



# Office of Inspector General

## AUDIT OF LITHOTRIPTER UTILIZATION

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*VHA can reduce lithotripsy costs by improved  
management of existing units and realignment  
and consolidation of resources.*

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Office of Inspector General

Washington DC 20420



DEPARTMENT OF VETERANS AFFAIRS  
Office of Inspector General  
Washington DC 20420

Memorandum to the Under Secretary for Health (10)

## Audit of Lithotripter Utilization

1. The Office of Inspector General audited the use of lithotripters in the Veterans Health Administration (VHA) to determine if existing lithotripsy units (i) were operating economically and efficiently, and (ii) were sufficient to meet VHA's workload. Lithotripters are used to treat kidney and urinary tract stones without surgery by crushing them with shock waves. Lithotripters became commercially available in 1984. From 1986 through 1995, VHA opened lithotripsy suites at 13 medical centers across the nation. The audit included site visits at four of these medical centers, including one medical center that closed its suite and now obtains lithotripsy through a private contractor. Additionally, we contacted officials at all other Veterans Affairs Medical Centers (VAMC) with existing lithotripter units and other facilities with planned units to obtain data about workload and costs.

2. VHA stopped approving additional suites in 1992 because program management believed existing lithotripsy suites were sufficient to handle VHA's nationwide workload. However, VHA removed lithotripters and other surgical equipment as controlled equipment items at about the same time. Controlled equipment items generally require VHA Central Office approval for purchase. Recently, several medical centers have opened or plan to open new lithotripsy suites. VAMC Tampa opened a suite in 1994, and three new lithotripsy suites were under construction at VAMCs Atlanta, New York, and Dallas in fiscal year (FY) 1996. VAMC Augusta, Georgia, 150 miles from Atlanta, also plans to build a lithotripsy suite.

3. The audit showed that VHA can significantly reduce operating costs of the 12 existing lithotripsy units by:

- Providing treatment on an outpatient basis whenever possible.
- Developing guidelines for staffing and treatment.
- Using in-house maintenance.
- Improving contract administration over shared resources.
- Obtaining electrodes through the least costly source.

4. The audit also showed that VHA currently has significantly more lithotripsy capability than can be effectively utilized. In FY 1995, the 12 medical centers with VA-owned lithotripters performed only 1,626 procedures, about 11 percent of total capacity. Clearly, additional capacity is not needed. However, several facilities plan to open new lithotripsy suites in the near future. Additionally, VHA faces replacement expenses as existing units reach the end of their expected useful life.

5. Rather than expanding the number of lithotripters and replacing all outdated units, we believe VHA should realign and consolidate lithotripsy capability. By designating a small number of medical centers with existing units as lithotripter resource centers, VHA could provide lithotripsy services more efficiently and effectively. Establishing six lithotripsy resource centers, each serving several Veterans Integrated Service Networks (VISNs), would eliminate replacement equipment costs at three to six medical centers resulting in savings of at least \$2.2 to \$4.3 million. Canceling planned additional units could further reduce equipment and construction costs.

6. The report contains recommendations for the Under Secretary for Health to:

1. Establish guidelines for best practices in management of existing lithotripter units.
1. Establish lithotripsy resource centers, each serving several VISNs, by (i) designating six medical centers with existing units as lithotripsy resource centers; (ii) closing other lithotripsy suites as equipment becomes obsolete; and (iii) canceling plans for lithotripsy suites at sites not designated as lithotripsy resource centers.

7. The Under Secretary for Health concurred in principle with our recommendations and provided acceptable implementation plans. Rather than designating specific facilities as lithotripsy resource centers, as we recommended, the Under Secretary tasked the Network Directors to assess various options in obtaining lithotripsy services. The Network Directors agreed that other options, including selling excess capacity and increased use of contracts for community services, may be more effective. The options would be used to assess the use/replacement of existing equipment and to determine the most efficient and cost effective ways of obtaining lithotripsy services. Such assessments meet the intent of our recommendation. The Under Secretary also agreed to develop guidelines for best practices in managing lithotripter units and canceled two planned lithotripsy suites. Lithotripsy is a good candidate for consolidation and realignment using the guidelines in the Under Secretary for Health's "Prescription for Change", and we believe that the assessments to be conducted by the Network Directors could achieve that end.

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8. The Under Secretary for Health also agreed that improved management of existing lithotripsy units may result in better use of funds estimated at \$530,000 in the report. However, based on recent changes in the health care setting, the Under Secretary stated that it is difficult to quantify these costs in the near term. We agree, but believe that our estimate of better use of funds is reasonable. The Under Secretary further agreed that significant savings in equipment and construction funds over the next 5 years could be realized if VHA did not automatically replace or add new lithotripsy units. According to the Under Secretary, his cancellation of plans for two new lithotripsy units at VAMCs Atlanta and Augusta, Georgia, are consistent with the \$2.2 million estimated better use of funds cited in the report.

9. We consider all issues in the report resolved and will continue to follow up on planned actions by VHA until they are completed.

For the Assistant Inspector General for Auditing

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## RESULTS AND RECOMMENDATIONS

### **1. The Veterans Health Administration Can Significantly Reduce Lithotripsy Operating Costs**

The Veterans Health Administration (VHA) can significantly reduce operating costs of its 12 existing lithotripsy units by:

- Providing treatment on an outpatient basis whenever possible.
- Developing standard guidelines for staffing and treatment.
- Using in-house maintenance.
- Improving contract administration over shared resources.
- Obtaining electrodes through the least costly source.

Currently, VHA has no national guidelines for performing lithotripsy in the most effective and cost efficient manner. By drawing on the expertise of physicians and support staff at medical centers with lithotripters, VHA could develop standards for providing optimum care at the lowest cost. Implementation of such guidelines at the 12 existing lithotripsy units would result in annual savings of over \$200,000 in maintenance and supply costs and increased revenues of at least \$330,000 from shared resources. VHA would also achieve significant savings from increased outpatient treatment and more efficient staffing of lithotripsy suites.

### **Lithotripsy and VHA's "Prescription for Change"**

In March 1996, the Under Secretary for Health published his mission statement and objectives for improving veterans' healthcare in a document entitled "Prescription for Change". This document included several goals that are particularly relevant to lithotripsy, including:

- Transforming "the veterans healthcare system from a hospital bed-based system to an ambulatory care-based system."
- Increasing "VA's temporary lodging and residential care capacities to accommodate patients needing housing but not acute hospital care while undergoing diagnostic evaluation or treatment."

Standardizing clinical processes with nationally developed clinical guidelines and delegating clinical care responsibility to non-physician caregivers when appropriate.

- Seeking "opportunities for sharing activities with private sector entities when doing so would be cost effective and improve service to VA patients."

### **Providing Treatment on an Outpatient Basis Would Reduce Program Costs**

Several facilities, such as VAMCs Tampa and Richmond, routinely performed lithotripsy on an outpatient basis. However, system-wide most procedures were performed on an inpatient basis. According to automated patient records from the Austin Automation Center, VHA facilities performed 2,862 lithotripsy procedures from October 1, 1993, through December 31, 1995. Of these, 2,494 (87 percent) were performed on an inpatient basis, while only 368 (13 percent) were performed on an outpatient basis.

VAMC Memphis, with the most active lithotripsy unit, performed almost all procedures on an inpatient basis. During the audit, staff at Memphis told us they were in the process of converting lithotripsy to an outpatient procedure. New patients would be treated on an outpatient basis whenever possible and persons needing lodging because of travel distances would be lodged overnight on a self-care ward.

VAMC Memphis performed 301 procedures on 214 patients in FY 1995, including 253 performed on patients referred from other VA medical centers. We estimate that total inpatient costs for lithotripsy at VAMC Memphis in FY 1995 were \$497,000. Resources used for these inpatient stays could be more effectively used elsewhere. Although a portion of cost efficiencies would be offset by the cost of lodging for out-of-town patients, net cost savings would still be significant.

VHA should ensure that lithotripsy is performed on an outpatient basis to the extent possible at all facilities with lithotripters.

### **Standardizing the Lithotripsy Process Would Improve Productivity and Patient Care**

The Under Secretary's "Prescription for Change" contains a goal of standardizing clinical processes with nationally developed clinical guidelines and delegating clinical care responsibility to non-physician caregivers when appropriate. VHA has not developed a staffing protocol or a standard clinical process for lithotripsy.

Staffing at facilities varied and some staff were unnecessarily assigned full-time to the lithotripsy program. The administration of treatment also varied from facility to facility. For example:

- VAMCs Albuquerque, Bronx, Long Beach, and Palo Alto required both an attending physician and a resident to be present at each procedure. However, VAMCs Memphis and Milwaukee used resident urologists to supervise procedures; an attending physician was available but not present during the procedure.
- VAMC Palo Alto reported to us that it did not routinely have a nurse anesthetist present because the Medstone equipment used did not produce significant discomfort in the patient. However, at VAMC Tampa with the same type equipment, a nurse anesthetist was generally present.
- Stents were placed in almost all patients at VAMC Memphis but not at other facilities reviewed.
- Memphis assigned technicians to other procedure rooms when the lithotripsy suite was not in use. Other facilities had dedicated technicians for the lithotripter who were not effectively used when the lithotripter was not in use.
- Some facilities administered the same numbers of shocks to each patient regardless of individual factors, while other facilities varied the number of shocks according to the size and location of the stone and the weight of the patient.

By drawing on experienced physicians and support staff, VHA could develop standardized protocols for lithotripsy procedures that would reflect best practices in terms of both patient care and cost effectiveness.

### **In-House Maintenance Can Decrease Operating Costs**

Of the 12 facilities with VA-owned equipment, four contracted or planned to contract with private sources to perform routine maintenance on lithotripters. Annual cost of the contracts ranged from \$44,700 to an estimated \$105,000. In contrast, three medical centers maintained the equipment using a combination of biomedical engineering staff and periodic preventative maintenance by manufacturers' representative at a much lower cost. For example, VAMC Memphis' maintenance costs were about \$27,600 annually: approximately \$9,100 for parts and VA staff time, and \$18,500 for periodic preventive maintenance by the manufacturer. One biomedical engineering technician spent about 10 percent of his duty time performing maintenance. We estimate that total cost reduction VA-wide would be about \$215,000 annually if the four medical centers with existing contracts performed maintenance in-house.

### **Improving Contract Administration Can Reduce Costs**

Several VA medical facilities, including VAMC Asheville, obtained lithotripters through joint purchase agreements with local hospitals or affiliated medical schools. Joint purchase of the equipment should significantly reduce VA's costs. However, VAMC Asheville did not effectively manage the contract for sharing costs with their partner, a local hospital. We found that VA paid an average of \$1,730 per procedure in FY 1995 for services provided by the local hospital on VA-owned equipment placed in the local hospital's space. This price included excessive charges for electrodes and charges for staff time in excess of that spent providing services to VA patients.

Additionally, VAMC Asheville did not recover \$330,000 from the local hospital for use of the lithotripter in FY 1995. The medical center's contracting officer added a clause to the contract allowing payments to be credited towards a gift made by the local hospital in 1986 to help VA buy the lithotripter. However, under the terms of the original contract, the local hospital had already recovered the donation through free use of the equipment during the first 5 years of operation. We brought this condition to the attention of the medical center

director for his action.

In comparison, VAMC Richmond effectively negotiated an agreement to obtain lithotripsy treatments from a mobile unit owned by a private contractor. VAMC Richmond had only small startup costs for paving an area for the contractor's mobile unit. Richmond paid \$1,200 per procedure plus the cost of electrodes and VA staff in attendance during the procedure.

The need to improve contract administration is indicated by (i) the loss of revenue at VAMC Asheville from the private hospital, and (ii) the high cost per procedure paid by Asheville while using VA-owned equipment (an average of \$1,730 at VAMC Asheville vs. \$1,200 at Richmond). VHA should issue guidance to medical centers with joint use agreements to ensure (i) VA is paid a reasonable rate by sharing partners for the use of VA-owned equipment and (ii) any charges to VA for staff time, supplies, or maintenance of the equipment are reasonable.

### **Electrodes Should be Purchased at the Lowest Rate Available**

VHA can further reduce operating costs by ensuring that all facilities purchase electrodes from the least costly source. In early 1990, Memphis joined with other government facilities in a consolidated procurement agreement to buy electrodes for Dornier model lithotripters. For the year ending March 1996, the contract price for a new electrode was \$80. Effective April 1, 1996, new electrodes were \$75, and refurbished electrodes were added to the contract for \$35 (subject to lower prices based on volume). Most facilities with Dornier equipment paid these amounts for the electrodes. However, VAMC Asheville was paying \$140 per electrode through an agreement with its sharing partner. By reducing the cost to \$35 per electrode, VAMC Asheville could save \$5,880 annually.

Two stations had Medstone STS lithotripters, VAMC Tampa and VAMC Palo Alto. Tampa paid \$250 for a refurbished electrode, while Palo Alto paid \$350. The cost paid by Palo Alto could be reduced by at least \$100 per electrode, resulting in annual savings of about \$11,000 annually. It is likely that further reductions at Tampa and Palo Alto could be achieved through a consolidated procurement.

### **Conclusion**

VHA has the opportunity to reduce operating costs and improve patient care at existing lithotripsy suites by implementing the Under Secretary's "Prescription for Change." Consistent with the goals in this document, VHA should perform lithotripsy as an outpatient procedure to the extent possible, using VA's capabilities for temporary lodging for out-of-town patients, and develop staffing guidelines for best practices in staffing and managing the clinical process. VHA can also maintain equipment using VA biomedical engineering staff whenever possible and obtain electrodes from the least costly source.

By drawing on the expertise of physicians and support staff at VHA facilities with existing lithotripters to develop guidelines, VHA could improve the overall program and make better use of significant operating funds.

### **For More Information**

*More detailed information about the audit scope and methodology is provided in APPENDIX I. More detailed background information is provided in APPENDIX II.*

### **Recommendation 1**

We recommend that the Under Secretary of Health establish guidelines for best practices in staffing and managing existing lithotripter units.

### **Under Secretary for Health Comments**

The Under Secretary for Health concurred in principle with the report recommendation to establish guidelines for best practices in managing lithotripter units. The Under Secretary suggested that "staff should not be part of the guidelines because staffing should be based on local conditions."

*(Comments of the Under Secretary for Health are provided in their entirety in APPENDIX III.)*

### **Implementation Plan**

Patient Care Services (11) and Performance Management Service (105A) will develop guidelines for best practices for managing lithotripsy units within VHA's existing priorities for clinical guideline development. The target completion date for developing the guidelines is December 31, 1997.

### **Office of Inspector General Comments**

We acknowledge the Under Secretary for Health's comment concerning the inclusion of staffing in the guidelines and have revised our recommendation accordingly. The Under Secretary's implementation plan is responsive to the report recommendation and we consider the report issue resolved. We will follow up on planned actions by VHA until they are completed.

## **2. Developing Lithotripsy Resource Centers Would Improve Program Effectiveness**

VHA currently has significantly more lithotripsy capability than can be effectively utilized. In FY 1995, the 12 medical centers with VA-owned lithotripters performed only 1,626 procedures on VA patients, 11 percent of total capacity. Current utilization demonstrates that additional lithotripsy capacity is not needed. However, several facilities plan to open new lithotripsy suites in the near future. Additionally, VHA faces replacement expenses as existing units reach the end of their expected useful life. Rather than expanding the number of lithotripters and replacing all outdated units, VHA should realign and consolidate lithotripsy capability. By designating a small number of medical centers with existing units as lithotripter resource centers, VHA could provide lithotripsy services more efficiently and effectively. Establishing six lithotripsy resource centers, each serving several Veterans Integrated Service Networks (VISNs), would eliminate replacement equipment costs at three to six medical centers, resulting in savings of at least \$2.2 to \$4.3 million. Canceling planned additional units could further reduce equipment and construction costs.

### **The Under Secretary's "Prescription for Change" Includes Realignment of Inefficient Programs**

The Under Secretary for Health stated in his "Prescription for Change" published in March 1996, that VA must provide excellence in healthcare value. This document contains criteria for potential realignment of VHA facilities and programs so that resources may be used more effectively. Considerations for realignment to increase cost efficiency include:

- The availability of the same kind of service of equal or higher quality at another VA facility.
- Disproportionate or unjustifiably high resource consumption.
- Possible integration, consolidation, or merger of duplicate or similarly intended services at nearby VA facilities.

### **VHA Plans To Purchase New Lithotripsy Units Even Though It Has Excess Capacity**

VHA has more lithotripsy capacity than can be effectively used. In FY 1995, the 12 VA-owned lithotripsy units performed only 1,626 procedures on VA patients as shown in the following table.



## **Lithotripsy Procedures Performed**

### **In Fiscal Year 1995**

#### **Number of**

#### **Medical Center Procedures**

Albuquerque 261

Asheville 56

Bronx 113

Houston 40

Long Beach 155

Memphis 301

Milwaukee 208

Palo Alto 110

Salt Lake City 123

San Juan 44

Syracuse 56

Tampa 159

Total 1,626

Each lithotripter has the capability of performing about 1,200 procedures annually. Even the most active lithotripters at VAMCs Memphis, Albuquerque, and Milwaukee are operating well below their capacity and are consequently below maximum efficiency. The total of 1,626 procedures represents only about 11 percent of VHA's total capacity. We also found there was not a large demand for lithotripsy services that was being met through community sources. During the 27-month period from October 1993 through December 1995, VA obtained fee-basis lithotripsy services on only 533 occasions.

Despite having excess capacity nationwide, three new lithotripsy suites were under construction at VAMCs Atlanta, New York, and Dallas in FY 1996. VAMC Augusta, Georgia, 150 miles from Atlanta, also plans to build a lithotripsy suite.

#### **Replacing Aging Lithotripsy Units and Adding New Units Will Cost At Least \$11.7 Million Over the Next 5 Years**

Lithotripters are expensive pieces of equipment, with prices ranging from \$725,000 to \$1.9 million. New units also require construction or renovation of a lithotripsy suite, which ranged from \$164,000 to \$450,000. In addition to the equipment and construction costs, each unit will have significant staffing and maintenance costs.

Of the 12 VA-owned lithotripters in operation in 1995, 9 will have exceeded their expected useful life of about 10 years by the year 2000. If VHA replaces each of the nine units, equipment costs alone would be \$6.5 million, assuming VHA purchased the lowest priced units.

Additional units are planned for VAMCs Dallas, Atlanta, New York, and Augusta. The equipment costs at Dallas and Atlanta are estimated to total \$3.1 million. Additional units in New York and Augusta will total at least \$1.5 million, assuming the lowest equipment costs. Construction and renovations for the four additional units will cost an estimated \$656,000, assuming the lowest construction costs. Total costs for nine replacement units and four new units would exceed \$11.7 million.

### **Project Justifications Overstated VA's Lithotripsy Workload**

We believe VHA has excessive lithotripsy capacity primarily because documents justifying the need for the lithotripter overstated anticipated workload. For example, the justification for the unit at VAMC Asheville anticipated an annual VA workload of 404 procedures. However, in FY 1995, the unit at VAMC Asheville performed a total of only 56 procedures on VA patients; 22 patients from Asheville and 34 referrals from other VAMCs. The justification for building a new lithotripsy suite at VAMC Atlanta projected 629 procedures annually, about one-fourth of VA's entire nationwide workload in FY 1995. However, in FY 1995, Atlanta referred only 21 patients to other VA facilities for lithotripsy and had no reported fee-basis procedures.

Medical center officials at VAMC Albuquerque anticipated the unit would perform 882 procedures annually. However, only 261 procedures were performed in FY 1995. Workload projections at VAMC Tampa were 320 patients a year, including 100 spinal cord injury patients. However, in FY 1995, Tampa performed 159 procedures, including 36 procedures on spinal cord injury patients.

Several facilities used their spinal cord injury workload as a unique justification for placing a lithotripter at their facility. However, the number of procedures on spinal cord injury patients did not make a significant difference in the total number performed. For example, at VAMC Memphis, which had the most active lithotripsy unit, only 33 of 301 procedures (11 percent) in FY 1995 were performed on spinal cord injury patients. During the 27-month period from October 1993 through December 1995, VA performed a total of 2,494 lithotripsy procedures on VA inpatients. Only 212 (8.5 percent) were performed on spinal cord injury patients.

### **No Centralized Control Over the Acquisition of Lithotripters**

An additional cause of the excess capacity is the removal of controls over the purchase of lithotripters. VA began purchasing lithotripter units in 1986. By 1992, VHA Central Office stopped approving additional units because program management believed existing lithotripsy suites were sufficient to handle VHA's nationwide workload. However, VHA removed lithotripters and other surgical equipment as controlled equipment items at about the same time. Since 1994, several facilities have purchased new units or have plans to do so.

Under VHA's current organizational structure there is nothing to prohibit or discourage each VISN from purchasing its own unit. For example, the justification for the new lithotripter at VAMC Dallas stated there was no lithotripter in VISN 17. However, there is an underutilized lithotripter in VISN 16 at VAMC Houston which performed only 40 procedures in FY 1995. The unit at Houston could easily handle the workload from VISNs 16 and 17.

### **Establishing a Small Number of Lithotripsy Resource Centers Would Increase Efficiency and Save Significant Equipment Costs**

We believe that VHA can more effectively provide lithotripsy service to the veteran population by realigning and consolidating existing lithotripsy resources. VHA should establish a small number of lithotripsy resource centers at facilities with existing units. Each resource center would serve several VISNs. By designating six facilities with existing units as lithotripsy resource centers, VHA could:

- Avoid the cost of replacing existing equipment at 3 to 6 facilities saving at least \$2.2 million to \$4.3 million.
- Avoid the additional equipment and construction costs at facilities planning new lithotripsy units.
- Increase cost efficiency and proficiency in the operation of the resource centers.

A small portion of the savings achieved from establishing lithotripsy resource centers would be offset by increased travel costs associated with transporting patients to the resource centers. However, under the current alignment of lithotripter units, VA is already paying for many patients to travel to medical centers with units. For example, at VAMC Memphis, with the most active lithotripsy unit, 253 (84 percent) of the 301 FY 1995 procedures were performed on patients referred from other medical centers.

In cases in which travel would not be feasible due to extraordinary cost or the condition of the veteran, facilities without lithotripter units would use community sources. Facilities using community sources for lithotripsy services should limit payments to the allowable Medicare rate.

### **Conclusion**

Lithotripsy is a good candidate for consolidation and realignment using the guidelines in the Under Secretary for Health's "Prescription for Change":

- The number of procedures performed is below generally accepted productivity or proficiency standards.
- There has been a disproportionate or unjustifiably high resource consumption for the program.
- Integration and consolidation of lithotripsy at a few select facilities would yield significant administrative and/or staffing efficiencies.

By designating a small number of facilities as lithotripsy resource centers, each serving several VISNs, VHA could save significant equipment and construction funds over the next 5 years. By not replacing six outdated lithotripsy units, VHA would save between \$2.2 and \$4.3 million. VHA could save additional equipment and construction costs by canceling planned units.

### **For More Information**

*More detailed information about the audit scope and methodology is provided in APPENDIX I. More detailed background information is provided in APPENDIX II.*

### **Recommendation 2**

We recommend that the Under Secretary for Health increase the utilization of lithotripsy resources by (i) designating six medical centers with existing lithotripsy units as lithotripsy resource centers; (ii) closing other lithotripsy suites as equipment becomes obsolete; and (iii) canceling plans for lithotripsy suites in sites not designated as lithotripsy resource centers.

### **Under Secretary for Health Comments**

The Under Secretary for Health concurred in principle with our report recommendation to increase the utilization of lithotripter resources. The Chief Network Officer presented the report findings to the Network Directors at their November 1996 meeting and discussed this recommendation. Rather than adopting the concept of six resource centers, the Network Directors tasked the Clinical Managers with assessing various options to consider in obtaining lithotripsy services or using existing resources. The options would be used by

Network Directors to assess the use/replacement of existing equipment and to determine the most efficient and cost effective ways of obtaining these resources.

The Under Secretary for Health also reported that action has been taken to cancel plans for both the VAMC Atlanta and Augusta, Georgia lithotripters which would result in better use of funds of \$2.2 million.

*(Comments of the Under Secretary for Health are provided in their entirety in APPENDIX III.)*

### **Implementation Plan**

Network Directors have tasked Clinical Managers with assessing various options to consider in obtaining lithotripsy services. These options will be used by Network Directors to assess in the use/replacement of existing equipment and to determine the most efficient and cost effective ways of obtaining these resources. The target date for completing these assessments is March 31, 1997.

### **Office of Inspector General Comments**

The Under Secretary for Health's implementation plans are responsive to the intent of our report recommendation and we consider the report issues resolved. We will follow up on planned actions by VHA until they are completed.

The development of guidelines for best practices in managing lithotripter units, an assessment by each of the Network Directors to determine the most efficient and cost effective ways of obtaining lithotripsy services, and the cancellation of two planned lithotripsy suites is responsive to the intent of our recommendations. We continue to believe that lithotripsy is a good candidate for consolidation and realignment using the guidelines in the Under Secretary for Health's "Prescription for Change".

## **APPENDIX I**

### **OBJECTIVES, SCOPE, AND METHODOLOGY**

#### **Objectives**

We audited VHA's lithotripsy program to determine if:

- Existing lithotripsy units were operating economically and efficiently.
- Lithotripsy capacity was sufficient to meet patient needs.

#### **Scope**

The audit focused on FY 1995 operations at facilities with VA-owned lithotripter units and included selected data from FY 1986 through FY 1995. In FY 1995, VHA had 12 lithotripsy suites in operation nationwide. We conducted onsite reviews at three facilities with VA-owned units:

- Asheville, North Carolina.
- Memphis, Tennessee.
- Tampa, Florida.

We also visited VAMC Richmond to assess costs and workload for the contractor furnished mobile unit. Additionally, we contacted officials at all other VAMCs with existing lithotripter units and other facilities with planned units to obtain data about workload and costs.

We reviewed pertinent administrative and fiscal records related to lithotripter workload and costs. Records reviewed include written justification for the lithotripter, purchase orders, contracts with a community hospital for shared use of a lithotripter, and logs showing actual use of the equipment. We interviewed responsible employees at VAMCs and VA Central Office and discussed our audit results with VHA management.

Our audit was made in accordance with generally accepted government auditing standards and included such tests as we considered necessary under the circumstances.

## **APPENDIX I**

### **Methodology**

A combination of sources was needed to identify facilities which own or plan to acquire a lithotripter because VHA did not maintain complete records of facilities with lithotripters. The sources included the National Acquisition Center in Hines, Illinois, which purchased several units and Surgical Service which approved purchases of lithotripters prior to 1992. After identifying the 12 sites which had operational lithotripters and one facility, VAMC Richmond, Virginia, which had purchased a unit but was no longer using it, we then scheduled site visits at four facilities that would offer us a wide variety of program operations. We visited:

- VAMC Asheville, North Carolina, which owned a lithotripter that was physically located at a nearby private hospital under a shared use agreement.
- VAMC Memphis, Tennessee, which had the most active lithotripsy program in VA.
- VAMC Richmond, Virginia, which had recently closed the VA-owned lithotripsy suite and currently obtains lithotripsy from a mobile van owned and operated by a private contractor.
- VAMC Tampa, Florida, the newest location and one of only two with a Medstone lithotripter rather than the more common Dornier.

We analyzed workload and cost data at each site we visited. The cost data included equipment costs, construction and renovation costs, maintenance and repair, staffing, and supplies. We assessed the validity of the original justification for the equipment (projected vs. actual workload). We also observed procedures at three of the facilities visited and compared the staffing levels and protocols used at each facility.

In addition to the facilities visited, we contacted all other medical centers with a VA-owned lithotripter by telephone to obtain additional information, including the number of procedures, the type of lithotripter in use, the cost of equipment and supplies, and the staff involved in each procedure. We also obtained program data from the automated Patient Treatment File and automated Outpatient Clinic File at the Austin Automation Center to obtain overall program data.

## **APPENDIX II**

### **BACKGROUND**

A lithotripter is a large item of medical equipment used to treat kidney and urinary tract stones without surgery by crushing them with shock waves. Lithotripters became commercially available in 1984. VA purchased its first lithotripter in 1986. By 1995, VHA had opened 13 lithotripsy suites across the nation at the following facilities:

VAMC Albuquerque, New Mexico.

VAMC Asheville, North Carolina.

VAMC Bronx, New York.

VAMC Houston, Texas.

VAMC Long Beach, California.

VAMC Memphis, Tennessee.

VAMC Milwaukee, Wisconsin.

VAMC Palo Alto, California.

VAMC Richmond, Virginia.

VAMC Salt Lake City, Utah.

VAMC San Juan, Puerto Rico.

VAMC Syracuse, New York.

VAMC Tampa, Florida.

The lithotripter owned by VAMC Richmond was removed from operation in FY 1995. The Richmond center currently purchases lithotripter services from a private contractor with a mobile unit which visits the medical center twice a month. As of FY 1996, three new lithotripsy suites were under construction at VAMCs Atlanta, New York, and Dallas. VAMC Augusta, Georgia also has plans to build a lithotripsy suite in FY 1997 or later.

During FY 1995, the main focus of our review, the 12 facilities with lithotripters in operation performed a total of 1,626 procedures. According to automated patient records from the Austin Automation Center, VHA facilities performed 2,862 lithotripsy procedures from October 1, 1993, through December 31, 1995. Of these, 2,494 (87 percent) were performed on an inpatient basis and 368 (13 percent) were performed on an outpatient basis.

Lithotripters are costly items, ranging in price from \$725,000 to \$1.9 million and were initially a controlled equipment item, requiring approval by Surgical Service in VA Central Office. Surgical Service stopped approving additional suites in 1992 because Service management believed existing lithotripsy suites were sufficient to handle VHA's nationwide workload. However, VHA removed lithotripters and other surgical equipment

## **APPENDIX II**

from the controlled equipment item list at about the same time. There are currently no centralized controls over the purchase of lithotripters or centralized data source about cost, workload, or staffing of lithotripters.

Due to the high cost of the units and limited veteran workload, many of the lithotripters were joint ventures with local hospitals. We identified lithotripters at the following medical facilities as being jointly purchased: VAMCs Asheville, Bronx, Salt Lake City, San Juan, and Syracuse.

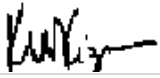
## **APPENDIX III**

### **UNDER SECRETARY FOR HEALTH COMMENTS**

	<b>Department of Veterans Affairs</b>	
	<b>Memorandum</b>	
Date	Jan 2, 1997	
From:	Under Secretary for Health (10/105E)	
Subj:	OIG Draft Report, <i>Audit of Lithotripter Utilization</i> , Project No 6R3-049	
To:	Assistant Inspector General for Auditing (52)	
	1. This report has been reviewed by the appropriate VHA program offices, and we concur in principle with the report findings and recommendations. Your report identifies an area that is particularly suited for restructuring as outlined in the <u>Prescription for Change</u> . Your analysis will be useful to us as we consider the most efficient and cost effective ways of using lithotripsy services in VHA.	
	2. We are taking several actions to assess lithotripter utilization which also address the report recommendations. Patient Care Services (11), working with the networks and the Performance Management Service (105A) in Headquarters, plans to develop productivity and best practices guidelines for lithotripsy services. VHA has already identified priority areas for which guidelines are being developed; however, lithotripsy is not one of these. Guidelines for lithotripsy will be completed as progress on the priority areas permit, a process which we anticipate could take at least twelve months. In addition, while we concur in principle with the need to develop guidelines for best practices in managing lithotripsy services, the specific recommendation needs to be clarified to reflect VHA's approach to developing guidelines within the decentralized network structure. This means that staffing would have to be deleted as part of the guideline, as we consider staffing to be one of many pathways, generated in response to local conditions, that help ensure that the mandates of a guideline are achieved. Guidelines developed for lithotripsy services will not address staffing other than within this context.	
	3. The Chief Network Officer presented the report findings to the Network Directors at their November meeting (held the week of November 18-22, 1996) and discussed ways to increase efficiency of lithotripsy services, including those recommended in this report. Rather than adopting the concept you propose of establishing six lithotripsy resource centers, the Network Directors agreed that other options may be more effective. The network Clinical Managers were tasked with reviewing other possible options including selling excess capacity and increased use of contracts for community services. Network Directors will use tile recommendations from the Clinical Managers as equipment becomes obsolete, to assess the most efficient and costeffective way to obtain these services.	

**APPENDIX III****UNDER SECRETARY FOR HEALTH COMMENTS**

	2. Assistant Inspector General for Auditing (52)	
	4. We believe our planned actions meet the intent of the recommendations. An implementation plan detailing specific actions for each recommendation is attached. We agree improved management of existing lithotripsy units, viewed retrospectively, may have resulted in the better use of funds estimated at \$530,000 in the report. Recent changes in the health care setting, including fresh emphasis on contracting for services, and the continued changes in lithotripter technology and practice guidelines make it difficult, if not unrealistic, to quantify these costs in the near term. For these reasons, in conjunction with the continued development of the VHA network structure, we do not believe your estimated better use of funds is applicable to current or future circumstances. We agree that there could be significant savings in equipment and construction funds over the next 5 years, if we did not automatically replace or add new lithotripter units. We have already taken action in this area and canceled plans for both the Atlanta and Augusta, GA lithotripters which we believe is consistent with your estimate of better use of funds of \$2.2 million cited in the report.	

	5. Thank you for the opportunity to review the draft report. If you have any questions, please contact Paul C. Gibert, Jr., Director, Management Review Service (105E), Office of Policy, Planning and Performance, at 273.8355.	
		
	Kenneth W. Kizer, M.D., M.P.H.	
	Attachment	

### APPENDIX III

#### UNDER SECRETARY FOR HEALTH COMMENTS

	Action Plan in Response to OIG/GAO/MI Audits/Programs Evaluations/Reviews			
	Name of Report: <i>Audit of Lithotripter Utilization</i>			
	Project No: 6R3-049			
	Date of Report: Undated draft report			
	Recommendations/ Actions	Status	Completion Date	
	<b>Recommendation 1: We recommend that the Under Secretary for Health establish guidelines for best practices in staffing and managing existing lithotripter units.</b>			
	Concur in principle			
	We would suggest that the "in staffing and" portion of the recommendation be deleted as including staffing in the guidelines blurs the difference between a guideline and a pathway. Clinical guidelines are general mandates about the conduct of a care process. Within a guideline can be a number of specific pathways (such as staffing) that are generated locally based on local conditions.  Given this qualification, Patient Care Services (11) in conjunction with the networks and Performance Management Service (105A) will develop guidelines for best practices for managing lithotripsy units within VHA's existing priorities for clinical guideline development.			
		In-process	12/31/97	
	<b>Recommendation 2: We recommend that the Under Secretary for Health increase the efficiency of lithotripsy resources by (i) designating six medical centers with existing lithotripsy units as lithotripsy resource centers; (ii) closing other lithotripsy suites as equipment becomes obsolete; and (iii) canceling plans for lithotripsy suites in sites not designated as lithotripsy resource centers.</b>			
	Concur in principle			
	The Chief Network Officer presented the report findings to the Network Directors at their November 1996 meeting (the week of 11/1822/96) and discussed this recommendation. Rather than adopting the concept of six resource centers, the Network Directors tasked the Clinical Managers with assessing			



		various options to consider in obtaining lithotripsy services. These options will be used by the Network Directors to assess the use/replacement of existing equipment and to determine most efficient and cost effective way of obtaining these resources.	
		In-process	3/31/97

**APPENDIX IV****MONETARY BENEFITS****IN ACCORDANCE WITH OIG ACT AMENDMENTS****REPORT TITLE:** Audit of Lithotripter Utilization**PROJECT NUMBER:** 6R3-242**Recommendation Category/Explanation Better Use Questioned****Number of Benefits of Funds Costs**

1 Recurring cost reduction by \$ 530,000

improved management of

existing lithotripsy units

2 Savings in equipment costs 2,200,000

by consolidating and realigning

lithotripter resources. \_\_\_\_\_

**TOTAL \$2,730,000****APPENDIX V****FINAL REPORT DISTRIBUTION****VA DISTRIBUTION**

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