments to Commercial Medevac Providers Are Limited

There is no indication that any of the current air medevac providers will cease operations despite their reported losses. It would, however, appear prudent to review payments to the providers by State sources to determine whether they are related to the cost of providing the services.

State payments to the commercial air medevac providers derive from several sources. The largest State source is Medicaid payments on behalf of injured persons who are eligible for Medicaid. The indigent care trust fund is another potential source of State funds, but only two of the hospitals with affiliated medevac programs are eligible for these funds, and then only if they provide more charity care than hospitals in their peer groups. A third potential source of State funds for most medevac providers is the State's rescue squad assistance fund, although no provider has actually received funding from this source. In addition, one provider — Pegasus — is affiliated with the University of Virginia Medical Center, which is partly State funded. However, financial data submitted by Pegasus for this report does not indicate any State revenue other than payments for direct patient care, such as Medicaid.

Medicaid. Medicaid reimburses qualified health care providers for transporting eligible patients by helicopter. The Department of Medical Assistance Services (DMAS) administers Medicaid in Virginia. Due to changes in how DMAS keeps the data, the agency is unable to specify the amounts paid for medevac flights in recent years. Data from the commercial medevac providers indicate that Medicaid revenue represented 4.5 to 12.9 percent of their total revenues in FY 1998.

A significant increase in Medicaid reimbursement rates took effect in FY 1999. The revised rates incorporated the first adjustments since 1981, before most of the current air medevac providers were in service. The adjustments increased the rates from \$150 per helicopter liftoff plus \$6 per mile to \$573 per liftoff and \$13 per mile. A \$50,000 annual appropriation was provided in the 1998 Appropriation Act to support the higher rates.

Based on comments from staff of the commercial providers, Medicaid payments for air medevac services are relatively modest for two reasons. First, Medicaid reimbursement rates remain low, even though they were recently increased, and second, there is a perception that more flown patients may be eligible for Medicaid than are receiving Medicaid.

Although Medicaid reimbursement rates have recently been increased significantly, they remain low. A staff member at one out-of-state provider told JLARC staff, "Virginia's Medicaid reimbursement is awful. It should at least match what West Virginia pays."

Virginia Medicaid rates are below the costs reported by State Police MedFlight operations, which for 1998 ranged from \$2,066 to \$2,419 per medical mission. Under the new rates, a medevac round trip of 40 miles (20 miles each way) would qualify for \$1,093 in Medicaid reimbursement. Medicaid reimbursement rates should at least equal the costs incurred by DSP MedFlight, which is a low cost provider of medevac services.

The 1997 consultant study that led to the new rates used Medicaid reimbursement data from a limited sample of eleven states. The study recommended a rate for Virginia set at the median of the eleven states' reported rates, well below the reported

average rates and below the average costs reported to the consultants by Virginia medevac providers. While even this limited analysis was sufficient to justify rate increases, periodic rate reviews should be related to actual provider costs in Virginia.

A small proportion of the patients transported by air medevac providers are eligible for Medicaid. For example, one provider indicated that from FY 1996 to FY 1998, an average of six percent of patients transported by helicopter were Medicaid eligible. A second provider indicated that, over the same three-year period, 9.2 percent of all flown patients were Medicaid eligible.

Because a small proportion of flown patients are eligible for Medicaid, a significant change in Medicaid rates is unlikely to eliminate any provider's operating losses. There may be an additional way to address the issue of Medicaid reimbursement. This is because staff at some of the commercial medevac providers believe that they transport some patients who would be eligible for Medicaid but who have not gone through the eligibility process, thus causing the provider to forego some revenue. To assure that such problems are minimized, some medical facilities have arranged with local social services agencies to place eligibility workers on-site to handle the determination of eligibility for patients. This approach should be considered where feasible.

Recommendation (5). The Department of Medical Assistance Services should re-evaluate reimbursement rates paid to air medevac providers. The rates should be based on the costs incurred by air medevac providers in Virginia. The rates should at least equal the costs incurred by the Department of State Police MedFlight operations.

Indigent Care Trust Fund. This trust fund, established by the *Code of Virginia*, is a mechanism for providing a subsidy to not-for-profit hospitals which do more charity work than their peer hospitals. This trust fund provides funding to hospitals for medical care provided during a patient's stay, and does not directly compensate medevac programs. The State teaching hospitals are excluded from coverage.

The trust fund may compensate eligible hospitals for medical services, including air medevac services, provided to persons whose financial profiles are similar to that of Medicaid recipients. Currently, only two air medevac programs (Nightingale and AirCare) are affiliated with hospitals that may be eligible for the trust fund. Eligibility for trust fund monies is determined annually, based on the amount of charity care reported to the administering agency, the Department of Medical Assistance Services (DMAS). With only two programs potentially eligible for the funding, the trust fund is a very limited source of State funds.

"Two for Life" and Rescue Squad Assistance Fund. Virginia motorists pay a \$2 fee, called the "Two for Life" fund, to the Department of Motor Vehicles (DMV) when registering their vehicles. These dollars are earmarked by statute for several activities pertaining to emergency medical services. The "Two for Life" fund totaled \$10,063,803 in FY 1998, and was distributed as shown in Table 5.

Table 5

**“Two for Life” Funds
FY 1998**

	Statutory Allocation	FY 1998
Rescue Squad Assistance Fund	31.75%	\$3,195,258
Office of Emergency Medical Services, Virginia Department of Health	27.25%	\$2,742,386
Return to Localities for Emergency Medical Services Assistance	25.0%	\$2,515,950
Basic Life & Advanced Life Support Training, Volunteer Recruitment/ Retention	13.50%	\$1,358,614
Virginia Association of Volunteer Rescue Squads	2.50%	\$251,595
Totals	100.00%	\$10,063,803

Source: Annual Report of the Office of Emergency Medical Services, VDH.

Statutes allocate 31.75 percent of the “Two for Life” fund to the rescue squad assistance fund. In FY 1998 this amounted to \$3,195,258, as shown in Table 5. The *Code of Virginia* also specifies that any emergency medical provider operating not-for-profit is eligible to apply for financial assistance from this source. Because all but one of the air medevac providers are operated not for profit, these providers are eligible to apply for grants under the rescue squad assistance fund. According to VDH staff, only one air medevac provider has ever applied. This provider was approved to receive approximately \$8,000 in communications equipment, but due to a technicality did not actually draw on the funds.

Nonprofit emergency medical providers apply for grants from the rescue squad assistance fund. Under statutes, the financial assistance and review committee, appointed by the State EMS advisory board, determines which applicants receive funding. The committee has established priorities limiting awards to requests such as equipment and training. With the exception of grants for new ambulances, most awards are for less than \$10,000. A local match is required.

Provider staff indicated to JLARC staff that out of deference to the greater need of volunteer rescue squads, they felt air medevac providers should not apply for funding from the rescue squad assistance fund. Although it is unlikely that a costly item such as a helicopter ever would be funded from the rescue squad assistance fund, it remains a potential source of funds that could cover training and various types of medical equipment for air medevac providers.

Most Medevac Funding Comes from Non-State Sources

The commercial air medevac providers bill patients' insurance carriers and receive payment for services. The largest source of revenue for these providers comes from managed care and commercial health insurance carried by patients. One provider, for example, reported that 55 percent of its 1998 revenue came from managed care contracts, with another 18 percent coming from various insurance arrangements. Another commercial provider reported that 31 percent of its 1998 revenue came from patients' insurance carriers.

Medicare is also a significant source of revenue (despite the difficulties mentioned in Chapter I) for the commercial providers, ranging from 13 to 23 percent of their 1998 revenue. Medicare is administered by the federal Health Care Financing Administration (HCFA), which is under a Congressional mandate to review ambulance and air medevac rates by January, 2000.

According to medevac staff, many patients either lack health insurance or have health insurance policies which do not cover air medevac services, and thus are considered by the providers to be self-pay or private-pay cases. Two medevac programs indicated that patients without any insurance or other coverage represented 14.5 – 18.9 percent of the total number of patients flown in 1998.

In interviews, staff of several commercial providers indicated that a high proportion of these individuals fail to pay their medevac bills. Due to this lack of payment for services, several commercial providers have suggested that the State should financially contribute to support their operations, which is in the nature of a public service.

While there may be a substantial public interest in the provision of air medevac services, as long as ground-based emergency medical transportation needs are met statewide with a mix of public and private funding sources the State should be reluctant to consider any requests for subsidizing air medevac operators. The fact that helicopters are more costly to operate than ground ambulances does not mean that they should be State funded. The fact that air medevac programs bring patients and therefore additional medical revenues to a hospital also needs to be considered, as well as less tangible factors such as an enhanced community image due to affiliation with an air medevac program.

MEDICAL COSTS OF PUBLICLY PROVIDED MEDEVAC SERVICES COULD BE PARTIALLY RECOVERED

An issue of fairness arises when considering air medevac services in Virginia. Citizens throughout the Commonwealth pay State taxes that support the State Police MedFlight program, but only persons in two areas receive MedFlight services at no direct cost to the transported person. It has thus been suggested that citizens in all other areas of the State are paying for services which they are not eligible to receive.

State Police Medevac Operations Are Primarily Publicly Funded

State funding has been provided for only limited air medevac services from the Department of State Police. In fact, State taxes fund only the helicopters and pilots, not the medical staff of either MedFlight. Chesterfield County provides the medical personnel and related supplies, in the case of MedFlight I. Bristol Regional Medical Center provides personnel, equipment and supplies in the case of MedFlight II. These resources are thus not paid directly by the State taxpayer. Without the contributions of Chesterfield County and Bristol Regional, DSP would be unable to operate air medevac services.

Part of the problem is that no clear decision has been made that, statewide, the need for helicopter response to accident scenes is or should be exclusively a public sector or police activity. There is a clear public interest in responding to accidents and emergencies, as evidenced by public support and funding for police and fire departments as well as rescue squads. The fact that police forces operate air medevac services in limited areas reflects the unplanned, and perhaps unintentional, division of services between public and private sectors. Public sector operation of medevac services reflects the apparent inability or unwillingness of private sector operators to provide the services (at least, prior to the time the police started the service) and the recognition that police agencies may be “providers of last resort.” Providing air medevac services is compatible with the basic police mission of responding to accidents and other emergency situations. The Superintendent of State Police indicated that the agency requires an aviation unit regardless of its involvement with medevac operations.

Other states use a variety of public and private provider medevac systems. Two states, Maryland and New Jersey, have determined that accident scene response by helicopter should be a duty assigned to the State Police. Maryland State Police provide helicopters, pilots, and medical staff. The New Jersey State Police provide the helicopters and pilots, with Level I Trauma Centers supplying the medical crews. A decision for the Virginia Department of State Police to become the sole accident scene medevac responder would have a high cost, because it would require the acquisition of several additional helicopters. It would also require decisions about where to locate such services, which should be tied to the time required to respond to accidents. For example, by deciding that no point in the State should be further than 30 minutes by helicopter the Maryland State Police requires eight helicopter bases and 12 large helicopters (Aerospatiale Dauphines). Virginia State Police, by contrast, currently operate medevac programs with three helicopters flying from two bases.

Reimbursement for State Police MedFlight Operations

One means of partially addressing the question of fairness would be to recover the medical costs of MedFlight operations. Such an approach would resemble that of the New Jersey State Police, which provides the helicopters and pilots but does not charge for the aviation related costs. Instead, the New Jersey hospitals supplying the medical crew bill the flown patient for medical services.

As discussed previously, the Department of State Police (DSP) operates two air medevac programs. MedFlight I is based at the Chesterfield County airport, and MedFlight II is based at the Abingdon airport. In both cases, DSP provides the helicopters, pilots, maintenance and ground support, as well as hanger space. The medical crew and supplies come from other sources. For MedFlight I, Chesterfield county fire department provides a staff of five paramedics who are dedicated full-time to MedFlight I. In the case of MedFlight II, the medical staff of paramedics and flight nurses are provided by Bristol Regional Medical Center, in Bristol, Tennessee.

In the case of MedFlight II in Abingdon, an agreement with Bristol Regional Medical Center could address billing for medical services. The question of managing billing activities for the medical costs of MedFlight I in the Richmond area is more complicated because the medical crew is supplied by Chesterfield County and not by a medical facility which already has a billing function. However, Chesterfield County is considering billing for its rescue squad operations and could provide for recovery of medical costs in the near future. An additional option would be an inter-agency agreement for billing services between the County and the hospital receiving patients from MedFlight I. Revenues that would be generated should reimburse Chesterfield County or MCV for medical services (depending on who provides the medical crew members), and the billing agency for administrative costs. If only half of the FY 1998 medical costs were recovered, for example, Chesterfield County could have recovered about \$150,000, and Bristol Regional Medical Center could have expected to recover \$200,000.

***Recommendation (6).* The Department of State Police should assess its need for additional helicopter service statewide, and report its findings to the House Appropriations and Senate Finance Committees prior to the 2001 Session.**

***Recommendation (7).* The Department of State Police, Chesterfield County, MCV Hospitals, and Bristol Regional Medical Center should assess the potential for billing medical patients flown on MedFlight I and MedFlight II. Billing for only the medical costs incurred should be considered. This assessment should be reported to the House Appropriations and Senate Finance Committees prior to the 2000 Session.**

THE FUTURE OF AIR MEDEVAC SERVICES IN VIRGINIA

The uncertainty about whether chronic money-losing services will remain in operation underscores the concern about the continuity of medevac services in the event a provider ceases operation. A significant gap in services could result, although it is likely that one or more of the remaining providers would attempt to cover calls for service from the affected area, at least for a short time. However, staff at several providers indicated they were uncertain as to how long such a "fill-in" service could continue, and indicated concern about the adequacy of coverage if their existing crews were expected to routinely handle a substantial increase in activity. The distances involved could also lead to a deterioration of service.

If any of the medevac providers outside Northern Virginia ceases operations, it could mean the lack of air medevac services in that part of the Commonwealth. Neither State Police nor any local police department is currently equipped and staffed to provide permanent air medevac service beyond the current service level.

Under conventional business expectations of achieving a return on an investment, it would appear unlikely that any business could continue losing money. Although the commercial providers report losses on air medevac, staff at some providers have suggested that the parent firms may be willing to sustain some losses because of revenue earned by treating the patients subsequent to their transport, and by a commitment to public service. They also noted that operating a high-visibility activity such as a helicopter service may enhance a hospital's public image, possibly increasing a parent firm's willingness to incur losses on the operation. An enhanced image and public service commitment may be insufficient to sustain chronic and substantial losses over the long term, however.

Options Should a Medevac Provider Cease Operations

Because air medevac services are an essential part of emergency medical services, and because of the clear public interest in ensuring access to air medevac services statewide, the State should consider several options for responding to the possibility that an air medevac provider may cease operations. In an area covered by multiple medevac providers, such as Northern Virginia, the withdrawal of one provider may not lead to a lack of accident scene response. Service stoppage in the rest of the State would be a serious concern.

Taking no action is one possible option. This would, however, leave Virginia at some risk of having no air medevac service in a portion of the State should a provider cease operations.

Another option, urged by some commercial providers, is for the State to subsidize their medevac operations. Based on the current review, it appears the State should not at this time subsidize or provide financial support to commercial air medevac providers. The necessary State mechanisms to ensure accountability are not in place, such as standards for the services provided by air medevac operators, or standard medical protocols. Current State standards deal with only limited aspects of medevac operations, as noted in Chapter III. In addition, despite years of losses, none of the commercial providers indicated an intent to cease operation.

The State may not want to subsidize private business ventures which may be able to improve their revenue and cost situation through alternative business strategies. State payments for air medevac services, such as payments for Medicaid recipients who are transported, should be reasonable and related to the costs of providing the services. As addressed earlier in this chapter, Medicaid reimbursement rates should be set at least equal to the cost of DSP's MedFlight operations.

As long as the existing providers maintain their current service level there is no urgent need for Virginia State Police to undertake a broader statewide role in air medevac services. However, should a sole air medevac provider in an area cease operations, it would be reasonable for the State to be prepared with a contingency plan, including an assessment by State Police of what it would need to provide service in the affected area. Currently, there is no such contingency plan on the part of either DSP or VDH, despite the statutory requirement for VDH to develop a statewide air medevac system with the assistance of DSP.

VDH and DSP should develop a statewide air medevac contingency plan for DSP to be prepared to provide service should a sole provider in an area cease operation with no prospect of another provider permanently filling the gap. Funding for this expansion of State Police services could come from the State general fund or from an increase in the \$2-for-Life program.

The State's contingency plan should also address additional options for various combinations of public and private involvement in the system. One option would include the State Police eventually performing all air medevac flights statewide directly to accident scenes. By reducing or eliminating their involvement in scene work, the commercial providers could focus on inter-facility transfers, which the State Police Superintendent has indicated the department does not desire to handle, and on which the commercial providers say they are better able to recover their costs. Several commercial providers indicated that responding to accident scenes was their primary source of financial losses. DSP is already handling approximately 27 percent of all accident scene flights statewide. Expanding this coverage would be expensive, as DSP would have to acquire several additional helicopters, aviation staff, and hanger space, and identify additional providers of medical staff at the new locations. Since this would be a costly option, and since not all private providers would necessarily want to relinquish performing scene work, additional options should be explored.

The State Needs a Contingency Plan

The *Code of Virginia* currently directs VDH to develop a statewide air medevac system, in coordination with DSP and other appropriate state agencies. Considering the potential for an existing provider to cease operations, the State should take several steps. First, VDH regulations should establish a notification period of 90 days or more, should a provider decide to terminate or significantly scale back operations. As noted in Chapter II, current VDH regulations do not contain such a requirement.

Second, VDH and DSP should develop a contingency plan that indicates how coverage would be continued in the affected part of the State. The plan should indicate whether an adjoining provider or DSP would provide interim or permanent coverage of an area should the existing provider cease operations. The two agencies should report their plan and recommendations to the General Assembly in time for the 2001 Session. Implementation of this plan may require additional funding and staff for DSP.

Recommendation (8). The Virginia Department of Health regulations should require that an air medevac provider give VDH/OEMS 90 days or longer advance notice prior to ceasing service.

Recommendation (9). The Virginia Department of Health and the Department of State Police should develop a contingency plan with input from air medevac providers indicating how air medevac services would continue in the event that an existing air medevac provider ceases operation. The contingency plan should include several options for continued provision of air medevac services. The plan should be completed prior to the 2001 General Assembly, and include:

- a. An agreement that immediately upon a provider ceasing service, the adjoining air medevac providers who provided mutual aid in the affected area should provide coverage as feasible within the former provider's service area. Alternatively, State Police could commence air medevac services to accident scenes in the service area of the former provider by transferring (or leasing on an emergency basis) a helicopter, and making arrangements with nearby rescue squads, fire departments, or hospitals, to provide the necessary medical staff.
- b. An agreement between the adjoining providers as to who will handle inter-facility transfers after a provider ceases operation.
- c. A determination about whether and under what conditions the State Police will provide additional air medevac coverage.
- d. The plan should consider the fiscal impact of all included options and the sources of funding to be provided on an emergency basis.

III. Oversight and Regulation of Air Medevac

The *Code of Virginia* assigns the Board and Department of Health the lead responsibility for overseeing and regulating the air medevac system. VDH appears to have played a minimal role in the air medevac system. Planning and coordination have been minimal, which could leave large areas of Virginia with no air medevac services should an existing provider cease operations.

VDH is now in the process of revising the regulations which apply to medevac and other emergency medical providers. This provides an opportunity to include the best regulatory practices of other states, and to include elements of the voluntary standards adopted by the Medevac Committee. VDH needs to take more initiative in coordinating with other State agencies such as the State Police and VDOT on issues that concern the effectiveness of the air medevac system.

VDH PLANNING AND COORDINATION NEEDS TO BE STRENGTHENED

The *Code of Virginia* directs VDH to develop, in conjunction with DSP, a system of air medevac services. The *Code of Virginia* also directs the Board of Health to develop and enforce standards for the operation of emergency medical services, including air medevac services.

The Office of Emergency Medical Services (OEMS), as part of the Health Department, has allowed the air medevac providers to operate fairly autonomously with little guidance or supervision. Coordination of services occurs primarily at the dispatcher and provider level, in response to calls from accident scenes or from hospitals. Hence, OEMS planning and coordination has been lacking.

OEMS has not reviewed or updated the statewide EMS plan in 16 years, despite the *Code of Virginia's* requirement for an update every three years. The Division's internal five-year plan is staff-directed and provides no direction to accomplish stated goals. The Medevac Committee has also not been a strong force for focus or direction. OEMS needs to provide direction and guidance to the air medevac system through the use of planning and appropriate data collection.

OEMS Planning Could Be Improved

Planning and coordination activities by OEMS have been minimal. According to OEMS staff, prior management focused on the day-to-day operations of the agency and dealt with issues as they came up.

OEMS has developed an in-house planning tool in its *Five-Year Plan*. OEMS points to this in-house planning effort as a substitute or alternative to the statewide

EMS plan. However, this document does not focus on the EMS or the air medevac system but identifies internal staff-driven goals to reach various legislative mandates. This internal plan does not suggest how the goals will be accomplished.

The EMS Plan Has Not Been Updated Since 1983. As part of the emergency medical care system, a Statewide Emergency Medical Services Plan is required of the Board of Health. Section 32.1-111.3 of the *Code of Virginia* states,

The Board of Health shall develop a comprehensive, coordinated, emergency medical care system in the Commonwealth and prepare a Statewide Emergency Medical Services Plan, which shall incorporate, but not be limited to, the plans prepared by the regional emergency medical services councils. The Board shall review the plan triennially and make such revisions as may be necessary.

The *Code of Virginia* also requires VDH to establish “a statewide air medical evacuation system which shall be developed by the Department of Health in coordination with the Department of State Police and other appropriate state agencies.”

The original plan was drafted by an OEMS staff member in 1983 and has not been updated since that time. OEMS staff noted that the plan would have to be approved through the process set out in the Administrative Process Act, which was considered too cumbersome. Thus, the mandated plan was not reviewed every three years as required by the *Code of Virginia*. The Medevac Committee prepared a State Medevac Plan in 1986 and submitted it to the EMS Advisory Board. However, it has not been updated since it was developed. Currently, OEMS has a five-year plan that staff suggested takes the place of the mandated Statewide Emergency Medical Services Plan.

The Five-Year Plan Is an Inadequate Substitute for the Statewide EMS Plan. OEMS has a five-year plan for the period July 1, 1997 through June 30, 2002. This plan provides goals that OEMS staff want to accomplish, many of which are tied to specific legislative mandates. There are several goals related to air medevac services. However, there is no mention of how the goals will be accomplished or what process led to the identification of these goals.

The plan states the following goals under licensure and certification: “Review and revise State Medevac Plan, Medevac Standards, incorporate contingency plan for continued statewide coverage and accessibility of air medevac services.” According to OEMS staff, the only progress made towards these goals has been in revising the standards, which began in early 1999.

As discussed in Chapter II, this limited progress leaves Virginia with no plan in the event that an air medevac provider ceases operations. A withdrawal of services could leave a significant portion of Virginia without air medevac services. As the lead agency in developing a statewide air medevac system, VDH needs to begin planning now in order to better prepare the State for the possibility that a provider may cease operations.

Medevac Committee Does Not Coordinate the System

The Medevac Committee is a committee of the Emergency Medical Services Advisory Board. The Medevac Committee does not appear to be an effective method for coordinating the air medevac system. The committee serves more as a forum for discussing issues than as a coordinating body because it lacks a clear mandate to do more and because of the divergent interests of its members. For example, staff of several air medevac providers on the committee indicated that the competitive nature of the inter-facility transfer business inhibits cooperation and sharing of information between providers. Private and public providers have at times differed in their opinions about key issues, and the committee has lacked the authority to coordinate or reconcile these views. Some of the commercial providers feel they should receive State funding for their unpaid services, for example, while some of the public providers believe that providing additional funds only to the private providers would be inequitable.

The Medevac Committee is currently developing a standardized data collection instrument to be used by all air medevac providers. This effort is a part of a larger data collection effort for the Statewide Trauma Triage Plan which took effect on July 1, 1999. This process is frustrated by the divergent interests of committee members. OEMS may need additional authority if it is to play a stronger role with providers. In the case of data collection, OEMS should require the key items needed for the data collection without insisting on consensus among a group with divergent interests and needs.

OEMS Should Play a Stronger Role in the Planning and Coordination of Air Medevac Services

Planning and coordination of the air medevac system has not been a priority for OEMS. However, legislative mandates are clear that VDH, acting through OEMS, should take the lead in coordinating the air medevac system with the State Police and other appropriate agencies. In fact, OEMS's own mission statement suggests that they should achieve their goals "through the planning and development of a comprehensive, coordinated statewide emergency medical services (EMS) system" (Exhibit 3). Air medevac services are a part of the EMS system.

OEMS should take the lead in coordinating air medevac services. One example of a role that OEMS could play involves data collection about service areas and missed flights. During the course of this study, JLARC staff were made aware that areas near Lynchburg and south of Lynchburg along U.S. 29 highway have had problems accessing medevac coverage. Collecting information about such access problems should be a part of the OEMS planning process.

Analysis of such data could allow OEMS to determine if there are areas of the State that are not adequately served. Data collection is a part of the planning process, and some data collection is required as part of the Statewide Trauma Triage Plan. Provision of such data could be required as part of the licensing process. This would be

Exhibit 3**OEMS Mission Statement from the Five-Year Plan**

To reduce death and disability resulting from sudden or serious injury and illness in the Commonwealth through the planning and development of a comprehensive, coordinated statewide emergency medical services (EMS) system; and provision of other technical assistance and support to enable the EMS community to provide for the highest quality emergency medical care possible to those in need.

Source: Office of Emergency Medical Services Five-Year Plan 1997-2002.

useful in preparing for future needs and in developing a contingency plan for the possible loss of a provider in the future.

An additional opportunity for meaningful data collection concerns mutual aid agreements. VDH requires that a written mutual aid agreement exist between agencies, “in the event your agency cannot supply all the required equipment or at any time is unable to respond to medical calls in its primary service area.” Air medevac providers do miss calls within their primary service areas when already on another call, for example, when the helicopter is down for maintenance. Although informal agreements do exist between providers for mutual aid, written agreements would allow OEMS to ensure coverage is provided. This could be important if a provider ceased operations – mutual aid agreements could be part of the statement that other providers would step in under agreed upon circumstances.

Another example where OEMS should take the lead concerns the proliferation of wireless communication towers along Virginia highways. Many of the air medevac providers listed the proliferation of these towers as a concern during JLARC staff site visits. The providers fear that the towers may cause an accident because the pilots are not always aware of the location of all the towers. Air medevac scene work often involves work around the major roadways in the State.

The Virginia Department of Transportation (VDOT) provides the opportunity for wireless communications companies to use State-owned right-of-way along highways. Hence, OEMS could coordinate with VDOT to determine the location of the wireless communication towers. According to a staff member in VDOT’s Right-of-Way section, an inventory is currently being prepared of towers located on the State’s right-of-way. This list provides the latitude and longitude of the towers. OEMS should obtain this information and distribute it and future updates to the air medevac providers.

***Recommendation (10).* The Board of Health, in conjunction with the Virginia Department of Health (VDH), should provide a statewide Emergency Medical Services Plan triennially as required by the Code of Virginia. The plan should identify issues of concern to EMS providers and recommend strategies for addressing these concerns.**

***Recommendation (11).* The Virginia Department of Health (VDH) should play a stronger role in the planning and coordination of air medevac services. For example, VDH should assist the Department of State Police (DSP) in identifying areas of the State that may require DSP to provide air medevac services, such as the Lynchburg-Route 29-Danville Corridor. Appropriate data collection should be incorporated in VDH planning and coordination activities.**

***Recommendation (12).* A memorandum of agreement should be developed which would enable the Virginia Department of Health to obtain from the Virginia Department of Transportation the locations of wireless communication and other towers located in State's right-of-way. This information along with all updates should be provided to the air medevac programs.**

***Recommendation (13).* The Virginia Department of Health should examine additional steps to ensure that oversight of air medevac providers is adequate. Data collection methods to enhance oversight should be examined. The requirement that air medevac providers have written mutual aid agreements should extend to out-of-state providers doing business in Virginia. The Department should monitor the effectiveness of the mutual aid agreements, and the frequency of their use, by collecting the appropriate data.**

AIR MEDEVAC REGULATIONS COULD BE ENHANCED

The Board of Health is responsible for promulgating emergency medical services (EMS) regulations. Air medevac regulations fall under this broad category. The current regulations were promulgated in 1990, and are now in the process of being revised. These regulations provide standards pertaining to personnel, equipment (including vehicles and aircraft), and procedures used by emergency medical programs. In addition, the Medevac Committee developed voluntary standards in 1991 that provide some additional guidance. All the Virginia-based providers have stated that they comply with these voluntary standards.

VDH is Responsible for Emergency Medical Services Regulations

Standards are necessary to provide guidance to all emergency medical service providers, not just medevac providers, as well as to enable OEMS to ensure that a minimum level of medical care is being provided. For instance, standards allow for certain minimum levels of care from licensed providers at either the basic (BLS) or advanced life support (ALS) functions. All air medevac services currently provide the ALS level of care. Standards also allow OEMS to oversee the operations of providers through licensing and inspections.

The standards for emergency medical services fall into the categories of agency-related standards, vehicle standards, personnel standards, and training requirements. The agency-related standards address the responsibility of the agency in ensuring appropriate operation of vehicles and personnel. For example, the agency must keep records on vehicles, personnel, and dispatch logs for a period of five years as well as provide proof of insurance for vehicles. Vehicle standards provide minimal guidelines concerning safety, operations, sanitation, equipment, and supplies. All EMS providers must apply for a vehicle certificate before operation of the vehicles.

An additional category of standards includes those that relate to personnel requirements. Most of the standards cover general requirements and include personnel qualifications and training, provision of care, and standards of conduct. EMS vehicle personnel qualifications are included in these standards. Although some minimal training requirements are provided under personnel standards, training certification is mandated through an additional section of standards. The training requirements for EMS personnel discuss the need for standardized course content and competence.

The current emergency medical services regulations have been in effect since July 1990. Revisions were proposed in 1995 but the process was not completed. OEMS filed a notice of intended regulatory action on February 15, 1999 to amend the regulations governing emergency medical services. OEMS does not anticipate that the regulations will be in a draft state before August of this year. Consequently they were not available for review at the time of this report. However, OEMS staff indicated that revisions are planned for the following provisions:

- a minimum equipment and supply list that will be updated annually (previously it was not updated until the regulations were changed),
- Air Medical Transport EMS Vehicles will be characterized as specialized life support providers (the current differentiation is between basic and advanced life support), and
- a minimum of the aircraft flight crew and two air medical personnel shall be required for rotary-wing providers (currently only one additional person is required).

Some Voluntary Standards Should Be Adopted in Regulations

In addition to the mandatory standards promulgated by VDH, the medevac providers have developed a number of voluntary standards. The Medevac Committee adopted these in 1991. The Medevac Committee wanted additional statewide guidance pertaining only to air medevac providers (not to the ground-based providers). Exhibit 4 identifies the topical categories covered by the voluntary standards. While some of these categories are addressed in the mandatory EMS regulations, many are not. For

Exhibit 4**Categories of Voluntary Medevac Standards**

- Training
- Safety
- Quality Improvement
- Aircraft
- Service Requirements
- Staffing
- Infection Control
- Sponsoring Institution Requirements
- Access
- Public Relations
- Coordination of Response
- Handling of Hazardous Materials

Source: JLARC staff analysis of the voluntary Medevac Standards established by the State Medevac Committee on September 12, 1991.

example, infection control policies and hazardous materials procedures are not included in the general EMS regulations promulgated by the Board of Health.

Although all air medevac providers indicate they comply with the Medevac Committee standards, because these are voluntary standards there is no inspection or enforcement from OEMS. The air medevac services could choose not to comply with them if they wished. Voluntary standards are not enforceable and therefore, OEMS has no process to require that they be followed. The providers are inspected biennially for compliance with VDH standards, as mentioned previously.

OEMS staff suggested that these standards were developed as voluntary guidelines in order to remain flexible and accommodate the rapid pace of change in the medical and air medevac fields. OEMS staff noted that voluntary standards do not have to go through the slow and cumbersome Administrative Process Act (APA) procedures, and thus can more quickly be adjusted for changes. However, the voluntary guidelines have not been modified or updated since 1991. It would therefore appear that the flexibility to change voluntary standards has not been utilized and in fact some of these voluntary standards might be outdated.

Some of the voluntary standards that are not in the mandated regulations appear to be of some importance. For example, under the category of coordination of response there are some points of guidance concerning mutual aid and disasters. Mutual aid is discussed as assistance offered by one provider to another in the event that the primary service is unable to respond to a call. Disaster relief refers to the process for the use of helicopters during casualty disasters that have not been declared State or local emergencies. Different processes for disaster relief are outlined for when there is scene management and when there is not obvious scene management. "Obvious scene management" is a situation where there is someone already on the scene directing and coordinating the various providers.

Most of the voluntary standards seem to provide appropriate additional guidance to air medevac service providers. Therefore, VDH should identify and incorporate necessary voluntary standards into the current revision of the regulations.

Recommendation (14). The Virginia Department of Health should evaluate the Medevac Committee voluntary standards during the current review of the Emergency Medical Services Regulations and incorporate those provisions they deem necessary to the effective operation of air medevac services.

VDH Should Consider Regulatory Best Practices of Other States

Other states have air medevac programs and have established standards for their operation. Hence, other states can provide the opportunity to identify best regulatory practices or benchmarks. In this case, the area of air medevac services can provide useful benchmarks by determining the best practices of other states. Table 6 summarizes a list of provisions in the regulations from several states that are close to Virginia.

A provision that would be particularly useful for Virginia is the provision for an air medevac provider to notify VDH at least 90 days before ceasing operations. Sec-

Table 6

Selected Regulatory Provisions of Virginia and Other States

Provision	VA	NC	SC	PA	NJ
90 Day Cease Operation Notice				✓	
License Out-of-State Providers	Some*	✓	✓	✓	
Medical Director Requirements	✓	✓	✓		
Two Medical Crew Members Required	Under consideration**		✓	✓	✓
Submit Run Report			✓		✓
Collect Data on Number of Flights			✓		✓
Collect Cost Information					✓
Mutual Aid Agreements	Informal***		✓	✓	

*Some of the out-of-state providers have requested to be licensed in Virginia.

**OEMS is currently considering a provision to require two medical crew members.

***OEMS requires written mutual aid agreement but the current air medevac agreements are informal.

Source: JLARC staff analysis of regulations from other states.

tion 28-1007.9 of the *Pennsylvania Code* states that, “Air ambulance service licensees may not voluntarily discontinue service until 90 days after the licensee notifies the Department in writing that the service is to be discontinued.” This provision in the regulations could be beneficial to Virginia in planning for the contingency that a provider could cease operations in the near future.

Another key provision is the requirement for two medical crew members for the operation of an air medevac service. OEMS staff have indicated they are considering this change during the current revision of the EMS regulations. Three of the states have adopted this standard. An additional provision of interest is the requirement for mutual aid agreements. South Carolina and Pennsylvania have stipulations requiring agreements. Virginia does have a provision requiring written mutual aid agreements between providers but these agreements are currently informal.

***Recommendation (15).* As a part of its current revision of the air medevac regulations, the Virginia Department of Health should identify the best regulatory standards in use in other states and incorporate them as appropriate in the revised Virginia standards.**

Appendixes

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Appendix A

Study Mandate

Item 16I - 1998 Appropriation Act

Air Medevac System

The Joint Legislative Audit and Review Commission shall study the state Air Medevac System to ensure the continuation of an excellent and efficient statewide emergency medical evacuation services system. The study shall include, but not be limited to, the availability of air medical evacuation services, administrative protocols of service providers, the need for statewide alternatives and options, and the mission, operations, coordination and funding of public and private air medevac programs.

Appendix B

Agency Responses

As part of the extensive data validation process, State agencies involved in a JLARC assessment effort are given the opportunity to comment on an exposure draft of the report. In addition, because of the level of involvement of the providers in this effort, they have been afforded the opportunity to submit written comments. Appropriate technical corrections resulting from written comments have been made in this version of the report. Page references in agency and provider responses may relate to an earlier exposure draft and may not correspond to page numbers in this version.

This appendix contains responses from the following:

- The Commissioner of the Department of Health (VDH)
- The Superintendent of the Department of State Police (DSP)
- Fairfax County Police Department Helicopter Division
- Nightingale Regional Air Ambulance Program, Sentara Norfolk General Hospital
- Pegasus, University of Virginia Health System, Department of Emergency Medicine
- Centra Health, Lynchburg
- Carilion Roanoke Memorial Hospital
- Senator Stephen D. Newman, 23rd Senatorial District



JLARC Staff

DIRECTOR: PHILIP A. LEONE
DEPUTY DIRECTOR: R. KIRK JONAS

● *DIVISION I CHIEF:* GLEN S. TITTERMARY
DIVISION II CHIEF: ROBERT B. ROTZ

SECTION MANAGERS:

PATRICIA S. BISHOP, FISCAL AND ADMINISTRATIVE SERVICES

JOHN W. LONG, PUBLICATIONS AND GRAPHICS

GREGORY J. REST, RESEARCH METHODS

PROJECT TEAM LEADERS:

CRAIG M. BURNS

LINDA BACON FORD

STEVEN E. FORD

HAROLD E. GREER, III

CYNTHIA B. JONES

WAYNE M. TURNAGE

● WALTER L. SMILEY

PROJECT TEAM STAFF:

ARIS W. BEARSE

KELLY D. BOWMAN

GERALD A. CRAVER

LISA V. FRIEL

● APRIL R. KEES

MELISSA L. KING

ERIC H. MESSICK

JASON W. POWELL

SUZANNE R. PRITZKER

LAWRENCE L. SCHACK

CHRISTINE D. WOLFE

ADMINISTRATIVE AND RESEARCH SUPPORT STAFF:

KELLY J. GOBBLE

JOAN M. IRBY

LISA JAWORSKI, INTERN

BETSY M. JACKSON

BECKY C. TORRENCE

● *Indicates staff with primary assignment to this project*

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JLARC
Suite 1100
General Assembly Building
Capitol Square
Richmond, Virginia 23219
(804) 786-1258 Fax: 371-0101
<http://jlarc.state.va.us>

