



# Office of Inspector General

## AUDIT OF COST-PER-TEST LEASES AND REAGENT RENTAL CONTRACTS IN PATHOLOGY AND LABORATORY MEDICINE SERVICE

*VA Can Reduce Laboratory Costs by \$32  
Million by Maximizing Volume Discounts  
and Establishing Lower Prices for  
Chemistry Tests*

Report No.: 8R3-A01-101

Date: May 13, 1998

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 Cost-Per-Test Leases and Reagent Rental Contracts  
In Pathology and Laboratory Medicine Service**

1. The Office of Inspector General conducted an audit of the Veterans Health Administration (VHA) Pathology and Laboratory Medicine Service's use of vendor-owned chemistry analyzers to perform laboratory tests. Under this type of procurement agreement, the vendor provides the medical center with clinical chemistry analyzers and the medical center agrees to pay an agreed upon cost per test made on the analyzer or agrees to buy the necessary reagents to make the tests from the vendor. The audit was conducted to evaluate the cost effectiveness of this procurement practice. This is the fourth in a series of audits intended to provide an overall assessment as to whether pathology and laboratory services are provided in the most economical and efficient manner.
2. Through the use of vendor owned chemistry analyzers, by mid-Fiscal Year (FY) 1997 many facilities in VHA's Veterans Integrated Service Networks (VISNs) paid significantly lower prices for routine chemistry tests compared to prior years. We estimate that VHA achieved recurring annual savings of about \$8 million, primarily through VISN development of blanket purchase agreements (BPAs) for groups of facilities to obtain volume-based discounts under cost-per-test leases. Comparative information on Department of Defense's (DoD's) program costs showed that DoD also achieved estimated cost savings of \$5 million in FY 1997 through increased use of BPAs.
3. However, the audit showed that some VHA medical centers (VAMCs) did not participate in BPAs, and of those medical centers that used BPAs, most did not achieve the lowest prices possible. VAMCs also did not pay lower prices for non-routine tests in FY 1997 compared to prior years, paying a wide range of prices under reagent rental contracts and cost-per-test leases. In addition, VHA did not monitor the prices paid by the VAMCs, or survey DoD and non-federal hospitals for the prices they paid for both routine and non-routine tests. As a result, VHA was paying higher prices than some private hospitals for the same tests in lower volumes.

4. We concluded that VA could increase the cost savings achieved to date by an estimated \$32 million annually by taking full advantage of its purchasing power to obtain chemistry tests at a lower cost. In addition, DoD could potentially save over \$25 million by increasing its use of its purchasing power in conjunction with VHA medical facilities.

5. In addition to steps already taken by VISNs and DoD's regions to significantly reduce costs associated with the use of vendor-owned equipment, VA could maximize its cost savings by taking the following actions:

- Combine the numbers of tests made within a VISN and DoD region in the same geographical area to achieve test volumes sufficient to obtain the vendors' lowest volume-based discount rates.
- Perform VISN-level cost studies that determine the most cost-effective configuration of equipment necessary to perform laboratory tests at all VA medical facilities in each VISN.
- Make requests for proposals to vendors more uniform to enable more meaningful price comparisons.
- Share pricing data between VISNs, DoD, and private healthcare organizations to assist VISNs in negotiating the most favorable rates possible.

6. We recommend that the Under Secretary for Health take action to:

- a. Advise VISNs of the benefit of all VA medical facilities with laboratories to participate in a single BPA, including nearby DoD facilities, in order to maximize the use of volume-based discounts.
- b. Instruct each VISN to perform cost-studies to determine the optimal configuration of equipment necessary for all VAMCs in the VISN to perform laboratory tests at the lowest cost.
- c. Ensure that contracting officials make Federal Government requests for proposals to vendors for cost-per-test agreements more uniform to allow meaningful price comparisons.
- d. Survey prices charged VA, DoD, and private healthcare organizations to assist in identifying the lowest prices offered by any one vendor on individual tests in order to target lowering the rates among other vendors.

7. We are referring our findings to DoD's Office of Inspector General for their coordination and consideration within that department.

8. You concurred with the finding and recommendation in the report and provided an acceptable implementation plan. Therefore, we consider the issues discussed in the report to be resolved, based on actions planned. However, we will continue to follow up on the planned actions until they are completed.

For the Assistant Inspector General for Auditing

*(Original signed by)*

JAMES R. HUDSON  
Director, Atlanta Operations Division

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## **RESULTS AND RECOMMENDATIONS**

### **VHA's Pathology and Laboratory Medicine Service Could Increase Savings on Chemistry Tests by About \$32 Million Annually**

The Office of Inspector General performed an audit of cost-per-test leases and reagent rental contracts in VA's Pathology and Laboratory Medicine Service (PLMS). VHA Central Office has promoted the use of cost-per-test leasing since 1989. Under this procurement methodology, the vendor provides equipment (chemistry analyzers), supplies (reagents), maintenance, and training at an agreed upon cost per test. A reagent rental contract allows a facility to lease equipment at a nominal fee such as \$1 a year in return for buying a vendor's supplies to run tests on the equipment.

We audited this procurement practice to evaluate the cost effectiveness of using the vendor-owned chemistry analyzers leased to perform laboratory tests under these procurement methods. Excluding labor costs, operating costs of PLMS in fiscal year (FY) 1996 were about \$283 million. With over 100 million chemistry tests performed annually, VA saves \$1 million annually with each overall 1-cent reduction in test prices.

The audit showed that in FY 1997 the Veterans Integrated Services Networks (VISNs) were using blanket purchase agreements (BPAs) to save about \$8 million in first-year costs for routine tests from prices paid prior to joining VISN-initiated BPAs. However, opportunities exist to increase VHA's savings by over \$32 million annually. Some VA medical facilities did not achieve maximum, volume-based discounts for their routine tests, and paid a wide range of prices for non-routine tests under a variety of vendors and procurement methods.

These conditions took place because VHA was not aware of the different prices paid by VA medical Centers (VAMCs), Department of Defense (DoD), and private healthcare organizations to ensure it was getting the lowest price. In addition, VHA did not take full advantage of its combined purchasing power by (i) consolidating its workload within VISNs and DoD regions, (ii) making requests for proposals to vendors more uniform, and (iii) negotiating the lowest available prices.

We also obtained program data from three DoD regions. Similarly, in FY 1997 participating DoD facilities benefited from significant price decreases by combining workload volumes, saving an estimated \$5 million annually. However, we estimate that DoD has the opportunity to increase its savings by about \$25 million annually.

## **BPAs Decreased Costs for Routine Chemistry Tests in VA by About \$8 Million**

By mid-FY 1997 most VISNs had entered into one or more BPAs to acquire vendor-owned laboratory equipment to perform chemistry tests. The BPAs allowed participating VAMCs to receive significant savings by consolidating their chemistry tests to receive volume-based discounts. For example, one VAMC reduced routine chemistry test prices by about 71 percent (from 66.5¢ in FY 1996 to 19.5¢ in FY 1997) when it joined other facilities to lease equipment and buy supplies from the same vendor it was already using, on a combined medical center volume-based pricing scale.

VAMC laboratories participated in BPAs at six of the seven facilities audited. At five facilities, where comparative cost data was available, prices for routine chemistry tests dropped by 4¢ to 47¢ per test when they began participating in a BPA. First-year savings at the five facilities ranged from \$41,000 to \$79,000 and averaged \$63,000. The weighted average price (based on volume of routine tests) dropped by 10.5¢ a test. We estimated that participating facilities nationwide saved almost \$8 million in first-year costs for routine tests from prices paid prior to joining VISN initiated BPAs. These local savings recur annually.

Similarly, DoD saved an estimated \$5 million in first-year costs based on the information available to us from DoD.

## **The Government Could Take Greater Advantage of Its Consolidated Purchasing Power To Further Lower Program Costs**

VA and DoD facilities paid a wide range of prices to perform the same routine and non-routine chemistry tests. They also paid more for the same tests than some private healthcare organizations.

**Routine Tests** – VA and DoD generally paid a wide range of prices for routine tests because facilities did not combine their workload volumes to achieve the vendors' maximum discounts. VISN management generally established BPAs within their own VISN, but did not include nearby DoD facilities. Many VISNs and regions also established more than one BPA from which their facilities could choose and did not require all facilities to participate in BPAs. These practices split the Government's workload among several vendors, preventing facilities from achieving maximum volume discounts. Additionally, both VA and DoD paid more for routine tests than some private hospitals that had smaller volumes of workload. Private healthcare organizations that we contacted often negotiated lower rates than the Government and required all their facilities to use the same vendor in order to achieve maximum discounts.

As a result, routine chemistry tests were generally more expensive than necessary, presenting the opportunity for VA to save an estimated \$7 million and DoD over \$8 million annually.

**Non-Routine Tests** - Prices for routine tests at most facilities dropped through the advent of cost-per-test leases and BPAs. However, prices for non-routine tests did not experience similar decreases. A wide range of prices for non-routine tests existed for a couple of reasons.

- Staff could perform some non-routine tests on the main chemistry analyzers used for routine tests. Therefore, BPAs for the routine tests also covered these non-routine tests. However, it depended upon the vendor as to whether the prices for non-routine tests were volume driven or not. Vendors also differed in the classification (routine or non-routine) of some tests. As a result, some vendors included some tests as routine, while other considered the same tests as non-routine.
- Staff completed tests incapable of being performed on the main chemistry analyzer on a second and/or third vendor's equipment. Facilities were more likely to acquire equipment and supplies from the secondary vendor(s) under reagent rental contract rather than under a cost per test agreement.

This variety of procurement options lent itself to a wide range of prices charged to the Government as each facility developed its own arrangement for provision of non-routine tests. In addition, both VA and DoD paid higher prices for non-routine tests than some comparable private facilities.

Contracting efforts and competition among vendors have resulted in lower costs for routine tests. The opportunity now exists to target non-routine chemistry tests for lower prices. The Federal Government should identify the range of prices paid by its facilities and use the information in conjunction with data from private industry to establish lower rates. VA and DoD should be paying prices no higher than private healthcare organizations. Paying the lowest price available among vendors for non-routine tests could save VA an estimated \$25 million annually and DoD over \$17 million annually.

### **Routine Chemistry Tests Were Less Expensive When More Facilities Combined Their Workload Under One Vendor**

Generally, a vendor charged a facility the same price for any of about two dozen types of chemistry tests classified by them as routine. Routine tests were about 75 percent of a facility's paid chemistry test workload. Prices ranged from 18.5¢ to 44.3¢ apiece for routine tests done at the beginning of FY 1997 at the seven VA facilities audited. By



mid-FY 1997, two of the seven facilities contracted for tests as low as 13¢ apiece (with no charges for quality control tests) by switching vendors.

- The two facilities paying 13¢ individually had paid workload levels of 578,000 and 275,000 patient result tests a year. They were not required to pay for quality control tests. They were equipped with one and two main chemistry analyzers respectively, and received free training and maintenance. Every facility in their VISN participated separately in a BPA under the same vendor.
- In another VISN, a facility was paying 32.8¢ for its tests and had a paid workload of 808,000 patient result tests a year. It also did not pay for its quality control tests. It was equipped with four main chemistry analyzers—one in excess of the vendor’s recommendations. The facility received free training and maintenance. The facility did not participate in its VISN’s BPA.

We also visited a private healthcare organization in a major metropolitan area with a cost-per-test lease in FY 1997 for routine tests of 16.5¢ based on a workload of 1 million tests a year. The private healthcare organization was using the same vendor and major chemistry analyzers used by most VA facilities visited<sup>1</sup>. The lowest price offered by this vendor to any VA facility was 17.5¢ if the combined workload exceeded 7 million tests (20.5¢ per test for a workload of 1 million tests). Like the VA facilities that switched to another vendor in mid-FY 1997 to obtain a 13¢ price, the private hospital was switching to the same alternate vendor to achieve a lower price—11.2¢ for routine tests.

These examples show the wide range of prices in use and how non-participation in a BPA and different contracting practices between private and government entities affect pricing.

While the VISNs were aware prices would be lower by combining workload volumes of VA facilities under any vendor, they may not have appreciated the cost benefits of using a single vendor VISN-wide and of including DoD facility workload into their cumulative volume. For example, a VISN with four facilities under a BPA with one vendor; two facilities under a BPA with another vendor; and a seventh facility not using a BPA might experience the following costs:

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<sup>1</sup> A comparison of the private hospital and VHA contracts for this vendor showed that the only significant difference was the length of the contract. The private hospital’s contract was for 20-months, and VHA’s contract was for 5-years, renewable annually.

<b>No. of Facilities</b>	<b>Combined Workload</b>	<b>Cost Per Test</b>	<b>Total Cost</b>
4	1,820,000	19.5¢ & 23.5¢ <sup>1</sup>	\$376,012
2	286,650	35¢	\$100,328
1	913,500	28¢	\$255,780
<b>Total</b>	<b>3,020,150</b>		<b>\$732,120</b>

If these seven facilities combined under the four-facility BPA, and used recommended equipment levels, as a group of seven they would pay 18.5¢ a test totaling \$558,728 per year. They would cumulatively save \$173,392. By adding the 9 nearby DoD facilities, currently paying from 19¢ to 29.6¢ a test (\$565,180 total), under a similar array of several BPAs for a combined workload of another 2,580,000 tests, the 16 facilities would pay as little as 15.7¢ a test under one of the vendors. The VISN would save another \$84,564 annually, and the DoD facilities would save \$160,120. Negotiating an 11.2¢ rate would save the VISN \$393,863 and DoD \$276,220—totaling \$670,083.

Performing such cost studies in each VISN would assist managers in more readily identifying the cost benefits available from BPAs. We believe that all VISNs should perform cost studies that compare the various possible equipment configurations and vendors that meet the testing requirements of each VA facility in the VISN. In addition to vendor prices, other cost factors that should be considered in the cost study include quality control and repeat tests, accuracy of workload estimates, and how each vendor classifies routine and non-routine tests. Program officials advocate performing these cost studies at the end of each contract period to ensure continued lowest cost.

For example, one VISN's cost study included two different configurations that met the testing requirements of all VA facilities in the VISN. One configuration consisted of two test instruments from different vendors, and the other configuration consisted of three test instruments and vendors. Requiring all VAMCs in the VISN to participate in the BPA showed that over \$500,000 per year could be saved using the three test instruments, but over \$1 million per year could be saved using the test instruments of two vendors. One of the VISN's laboratories would reduce its rates from \$0.419 to \$0.13 for each routine test, and another would save over \$10,000 per year by no longer paying for quality control tests.

The greatest impediment to combining workloads was the reluctance to require an individual facility or facilities to join the majority of facilities under a single vendor within a VISN (or DoD region). However, those VISNs and regions that cooperated had

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<sup>1</sup> For our example, one facility with 527,800 tests demanded an additional piece of equipment in excess of the vendor's recommendations and was required to pay an additional 4¢ a test on all tests.

the lowest prices per test of those audited. The procurement practice in private healthcare organizations is to require full participation by all facilities in order to achieve maximum discounts. In areas where both VA and DoD facilities joined their workload under a single BPA, greater discount prices were achieved.

Some facilities insisted on additional pieces of equipment in excess of the vendor's recommendation. In such cases the vendor charged an add-on price of a few cents to tests done on all equipment. This significantly added to laboratory cost at some facilities. For example, at one medical center the added equipment was used to perform an average of 1,300 tests a month. This resulted in an extra cost of 4¢ for each of the 876,000 tests done annually on the other equipment—\$35,000 annually.

VHA contracting officers need to ensure that the Federal Government's market share dictates prices no higher than those charged by vendors to private healthcare organizations. Standardizing contract requests for proposals regarding definitions of routine tests, pricing for quality control, and repeat tests would, for example, make price comparisons between vendors more meaningful. For example, VA pays for about 2.8 million magnesium tests a year. VA facilities using the vendor who classifies this test as routine pay as little as 13¢ a test. VA facilities using the vendor who classified this test as non-routine paid as much as 69¢ per test. A 56¢ difference in price for 1 million tests a year amounts to \$560,000 in excess costs.

A private healthcare organization noted that they do not pay for quality control tests because their vendor advertised their equipment as having low quality control needs. Therefore the private healthcare organization insisted that the contract terms should exclude charges for the quality control tests. VA pays its largest vendor source for all of its quality control tests, and pays more for each test than the private healthcare organization.

No readily accessible database of information existed from which to establish the numbers of tests actually paid for by the Federal Government or to determine the vendors and prices paid by each facility. However, if the 7 randomly selected facilities audited would make the changes necessary to consolidate workloads to obtain the lowest volume-based price found during the audit (11.2¢), their first year savings would be \$397,000—a weighted average savings per test of 9.5¢. Nationwide, average savings per test of 9.5¢ would save VA over \$7 million, improving the success already achieved in lowering prices for routine tests.

We consider this a conservative estimate of the potential savings because we did not factor out the excess costs for quality control that most of the stations experienced. For example, 2 of the stations audited paid 13¢ a test and did not pay for any quality control

tests, while 4 of the stations were paying 18.5¢ to 29.3¢ a test not only for their billable patient results, but for each associated quality control test (about 9 percent of their paid workload).

Similarly, DoD could save over \$8 million based on the information available from the regions we contacted. Although DoD's workload is less than VA's, its facilities tend to save more under BPAs because its lower volume at individual facilities has meant higher prices in the past.

### **Emphasizing Price Reductions on Non-Routine Chemistry Tests Offers the Government Its Greatest Opportunity for Future Cost Savings**

Price differences for the various types of non-routine chemistry tests varied significantly at the seven facilities audited and to prices charged to private healthcare organizations. Non-routine tests represent a smaller proportion of the numbers of paid chemistry tests performed in VA—25 million non-routine tests compared to 77 million routine tests. However this area has the greatest potential for future cost savings. Price variances between facilities ranged as much as \$5 a test, and were typically varied by a range of about \$2 a test. This suggested the potential for the Federal Government to use its combined workload to ensure lower, more consistent prices among available vendors.

We estimated the weighted, average savings per test for 16 of the most used non-routine tests (16 million of 25 million tests) at VA and commercial sites visited as \$1.01 if each VA site used the lowest known rate for these tests. If representative of the savings possible for all types of non-routine tests, VA could save over \$25 million annually on non-routine tests by working for cost reductions toward lowest known prices in the market place. The savings can be achieved by consolidating workloads under some vendors, and by negotiating better prices under other vendors, especially through development of more BPAs for non-routine tests. Similarly, DoD may be able to save an estimated \$17 million by achieving lower prices for non-routine tests based on limited information available from regions contacted.

Quality control plays an even bigger factor in savings for non-routine tests. Again, our cost savings were projected against simply reducing the price for those tests that VISNs have been paying even though greater savings potentially exist by eliminating the charge for many of these quality control tests completely. For example, at one station a test was available on fee basis for \$2.46. However, the station started doing the test in house after a vendor provided them the equipment for only \$1 a year. The station had to pay \$1.64 for each final patient result, plus \$1.64 for each associated repeat and quality control test. Repeat and quality control tests exceeded the numbers of patient tests a month. Therefore, the effective cost-per-patient increased from \$2.46 on fee basis to \$3.86 done

in house. During a 3-month period, this facility spent 20 percent more for 12 types of tests in its in-house program than it previously paid on a send-out basis. We identified hundreds of such examples during the audit.

### **Conclusion**

Some VA medical facilities did not participate in BPAs developed by their VISNs and most VA and DoD facilities did not achieve maximum allowable discounts for routine chemistry tests. Some facilities did not pay lower prices for non-routine tests in FY 1997 compared to prior years, paying a wide range of prices under reagent rental contracts and cost-per-test leases. VA and DoD were also paying higher prices than some private healthcare organizations for both routine and non-routine chemistry tests. Paying higher prices for chemistry tests than the lowest prices available among vendors costs VA \$32 million and DoD \$25 million for a combined Federal Government cost estimated at over \$57 million annually. We believe both VA and DoD could significantly reduce costs by taking full advantage of their purchasing power to obtain chemistry tests.

These findings are also applicable to other laboratory sections within PLMS, several of which are also moving toward use of reagent rental contracts and cost-per-test leases. Additional cost savings would be achieved if managers apply the principles addressed in our audit of chemistry tests to their other program areas.

### **For More Information**

*The details of the audit are discussed more fully in Appendixes beginning on page 11.*

- *General background information is included in Appendix II on page 13.*
- *The estimate of cost savings by VAMCs using BPAs is included in Appendix III on page 15.*
- *The estimate of cost savings for VA's routine chemistry tests is included in Appendix IV on page 16.*
- *The estimate of cost savings for VA's non-routine chemistry tests is included in Appendix V on page 17.*

### **Recommendation**

We recommend that the Under Secretary for Health take action to:

- a. Advise VISNs of the benefit of requiring all VA medical facilities with laboratories to participate in a single BPA, including nearby DoD facilities, in order to maximize use of volume-based discounts.

- b. Instruct each VISN to perform cost-studies to determine the optimal configuration of equipment necessary for all VAMCs in the VISN to perform laboratory tests at the lowest cost.
- c. Ensure that contracting officials make Federal Government requests for proposals to vendors for cost-per-test agreements more uniform to allow meaningful price comparisons.
- d. Survey prices charged VA, DoD, and private healthcare organizations to assist in identifying the lowest prices offered by any one vendor on individual tests in order to target lowering the rates among other vendors.

### **Comments of the Under Secretary for Health**

The Under Secretary for Health concurred with the finding and recommendation, and concurred in principle with the estimated monetary benefits. He stated that the cost-per-test approach is currently recognized as the most cost-effective choice in today's competitive market. He pointed out, however, that this might not be the case in the future, and that VHA continues to explore the potential of other viable options. He agreed that VHA is not always using its considerable purchasing power to full advantage in obtaining chemistry tests at a lower cost. He is taking specific actions to ensure that VISN Directors perform cost studies to more accurately determine the most economical volume-based purchasing approaches, and to develop contracts with more consistency that will enable comparative assessment of vendor pricing and enhanced contract negotiating power.

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

### **Implementation Plan**

**Recommendation a:** - The Chief Network Officer will notify each VISN Director of the benefits of participation by all appropriate VA and DoD facilities into a single BPA. These points will be reinforced during weekly teleconference calls attended by key management officers from all facilities. At national VISN meetings, Directors with successful leasing contracts will share their experiences with the other Directors.

Recommendation b: The Chief Network Officer will request that each VISN Director conduct cost studies to establish optimal equipment configurations for all VAMCs within the VISN. It will be stressed that the studies not be limited to cost considerations alone; rather, study results should be considered in the context of each VISN's mission and

strategic plans and should reflect acknowledgment that quality control issues were factored in.

Recommendation c: The National Acquisition Center (NAC), in coordination with Pathology and Laboratory Medicine Service, will identify specific opportunities for more uniformity of contracts. One approach being considered is to require vendors to provide bids only on the number of “cost-per-ordered” tests, thereby separating out hidden charges for quality control and repeat tests, and other costs. Efforts are also being made to provide more standardized definitions of what constitutes “routine” and “non-routine” tests.

Recommendation d: The NAC will work with purchasing and contract specialists within the Department to identify the most effective ways to comparatively assess laboratory test pricing data from other federal and private sector healthcare operations. Generated information will be analyzed and communicated to the VISNs for practical application in contract negotiations.

### **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 until they are completed.

## **OBJECTIVE, SCOPE, AND METHODOLOGY**

### **Objective**

The audit was conducted as part of the Office of Inspector General's continuing audit coverage of the Veterans Health Administration's Pathology and Laboratory Medicine Service (PLMS). The purpose of the audit was to evaluate the cost effectiveness of using cost-per-test leases and reagent rental contracts to perform chemistry tests on vendor-owned chemistry analyzers placed at VA medical centers (VAMCs).

We did not evaluate program costs in comparison to owning equipment in house. None of the audited facilities owned their own equipment.

### **Scope**

The scope of our audit included an estimated 102 million paid chemistry tests in FY 1997 at VAMCs and 69 million tests at DoD medical facilities. We obtained contract and cost data from as early as FY 1993 through mid-FY 1997 with emphasis on FYs 1996 and 1997.

Excluding labor costs, operating costs of PLMS in FY 1996 were about \$283 million. Supplies to perform laboratory tests represented the majority of these costs.

### **Methodology**

We gathered information on vendor-owned chemistry analyzers and associated costs during site visits to seven randomly selected VAMCs. We reviewed applicable laws, regulations, policies, procedures, and guidelines; toured laboratory facilities; examined financial and administrative records; and interviewed appropriate facility and program management officials. Specifically, we obtained information from:

- Current and past PLMS program officials and other VHA Central Office and VISN personnel concerning their viewpoints on use of vendor-owned equipment.
- VHA Central Office decentralized program officials at VAMC Hines, Illinois, who oversaw the program.
- A procurement official at National Acquisition Center who contracted for the national cost-per-test leases with vendors of laboratory equipment and supplies.



- Department of Defense officials that manage their laboratory equipment leases in three of their regions.
- Laboratory Managers and Chiefs, PLMS, and VAMC Directors or their representatives at the facilities visited.
- Private sector hospitals using cost-per-test leases.

In making price comparisons between the various methods of acquiring chemistry tests, we calculated “effective” CPTL rates whenever the tests were performed on equipment acquired in a manner other than a straight CPTL. The effective CPTL rate considered such factors as the costs of equipment rental, consumables, supplies, reagents, and non-reportable tests (repeat tests, quality control tests, etc.).

We audited the reliability of computer-processed data contained in the national workload database, the Laboratory Management Index Program (LMIP)<sup>1</sup>. The audit showed that, while reported workload data was generally accurate, there was an approximate six percent error rate in the completeness of the database. This was the third report in our series of audits of PLMS.

The audit was made in accordance with generally accepted Government Auditing Standards.

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<sup>1</sup> *Audit of Pathology and Laboratory Medicine Service’s Laboratory Management Index Program (LMIP)* – Report No. 8R3-A01-085, dated March 25, 1998.

## **BACKGROUND**

Pathology and Laboratory Medicine Service has moved from owning its own equipment to using vendor-owned equipment located at VA medical facilities to perform laboratory tests. This has been particularly true for chemistry testing which makes up 77 percent of all reportable laboratory tests. Vendors usually provide the equipment under either a reagent rental contract or a cost-per-test lease. A major advantage of using vendor-owned equipment is the ability to keep up with technological advances in equipment.

### **The Basic Principles of Vendor-Owned Equipment**

A cost-per-test lease requires the vendor to provide the necessary equipment, supplies, maintenance, repairs, and training at a fixed cost per test. The rate for routine tests is generally based on the volume of tests performed. A range of prices and workload are outlined and the facility pays the rate within which their workload falls, usually based on the prior year's actual workload. For additional equipment, extra training, or extended hours of emergency maintenance, a facility may be required to pay an additional cost-per-test add-on amount.

A reagent rental contract allows a facility to lease equipment at a nominal fee such as \$1 a year in return for buying a vendor's supplies to run tests on the equipment. Generally, maintenance, repair, and operator training are provided at no additional cost.

There are few differences between these two basic procurement methods, except that consumables are purchased separately under reagent rental contracts. Also, prices for reagent rental contracts are subject to change annually, while prices for cost-per-test leases are generally fixed for the term of the contract, which may be as long as 5 years. Cost-per-test leases may also be developed locally into blanket purchase agreements under which additional price breaks may be negotiated, such as eliminating add-on costs for each additional piece of equipment and allowing several facilities to combine their volumes of workload to achieve better prices.

While these are the basic concepts of the two popular types of procurements for chemistry tests, vendors exercise several options that complicate cost comparisons between the two systems, as well as within either one of the systems. For example:

- Vendors may include the cost of performing quality control and/or repeat tests within their overall cost-per-test rate for billable tests, or may charge the same cost-per-test rate for either quality control and/or repeat tests and billable tests performed. Quality control tests typically represent at least 8 percent of the tests done at a facility, but stations have reported more than 50 percent. Some Veterans Integrated Services Networks (VISNs) report at least 30 percent of their tests that were quality control

tests. Employee work practices, management style, and equipment standards dictate the levels of quality control and repeat testing.

- Vendors vary in their classification of routine and non-routine tests. While up to 24 types of routine tests may be consistently included in rates for routine tests among vendors, another dozen or so tests may be classified as either routine or non-routine depending upon the vendor. Cost comparison becomes difficult when high volume tests such as magnesium tests are included in the routine rate by some vendors and are charged at separate, higher rates by other vendors.

For purposes of this audit, we classified tests as routine or non-routine using the definitions of the vendor most widely used by VA. Our assessments took into account the previously mentioned factors to make analyses between stations and vendors as comparable as possible.

### Workload Statistics

An accurate summary of workload for assessing program costs was not available. A new workload reporting system was developed and implemented at most facilities by the end of FY 1996; however, the system generally only accounted for billable tests, the number of completed tests for which a test result could be associated to a patient. Therefore, repeat tests or quality control tests which may be paid for at the same cost as a completed patient result were not reported in overall workload reports. The system allows for reporting quality control tests, which represent a significant percentage of all tests paid for by VA; but, stations were not required to report this category and many of them did not report their volume of quality control or repeat tests.

PLMS was also underreporting national laboratory workload data by as much as 7 million tests per year (*Audit of Pathology and Laboratory Medicine Service's Laboratory Management Index Program (LMIP)* – Report No. 8R3-A01-085 dated March 25, 1998). Therefore, the annual workload data used for this audit was understated.

For purposes of generally outlining the impact of conditions found, we estimated the FY 1997 workload for paid chemistry tests nationwide (in millions of tests):

	<b>Billable <u>Tests</u></b>	<b>Quality <u>Control Tests</u></b>	<b>Repeat <u>Tests</u></b>	<b>Total <u>Tests</u></b>
<b>Routine Tests</b>	65.2	5.7	6.2	77.1
<b>Non-Routine Tests</b>	<u>13.4</u>	<u>7.8</u>	<u>3.9</u>	<u>25.1</u>
<b>TOTAL</b>	78.6	13.5	10.1	102.2

With this volume of workload, VA saves \$1 million annually with each overall 1-cent reduction in test prices.

**DETAILS OF AUDIT****Estimate of Cost Savings by VA Facilities Using Blanket Purchase Agreements**

We estimated that about three-fourths of VA laboratory facilities in Fiscal Year (FY) 1997 used blanket purchase agreements (BPAs) to acquire their major chemistry analyzers. Six of seven sites audited participated in BPAs, and five of the six sites using BPAs had comparative data with which to compute their savings for routine tests in the first year after joining a BPA.

<b><u>Site</u></b>	<b><u>Prior Year Cost</u></b>	<b><u>Subsequent Year Cost</u></b>	<b><u>Savings Per Test</u></b>	<b><u>Paid Routine Workload</u></b>	<b><u>Annual Savings*</u></b>	<b><u>Current Vendor</u></b>
A	41.9¢	13¢	28.9¢	275,000	\$79,000	X
B	20.5¢	13¢	7.5¢	578,000	\$43,000	X
	20.5¢	0¢	20.5¢	50,000**	\$10,000	
C	66.5¢	19.5¢	47¢	158,000	\$74,000	Y
D	22.5¢	18.5¢	4¢	1,032,000	\$41,000	Y
E	28¢	20.5¢	7.5¢	914,000	\$69,000	Y
<b>Total</b>				<b>3,007,000</b>	<b>\$316,000</b>	

Annual savings averaged about \$63,000 at each site. The weighted average savings for a test was 10.5¢. We estimated that about 125 VA laboratories participated in BPAs, saving about \$8 million\*\*\* in FY 1997 compared to prices paid when not participating in BPAs.

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\* Figures rounded to the nearest thousand dollars

\*\* Number of quality control tests not chargeable under new agreement

\*\*\* \$63,000 x 125 sites = \$7,875,000 (or \$8 million rounded to the nearest million dollars)

**DETAILS OF AUDIT****Estimate of VA's Cost Savings for Routine Chemistry Tests**

The lowest price charged for a routine test at sites visited was 13¢. All of the facilities in a single Veterans Integrated Services Network (VISN) agreed to use the same vendor in order to achieve this low, volume-based price. However, 11.2¢ was the lowest rate identified in the private sector. If all facilities managed their workload to combine their numbers of tests done with other VA and/or DoD facilities to achieve such a volume-based discount, VA would save over \$7 million in the first year, as follows:

<u>Site</u>	<u>Mid-FY Cost</u>	<u>Target Cost</u>	<u>Savings Per Test</u>	<u>Annual Routine Workload</u>	<u>Annual (Rounded) Savings</u>
A	13¢	11.2¢	1.8¢	275,000	\$ 5,000
	0¢	11.2¢	-11.2¢	16,000*	-\$2,000
B	13¢	11.2¢	1.8¢	578,000	\$10,000
	0¢	11.2¢	-11.2¢	50,000**	-\$ 6,000
C	19.5¢	11.2¢	8.3¢	158,000	\$13,000
D	18.5¢	11.2¢	7.3¢	1,032,000	\$75,000
E	20.5¢	11.2¢	9.3¢	914,000	\$85,000
F	29.3¢	11.2¢	18.1¢	279,000	\$50,000
G	32.8¢	11.2¢	21.6¢	808,000	\$175,000
	0¢	11.2¢	-11.2¢	70,000***	-\$ 8,000
<b>Total</b>				<b>4,180,000</b>	<b>\$397,000</b>
<b>Weighted Average Savings/Test</b>				<b>\$0.095</b>	
<b>Number of Paid Annual Tests</b>				<b>x 77,000,000</b>	
<b>Estimated Annual Savings</b>				<b>\$ 7,315,000</b>	

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\* Number of quality control tests not charged under the 13¢ rate

\*\* Number of quality control tests not charged under the 13¢ rate

\*\*\* Number of quality control tests not charged under the 32.8¢ rate

**DETAILS OF AUDIT****Estimate of VA's Cost Savings for Non-Routine Chemistry Tests**

			Findings at 7 Sites Audited			Totals Nationwide		Weighted
	Highest	Lowest	Annual	Annual	Weighted	Annual	Projected	Savings
Name of Test	Price	Price	Costs	Paid Tests	Price	Paid Tests	Savings	Per Test
( a )	( b )	( c )	( d )	( e )	( f )	( g )*	( h )**	( i )***
Alcohol	\$5.27	\$0.22	\$ 99,000	29,000	\$3.41	674,000	\$ 2,150,060	\$3.19
Amphetamine	\$2.21	\$0.24	\$ 72,000	54,000	\$1.33	882,000	\$ 961,380	\$1.09
Amylase	\$1.05	\$0.14	\$ 24,000	44,000	\$0.55	892,000	\$ 365,720	\$0.41
Barbiturates	\$2.21	\$0.24	\$ 69,000	53,000	\$1.30	823,000	\$ 872,380	\$1.06
Benzodiazepines	\$2.21	\$0.24	\$ 71,000	54,000	\$1.31	988,000	\$ 1,057,160	\$1.07
Cannabinoids	\$2.21	\$0.26	\$ 71,000	55,000	\$1.29	949,000	\$ 977,470	\$1.03
Cholesterol HDL	\$0.38	\$0.27	\$ 31,000	82,000	\$0.38	1,221,000	\$ 134,310	\$0.11
Cocaine	\$2.21	\$0.27	\$ 71,000	54,000	\$1.31	1,102,000	\$ 1,146,080	\$1.04
Creatine Kinase MB	\$2.86	\$1.05	\$ 51,000	20,000	\$2.55	776,000	\$ 1,164,000	\$1.50
Digoxin	\$2.52	\$0.39	\$ 31,000	16,000	\$1.94	767,000	\$ 1,188,850	\$1.55
Glycohemoglobin	\$4.43	\$0.72	\$ 62,000	20,000	\$3.10	1,020,000	\$ 2,427,600	\$2.38
Magnesium	\$0.69	\$0.23	\$ 62,000	118,000	\$0.53	2,794,000	\$ 838,200	\$0.30
Opiates	\$2.21	\$0.29	\$ 71,000	54,000	\$1.31	1,127,000	\$ 1,149,540	\$1.02
Prostate Specific Antigen	\$7.16	\$5.15	\$ 454,000	75,000	\$6.05	918,000	\$ 826,200	\$0.90
Thyroid Stimul. Hormone	\$4.26	\$2.07	\$ 141,000	55,000	\$2.56	1,002,000	\$ 490,980	\$0.49
Valproic Acid	\$2.52	\$0.27	\$ 16,000	8,000	\$2.00	432,000	\$ 747,360	\$1.73
<b>Summary</b>			<b>\$1,396,000</b>	<b>791,000</b>	<b>\$1.76</b>	<b>16,367,000</b>	<b>\$16,497,290</b>	<b>\$1.01</b>

(Columns (d), (e), and (g) are rounded to nearest 1,000)

Using cost data from the seven sites visited, the weighted average price for a non-routine test was \$1.76. The weighted average savings per test was \$1.01. If representative of other facilities, and other non-routine tests, VA could save costs on non-routine tests as follows:

**25,000,000 paid non-routine tests X \$1.01 savings/test = \$25,250,000**

\* Column (f) = Column (d) divided by Column (e)

\*\* Column (h) = [Column (f) – Column (c)] x Column (g)

\*\*\* Column (i) = Column (h) divided by Column (g)

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COMMENTS OF THE UNDER SECRETARY FOR HEALTH**Department of  
Veterans Affairs****Memorandum**

Date: April 30, 1998

From: Under Secretary for Health (10/105E)

Subj: OIG Draft Report: *Audit of Cost-Per-Test Leases and Reagent  
Rental Contracts in Pathology and Laboratory Medicine Service*

To: Assistant Inspector General for Auditing (52)

1. Involved VHA Program officials have reviewed the above referenced report, including revisions made by OIG at our request. We concur in your findings and recommendations. Based on the methodology that you chose, we also concur in principle with your estimate of monetary benefits, although all would probably agree that the figure represents a “snapshot in time,” and that given the innumerable complexities that come into play when attempting to compute such an estimate, as well as ongoing shifts in the marketplace, it is almost impossible to arrive at a definitive dollar value. We appreciate the cooperative efforts of your auditors in fully discussing with us all issues identified by VHA regarding report conclusions.

2. As you are aware, VHA’s restructuring activities over the past several years have significantly impacted all phases of management performance, including the vast arena of national purchasing strategies. In terms of laboratory test leasing and reagent rental contracts, the cost-per-test approach is currently recognized as the most cost-effective choice in today’s competitive market. This might not be the case in the future, however, we continue to explore the potential of other viable options. We also recognize that pricing isn’t consistently the single most important marketing tool. With that in mind, however, we share your concern that as a system, we are not always using our considerable purchasing power to full advantage in obtaining chemistry tests at a lower cost. As the attached action plan details, we will take immediate steps to address some of the issues you raise.

3. Because the VISNs are key in promoting more cost-effective purchasing initiatives among their families, each will receive a copy of this report, with a request from the Chief Network Officer that they carefully review the findings and conduct necessary cost studies to establish optimal equipment configurations for all VAMCs within the VISN. When applicable, they will also explore potential opportunities to participate with DoD facilities in establishing integrated blanket purchasing agreements (BPA) to maximize use of volume-based discounts. We will reiterate this message during one of the scheduled weekly Chief Network Officer conference calls with all facility managers as well as during a meeting of the Networks Directors. Every effort will be made to



**COMMENTS OF THE UNDER SECRETARY FOR HEALTH**

Page 2 OIG Draft Report: *Audit of Cost-per-Test Leases*

encourage the Directors to share successful acquisition initiatives with each other and to also explore the potential benefits of shared negotiations among VISNs.

1. The National Acquisition Center (NAC), located at the Hines, IL. VAMC, in close coordination with Pathology and Laboratory Medicine staff involved with central cost-per-test leasing oversight, is also taking action to address report recommendations, particularly in relation to making vendor proposals for cost-per-test agreements more uniform. One approach being considered, for example, is a requirement that vendors provide separate “cost-per-ordered test” bids. Efforts are also being made to provide more consistent interpretations of what constitutes “routine” and “non-routine” tests. The NAC will additionally work in coordination with other purchasing and contract specialists within the Department to identify the most effective ways to comparatively assess laboratory test pricing data from other federal and private sector healthcare operations.
2. Thank you for the opportunity to provide input into this report. Your observations have been very helpful in identifying improvement opportunities. If additional information or assistance is required, please contact Paul C. Gibert, Jr., Director, Management Review and Administration (105E), Office of Policy and Planning (105), at 273-8355.

*Original signed by*  
*Thomas L Garthwaite for*  
Kenneth W. Kizer, M.D., M.P.H.

Attachment

**COMMENTS OF THE UNDER SECRETARY FOR HEALTH**

VHA Action Plan in Response to OIG/GAO/MI Audits/Program  
Evaluations/Reviews

Name of Report: OIG Draft Report: *Audit of Cost-Per-Test Leases and Reagent Rental Contracts in Pathology and Laboratory Medicine Service*

Report Number: Project 7R3-131

Date of Report: n/a

Recommendations/ Actions	Status	Date	Completion
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**We recommend that the Under Secretary for Health take action to:**

**a. Advise VISNs of the benefit of requiring all VA medical facilities with laboratories to participate in a single BPA, including nearby DoD facilities, in order to maximize use of volume-based discounts.**

Concur

All VISN Directors will be provided with a copy of this OIG audit, with a cover memorandum from the Chief Network Officer highlighting the benefits of participation by all appropriate facilities in a single BPA. It will also be stressed that integrated contracting negotiations with DoD facilities should be fully pursued when applicable. As noted in our response to Recommendation b., the VISNs will be strongly encouraged to perform cost benefit studies to more accurately determine the most economical volume based purchasing approaches, while at the same time assuring high levels of quality responsiveness by the vendors. These points will be reinforced during a scheduled weekly Chief Network officer teleconference call that is attended by key management officers from all facilities. In addition, findings of the report and VHA's response to the recommendations will be included for discussion in one of the scheduled meetings of all VISN Directors, where those VISN Directors already implementing successful leasing contracts can share their experiences with the other Directors.

Planned

June 1998 and Ongoing

**b. Instruct each VISN to perform cost-studies to determine the optimal configuration of equipment necessary for all VAMCs in the VISN to perform laboratory tests at the lowest cost.**

## COMMENTS OF THE UNDER SECRETARY FOR HEALTH

Page 2 VHA Action Plan/OIG Draft Report: *Cost-Per-Test Leases*

Concur

The response to recommendation (a) is also applicable to this recommendation. We agree that the completion of cost studies by each VISN, as well as the sharing of successful contracting strategies among VISNs, are essential. It will be stressed that the studies not be limited to cost considerations alone; rather, study results should be considered in the context of each VISN's mission and strategic plans should reflect acknowledgement that quality control issues were factored in. Several VISNs have already undertaken such studies, which have reportedly resulted in the application of improved contracting initiatives that have achieved notable cost savings. These VISNs will be identified and information about their contracting tactics will be shared with other VISN officials. The National Acquisition Center (NAC), in coordination with Pathology and Laboratory Medicine Service and the Network Office, will coordinate these activities.

Planned

July 1998 and Ongoing

- a. Ensure that contracting officials make Federal Government requests for proposals to vendors for cost-per-test agreements more uniform to allow meaningful price comparisons.**

Concur

Because of the many intangibles that can directly impact individualized contract negotiations, it might not be feasible to attempt to develop one standardized contract for nationwide utilization. Nevertheless, it is recognized that more consistency is required for comparative assessment of vendor pricing and enhanced contract negotiating power. The NAC, in coordination with Pathology and Laboratory Medicine Service, has already begun to identify specific opportunities for more uniformity. One approach that is being considered in cost-per-test agreements is requiring the vendors to provide bids only on the number of "cost-per-ordered" tests, thereby separating out hidden charges for quality control, repeats and other costs. Efforts are also being made to provide more standardized definitions of what constitutes "routine" and "non-routine" tests, since these terms are frequently translated differently among medical facilities. Contract revisions will be reported to OIG as status updates are requested.

In Process

August 1998 and Ongoing

**COMMENTS OF THE UNDER SECRETARY FOR HEALTH**

Page 3 VHA Action Plan/OIG Draft Report: *Cost-Per-Test Leases*

**a. Survey prices charged VA, DoD, and private healthcare organizations to assist in identifying the lowest prices offered by any one vendor on individual tests in order to target lowering the rates among other vendors.**

Concur

The NAC, in coordination with Pathology and Laboratory Medicine Service and other acquisition specialists within VHA and the Department, will develop a strategy to gather comparative pricing data from the federal and private sectors. Generated information will be analyzed and communicated to the VISNs for practical application in contract negotiations. Such comparisons can also be expected in the cost studies that will be performed, when considerations are made about new analytical equipment for the clinical laboratories.

Planned                      September 1998 and Ongoing

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**MONETARY BENEFITS SUMMARY**  
**(IN ACCORDANCE WITH OIG ACT AMENDMENTS)**

**REPORT TITLE:**            Audit of Cost-Per-Test Leases and Reagent Rental Contracts  
in Pathology and Laboratory Medicine Service

**PROJECT NUMBER:**    7R3-131

<u>Recommendation Number</u>	<u>Category/Explanation of Benefits</u>	<u>Better Use Of Funds</u>
1	Reduce prices for chemistry tests by achieving maximum allowable discounts and buying tests at lowest prices available	
	- Routine tests	\$ 7 million
	- Non-routine tests	<u>\$ 25 million</u>
Total Funds That Could Have Been Better Used		<u>\$ 32 million</u>

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