

VA Office of Inspector General

OFFICE OF AUDITS AND EVALUATIONS



Veterans Health Administration

*Audit of
Prosthetics Supply
Inventory Management*

March 30, 2012
11-00312-127

ACRONYMS AND ABBREVIATIONS

| | |
|-------|--|
| CPRS | Computerized Patient Record System |
| DME | Durable Medical Equipment |
| FLITE | Financial and Logistics Integrated Technology Enterprise |
| GIP | Generic Inventory Package |
| IFCAP | Integrated Funds Distribution, Control Point Activity, Accounting and Procurement System |
| OALC | Office of Acquisition, Logistics, and Construction |
| OIG | Office of Inspector General |
| PIP | Prosthetic Inventory Package |
| P&LO | Procurement and Logistics Office |
| PSAS | Prosthetic and Sensory Aids Service |
| SDI | Surgical Device Implant |
| SPD | Supply Processing and Distribution |
| VAMC | Veterans Affairs Medical Center |
| VHA | Veterans Health Administration |
| VISN | Veterans Integrated Service Network |
| VPR | Veterans Integrated Service Network Prosthetic Representative |

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Report Highlights: Audit of VHA's Prosthetics Supply Inventory Management

Why We Did This Audit

From FY 2007 through FY 2011, the Veterans Health Administration's (VHA) prosthetic supply costs increased nearly 79 percent to about \$1.8 billion. Every year VA medical centers (VAMCs) process hundreds of millions of dollars worth of prosthetic supplies through inventories. We conducted this audit to evaluate the effectiveness of VAMC prosthetic inventory management.

What We Found

VHA needs to strengthen VAMC management of prosthetic supply inventories to avoid spending funds on excess supplies and to minimize risks related to supply shortages. We estimated during April through October 2011, VHA's VAMCs maintained inventories of approximately 93,000 specific prosthetic items worth about \$70 million. Further, we estimated that VAMC inventories exceeded current needs for almost 43,500 items (47 percent) and were too low for nearly 10,000 items (11 percent).

As a result, VAMCs spent about \$35.5 million to buy prosthetic supplies in excess of current needs. Also, VAMCs increased the risks of supply expiration and disruptions to patient care due to supply shortages. VHA cannot accurately account for these inventories.

Further, because inventory management practices are weak, inventory losses associated with diversion could go

undetected at VAMCs. VHA needs to improve the completeness of its inventory information and standardize annual physical inventory requirements.

What We Recommended

We recommended the Under Secretary for Health direct Veterans Integrated Service Network and VAMC directors to eliminate excess prosthetic inventories, avoid prosthetic shortages, develop a plan to implement a modern inventory system, and strengthen management of prosthetic supply inventories.

We also recommended the Under Secretary collaborate with the Executive Director, Office of Acquisition, Logistics, and Construction, to develop a training and certification program for prosthetic supply inventory managers.

Agency Comments

The Under Secretary for Health concurred with our findings and recommendations and provided an appropriate action plan. The planned actions are responsive and we will follow up on the implementation of corrective actions.

A handwritten signature in black ink that reads "Belinda J. Finn".

BELINDA J. FINN
Assistant Inspector General
for Audits and Evaluations

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INTRODUCTION

Objective

This audit evaluated the effectiveness of VA medical center (VAMC) management of prosthetic supply inventories. In February 2011, the Chairman, U.S. House of Representatives, Committee on Veterans' Affairs, requested the Office of Inspector General (OIG) review VA's management and delivery of care for prosthetic limbs. In response, we issued the report, *Audit of VA's Management and Acquisition of Prosthetic Limbs* (Report No. 11-02254-102, March 8, 2012). We conducted this audit to provide a comprehensive perspective of VA's prosthetic supply management.

Types of Prosthetics

Prosthetics include sensory aids, durable medical equipment, and orthotic appliances, parts, or accessories required to replace, support, or substitute an anatomical portion of the body. Examples of prosthetics are scooters, wheelchairs, telehealth equipment, braces, clocks, watches, and implantable devices such as heart valves and stents.

Prosthetic Costs and Inventory Value

From FY 2007 through FY 2011, the Veterans Health Administration's (VHA) prosthetic costs increased from \$1.0 billion to \$1.8 billion. We estimated during April through October 2011, VAMCs maintained inventories of nearly 93,000 specific prosthetic items with a total value of about \$70 million. For some prosthetic items, such as artificial limbs, VAMCs do not maintain inventories. VAMCs order these items as needed for individual patients.

VHA Inventory Systems

VAMCs use two automated inventory systems to manage prosthetic inventories. Prosthetic and Sensory Aids Services (PSAS) uses the Prosthetic Inventory Package (PIP) to manage the majority of prosthetic inventories. Supply Processing and Distribution (SPD) Services uses the Generic Inventory Package (GIP) to manage prosthetic supplies stored in Surgery Service and medical supply inventories. One of the most basic requirements of an effective perpetual inventory system is to maintain accurate records that furnish a continual count for every supply item in stock.

Central Office Responsibilities

Three VA Central Office organizations have responsibilities related to prosthetic inventory management. VHA's PSAS develops policies and procedures for providing prosthetics to veterans. VHA's Procurement and Logistics Office (P&LO) provides VAMCs logistics support and monitors compliance with inventory management policies and procedures. VA's Office of Acquisition, Logistics, and Construction (OALC) supports VAMCs in acquiring and managing supplies and offers training to VA's acquisition professionals. Appendix A provides additional details on these offices' responsibilities and other background information. Appendix B provides details on the scope and methodology used to perform this work and Appendix C provides details on the statistical sampling methodology.

RESULTS AND RECOMMENDATIONS

Finding **Strengthening Management of Prosthetic Supply Inventories Will Reduce Costs and Minimize Risks of Shortages**

VHA needs to strengthen VAMC management of prosthetic supply inventories to avoid spending funds on excess supplies and disruptions to patient care due to supply shortages. VHA also needs to improve the completeness of its inventory information and standardize annual physical inventory requirements. We estimated during April through October 2011, VAMCs maintained inventories of nearly 93,000 prosthetic supply items with a total value of about \$70 million. Of the 93,000 items, we estimated VAMC inventories exceeded current needs for almost 43,500 items (47 percent) and were too low for nearly 10,000 items (11 percent), increasing the risk of supply shortages. VAMCs did not maintain optimal inventory levels because of the following reasons.

- Lack of integration between the prosthetic inventory system and other VHA systems
- Inefficiencies from using two inventory systems
- Inadequate staff training on inventory management principles and techniques
- Insufficient VHA Central Office and Veterans Integrated Service Network (VISN) oversight of VAMC inventory management practices
- Inadequacies in VHA's *Inventory Management Handbook*

As a result, VAMCs spent about \$35.5 million to purchase unnecessary prosthetic supplies and increased the risk of supply expiration, theft, and supply shortages. In addition, VHA cannot accurately account for these inventories. Inventory losses associated with diversion could go undetected in VAMCs.

Inventories Exceeded Current Needs

VAMCs maintained prosthetic supply inventories that significantly exceeded current needs. VHA's *Inventory Management Handbook* (referred to as the Handbook) requires VAMCs to eliminate excess supply inventories and provides best practices for the functional area of inventory management. One important practice discussed in the Handbook is VAMCs must maintain no more than a combined average of a 30- to 90-day supply of prosthetic items.

In assessing VAMC inventory management, we considered inventories above the 30-day level to be excess unless there was evidence VAMCs needed a higher inventory level to meet replenishment and safety requirements. The 30-day criterion was reasonable because PSAS staff stated vendors can provide most prosthetic items within 7 days of VAMCs ordering the items. Although the Handbook allows VAMC to maintain inventories up to a 90-day level, PSAS Central Office managers agreed that for most prosthetic supplies a 30-day criterion was reasonable.

From our review of 6 statistically sampled VAMCs, we estimated VHA's 152 VAMCs had inventories for about 93,000 specific prosthetic items with a total value of about \$70 million. For almost 49,500 (53 percent) items, VAMC inventory levels were reasonable and did not exceed current needs. For the remaining 43,500 items (47 percent), VAMC inventory levels exceeded current needs. We estimated the value of the excess inventory totaled about \$35.5 million (51 percent) of the \$70 million inventory. Highlighted below are additional details on the excess inventory.

- VAMC inventory levels ranged from a 31- to 90-day supply, the upper inventory limit established by the Handbook, for nearly 29,500 (68 percent) of the 43,500 items with excess inventory. The value of excess inventory for these items was approximately \$19.2 million (54 percent) of the \$35.5 million total excess inventory.
- VAMC inventory levels ranged from a 91- to 180-day supply for about 7,500 items (17 percent) with an excess inventory value of approximately \$7.1 million (20 percent).
- VAMC inventory levels exceeded a 180-day supply, more than double the 90-day upper limit established by the Handbook, for about 5,000 items (12 percent). The value of this excess inventory was approximately \$9.0 million (25 percent).
- VAMC inventory was obsolete for just over 1,500 items (3 percent). Obsolete inventory comprise supplies for which there is no longer any use because of the introduction of new products. VAMCs spent about \$275,000 (0.8 percent) to buy these supplies they will never use.

**Low
Inventories
Created Risks
of Supply
Shortages**

VAMCs also did not consistently ensure prosthetic supply inventory levels were sufficient to avoid supply shortages. In assessing VAMC inventory management, we considered that prosthetic supply inventory levels of 7 days or less created a risk of supply shortages. PSAS Central Office staff agreed the 7-day criterion was reasonable. We estimated for nearly 10,000 (11 percent) of the 93,000 items, VAMC inventory stock levels were at a 7-day or less supply level. For about 7,500 of these 10,000 items, VAMCs had no inventory and for the remaining items, VAMCs had supplies on hand, but inventory levels were not above a 7-day supply.

The Handbook requires VAMCs to maintain constant availability of prosthetic items and emphasizes the risks associated with unavailability of supplies. The risks associated with maintaining insufficient inventories include potential disruptions in patient care, increased VAMC costs, and diminished clinical staff trust in supply managers.

Supply shortages can negatively affect patient care by causing avoidable delays in treatment, including emergency or surgical procedures. Shortages can also increase costs by supply managers and clinical staff needing to spend time to assess and work around the shortages and by incurring higher overnight or emergency supply shipping costs. Lastly, when supply managers fail to ensure clinicians have constant availability of needed prosthetic supplies, clinicians lose trust in the reliability of the supply chain. Consequently, clinicians may often stock excess inventories and maintain unofficial inventories to ensure supplies are available, resulting in unnecessary excess inventories.

Items With No Inventory

The sampled prosthetic items where VAMCs had no inventory included embolization coils, hemodialysis catheters, bi-level positive airway pressure machines, and nasal air system masks. For these items, the risk of supply shortages varied depending on how frequently the VAMC used the item. For the sampled items where VAMCs experienced actual supply shortages, VAMCs used from 1 to 484 items per month. Although VAMC staff told us the supply shortages did not disrupt patient care, the following example highlights how having no inventory increases VAMC risks of disrupting patient care.

Embolization Coils. Radiologists implant embolization coils in patients to introduce various substances into the circulation system and reduce blood flow to weakened blood vessels. At one VAMC, PIP information showed 11 embolization coils (total value=\$556) in stock. However, our physical count found the VAMC had no embolization coils in stock. In addition, the VAMC did not have any pending orders for embolization coils. Based on PIP past usage information, on average the VAMC used an embolization coil about every 3 days. VAMC staff told us the embolization coil shortage did not disrupt patient care in this instance. However, the ineffective inventory management, including the inaccurate PIP information, increased the risk of disrupting patient care.

Items With Low Inventory

In addition to items with no inventory, VAMCs had low inventory for items such as urethral stents and telehealth monitors. For these items, VAMCs had inventories representing a supply of 7 days or less. According to PSAS managers, VAMCs typically receive prosthetic supplies within 3 to 5 days after placing an order. Considering shipping time and current needs for these items, supply purchasers needed to immediately order additional supplies to

avoid the risk of VAMCs experiencing a supply shortage of these items. The following example highlights how low inventories increase the risk of supply shortages.

Continuous Positive Airway Pressure Nasal Mask Pillows.

Clinicians use continuous positive airway pressure machines to treat sleep apnea by providing a constant flow of air delivered through a nasal mask while sleeping. If veterans do not have a nasal mask pillow, they cannot use the machine and may not sleep properly. At one VAMC, our physical inspection and inventory found PSAS had five nasal mask pillows in stock, which represented a 6-day supply. In addition, the VAMC did not have any pending orders for nasal mask pillows. Considering potential shipping time of up to 5 days, the VAMC could potentially experience a supply shortage if it did not place an order within 1 day.

***Inventory
Systems Are
Not Integrated***

PIP's lack of integration with other VHA automated systems is a significant cause of VAMCs accumulating excess inventory and experiencing supply shortages. PIP does not integrate with VA's Integrated Funds Distribution, Control Point Activity, Accounting and Procurement System (IFCAP) and Computerized Patient Record System (CPRS). Specifically, for our sampled prosthetic items, PIP was not automatically updated when warehouse staff recorded supply receipts in IFCAP and clinical staff recorded supply usage in CPRS.

When VAMC warehouse staff accept delivery of prosthetic supplies, they record the prosthetic supplies received in IFCAP. In addition, when VAMC clinical staff prescribe or use a prosthetic supply for patient care they record the usage in CPRS. VAMC inventory managers need real-time information from both IFCAP and CPRS to manage prosthetic inventories effectively.

Because these two systems are not integrated with PIP, PSAS staff must manually record all receipts and usage in PIP. This labor-intensive work reduces the time staff have to actively manage supply inventories. PSAS staff at the six VAMCs told us this was the primary reason they were continually behind on recording prosthetic supply receipts and usage in PIP. Because PSAS staff were typically several days behind on recording receipts and usage, PIP-reported quantities on hand were frequently inaccurate.

When VAMCs do not keep PIP quantities on hand current, PIP and supply managers cannot accurately track item demand, which they must know in order to establish reasonable stock levels. Inaccurate inventory information also limits the effectiveness of other PIP features such as reorder points, emergency order points, and stock on hand reports.

*Using Both PIP
and GIP Is
Inefficient*

VAMC use of two automated inventory systems created prosthetic supply management inefficiencies in managing surgical device implants (SDIs) stored in Surgery Service closets, crash carts, and operating rooms. VHA policy requires PSAS staff to use PIP to manage prosthetic supplies and SPD staff to use GIP to manage SDIs. However, Surgery Service and PSAS staff expressed confusion about who was responsible for managing SDI inventories.

As a result, we estimated VAMCs did not use either automated system to manage approximately 7,000 (28 percent) of 25,000 SDIs. The estimated inventory value for these items was almost \$8 million (22 percent) of the \$36 million value of total SDI inventory. To ensure sufficient stewardship and accountability of SDI inventories, VAMCs must manage the SDIs with an automated inventory system.

PSAS Central Office and VAMC managers and staff expressed frustration with the PIP limitations and use of two inventory systems to manage supplies. By replacing PIP and GIP with one automated system including the capabilities necessary to manage supply inventories effectively, VHA can help VAMCs manage these inventories and avoid excess prosthetic inventories and shortages.

Twelve years ago, OIG recommended VHA modify PIP to include the controls needed to manage inventories effectively.¹ PIP is more than 14 years old. VHA needs to replace PIP with a modern inventory system that includes the latest technological capabilities and controls. Appendix A provides details on VA's efforts to replace PIP and GIP with an improved inventory management system.

*Staff Did Not
Receive
Adequate
Training*

Inadequate training on inventory management principles and techniques for prosthetic supply manages was a major cause of VAMCs accumulating excess inventory and experiencing supply shortages. With hundreds of millions of dollars worth of prosthetic supplies moving through 152 VAMCs' inventories every year, providing adequate training to inventory management staff is critical to ensuring accurate accounting for prosthetic supplies.

In addition, each VAMC maintains inventories of hundreds of items in multiple locations, with frequent deliveries to and distributions from many storage locations. Therefore, staff training must focus on effectively using inventory systems to track receipts, quantities on hand, and demand.

¹OIG report, *Audit of Management of Prosthetic Supply Inventories at VA Medical Centers and the Denver Distribution Center* (Report No. 99-00188-13, November 15, 1999).

VHA's Handbook requires P&LO to train VISN staff as trainers (qualified instructors) of basic inventory management principles, practices, and techniques and how to use PIP and GIP effectively. The Handbook requires qualified instructors to train inventory management staff at VAMCs within their VISNs to ensure they understand how to use PIP and GIP to manage inventories efficiently. VISNs must maintain records and report to the P&LO on training provided by qualified instructors.

PSAS staff at the VAMCs we visited had not received training from qualified instructors and P&LO had not received reports of qualified instructors providing training to PSAS staff at any other VAMCs. P&LO officials stated this training is typically only provided to staff who manage medical supplies, not staff who manage prosthetic supplies.

*Staff Need VA
Acquisition
Academy
Training*

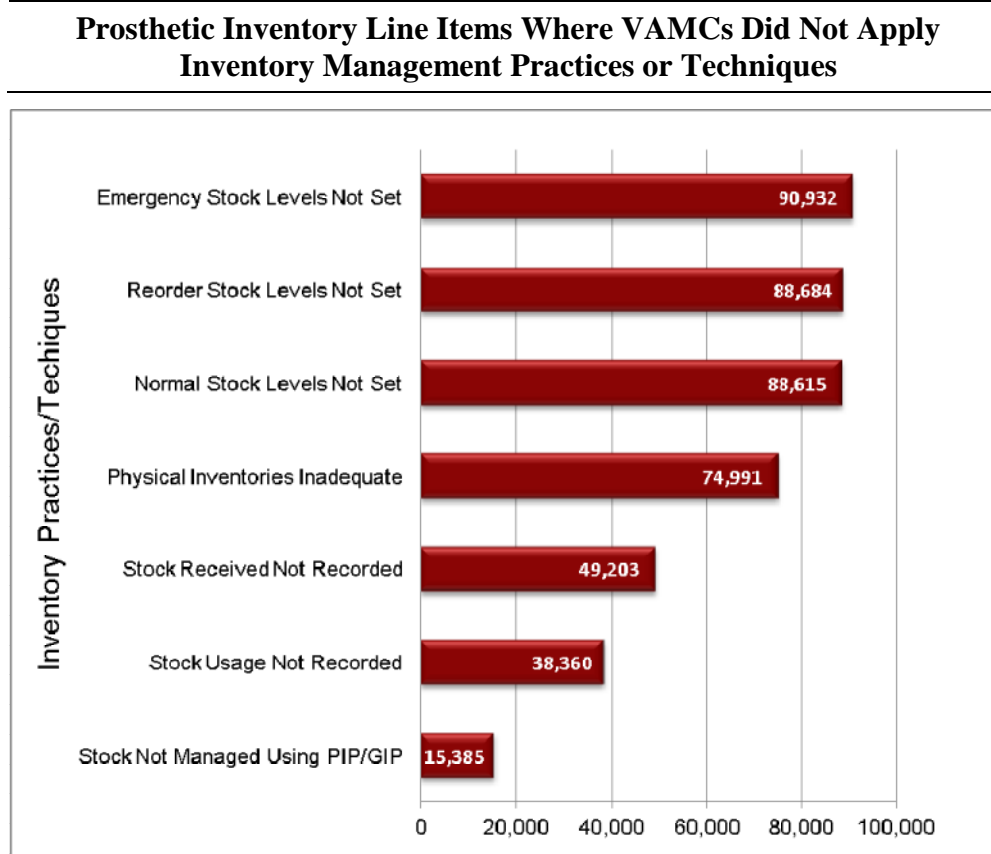
VHA can also strengthen VAMC inventory management by taking advantage of VA's Acquisition Academy's Supply Chain Management School (the School) and Supply Chain Manager Certification Program. By attending the School, VAMC inventory managers will gain knowledge and skills in inventory-related areas such as supply demand planning, inventory management techniques, effective use of VA's inventory management systems, and customer service. The School will provide training on inventory management practices such as conducting physical inventories, establishing appropriate stock levels, and promptly recording stock received and used in automated inventory systems.

The School's certification program will establish consistent competencies and standards for VA staff performing inventory-related duties. In addition, certification of continuing education requirements will help to ensure inventory managers maintain or enhance their knowledge, skills, and abilities applicable to inventory management. Requiring at least one prosthetic inventory manager from each VAMC to participate in the School's curriculum and certification program will help VAMCs avoid the prosthetic inventory mismanagement conditions discussed in this report.

*VAMCs Not
Consistently
Applying
Inventory
Practices*

Because PSAS staff did not receive adequate training, they did not consistently apply basic inventory management practices and techniques. To be effective, VAMCs need to consistently perform inventory management actions such as establishing emergency, reorder, and normal stock levels; conducting physical inventories; and recording stock received and used in PIP/GIP. Figure 1 shows the estimated number of prosthetic inventory line items VAMCs did not manage using various inventory management practices or techniques.

Figure 1



Source: VA OIG

Stock Levels Not Set

We estimated VAMCs did not set normal or reorder stock levels for almost 89,000 (96 percent) and emergency stock levels for nearly 91,000 (98 percent) of the 93,000 VHA-wide prosthetic inventory items. VHA's Handbook requires VAMCs to establish stock levels that ensure constant availability of supplies while also avoiding overstocking and supply shortages. The Handbook discusses the following stock levels VAMCs must establish in PIP and GIP.

- **Normal Levels.** Represents the largest quantities of an item VAMCs should maintain in inventory. By not exceeding normal stock levels, VAMCs can avoid overstocking.
- **Reorder Levels.** Represents the level at which the VAMC should purchase additional quantities from a vendor. Establishing reorder levels also allows an order quantity, necessary to bring the stock level up to the normal stock level, to be calculated.
- **Emergency Levels.** Represents the smallest quantity of an item to be maintained in inventory. By not dropping below emergency levels, VAMCs can avoid supply shortages.

Most inventory managers at the six VAMCs we visited stated they were unaware GIP and PIP had a feature allowing them to set normal, reorder, and emergency stock levels. The following example highlights why inventory levels must be set to avoid VAMCs maintaining excess inventories or experiencing supply shortages.

Power Wheelchair. PSAS staff at one VAMC had not set normal, reorder, and emergency stock levels in PIP for power wheelchairs stocked in inventory. The VAMC had 10 power wheelchairs (total value=\$10,950) in stock. Based on past usage, a 30-day supply of 2 wheelchairs (total value=\$2,190) was considered necessary. The VAMC had an excess of 8 wheelchairs (total value=\$8,760). To avoid excess inventories, PSAS staff could have set a normal stock level in PIP of 2 wheelchairs and a reorder level of 1 wheelchair and then purchased 1 wheelchair when the stock level reached the reorder point. Instead, during a 3-month period the VAMC purchased 11 wheelchairs. Because PSAS staff had not set normal and reorder stock levels, the VAMC purchased more wheelchairs than needed and accumulated excess inventory.

*Physical
Inventories
Inadequate*

We estimated VAMCs did not perform adequate physical inventories for about 75,000 (81 percent) of the 93,000 prosthetic inventory items. The estimated inventory value for these items was about \$53 million (76 percent) of the \$70 million value of VAMC prosthetic inventories. In addition, none of the six audited VAMCs had the required documentation of physical inventories. VHA's Handbook requires VAMCs to conduct annual wall-to-wall physical inventories to ensure the accuracy of PIP and GIP quantities on hand. The accuracy rate for inventories must be at least 90 percent.

Every item stocked must be included in the annual physical inventory and PIP and GIP quantities on hand must be adjusted for any discrepancies. VAMCs are required to make all adjustments the same day physical inventories are completed. In addition, VAMCs must maintain documentation of the physical inventories for a minimum of 2 years. Required documentation includes any physical inventory worksheets with discrepancy annotations, as well as annotations resulting from any item recounts, along with subsequent adjustment documentation.

Physical inventories reduce the risk of unnecessary purchases of items already on hand, unexpected shortages of critical items, and undetected theft and loss. These controls improve visibility and accountability over the inventory, which help ensure continuation of operations and increase productivity. The following three examples highlight how VAMCs increased these risks by not conducting physical inventories.

Unnecessary Purchases—Bi-Level Positive Airway Pressure Machines. These machines provide positive pressure while a person breathes in and lowers the air pressure when a person breathes out. Typically, clinicians provide bi-level positive airway pressure machines to veterans with sleep apnea. The PIP at one VAMC reported one pressure machine (total value=\$1,921) in stock.

However, our physical inventory found the VAMC had 25 machines (total value=\$48,025) in stock. Based on past usage, a 30-day supply was 11 machines (total value=\$21,131). Therefore, the VAMC had an excess of 14 machines (total value=\$26,894). Because the VAMC had not performed physical inventories, PIP reported a significantly understated quantity on hand and the VAMC purchased more bi-level positive airway pressure machines than needed.

Unexpected Shortages—Shunts, Size 2.25 Millimeters. Shunts are devices implanted to transport excess fluid from the point of obstruction to a re-absorption site. The GIP at one VAMC reported 30 2.25 millimeter shunts (total value=\$16,350) in stock. However, our physical inventory found the VAMC did not have any 2.25 millimeter shunts in stock. According to Surgical Service staff, on average, the VAMC used one shunt a month. Because the VAMC did not conduct physical inventories, GIP significantly overstated the quantity of shunts on hand, VAMC staff did not order additional shunts, and the VAMC experienced a supply shortage, jeopardizing the timeliness of patient care.

Susceptibility to Theft or Loss—Scooters. For at least 2 years, one VAMC did not conduct physical inventories of VA-owned new and used scooters stored by a contractor at an off-site Durable Medical Equipment (DME) facility. The DME facility had 11 new and 11 used scooters (total value=\$17,000) ready to be issued to veterans. The facility also had an additional 18 used scooters (total value=\$23,000) awaiting PSAS staff's decision on whether they could be repaired and subsequently issued to veterans.

PIP records did not include any of the new and used scooters because PSAS staff had not performed required physical inventories and recorded the quantities on hand in PIP. The VAMC's lack of accountability of 40 scooters (total value=\$40,000) increased the risk of undetected theft and loss. Figure 2 shows some VA-owned used scooters stored at a DME facility that the VAMC had not inventoried.

Figure 2

**Physical Inventories Not Performed of
Used Scooters Stored at DME Facility**



Source: VA OIG

**Inaccurate PIP
and GIP
Records**

VAMCs' failure to consistently conduct and document physical inventories was also a contributing cause of PIP and GIP reporting inaccurate quantities on hand. We estimated PIP and GIP reported inaccurate quantities on hand for approximately 30,000 (39 percent) of the 77,000 VAMC prosthetic inventory items managed with PIP or GIP. The estimated inventory value for these items was about \$37 million (53 percent) of the \$70 million value of the VHA-wide prosthetic inventory.

When VAMCs do not keep PIP and GIP quantities on hand current, the automated inventory systems cannot accurately track item demand, which VAMCs must know in order to establish reasonable stock levels. Inaccurate inventory information also limits the effectiveness of other features, such as the autogeneration of replenishment orders. The following examples highlight how inaccurate PIP records results in excess inventory.

Telehealth Monitors. VAMCs issue telehealth monitors to veterans to support long-distance clinical health care by providing reliable collection and secure transmission of vital signs and related health information. In January 2011, PSAS purchased 200 new monitors (total value=\$147,996). In May 2011, during our site visit, we identified 141 new and used monitors (total value=\$98,047) stored in a prosthetic storage room in the VAMC basement. Because PSAS

staff had not conducted physical inventories, they were unaware of the 141 monitors and had not recorded the monitors in PIP.

In addition to the 141 monitors not recorded in PIP, our physical inventory of PSAS main storage areas found 54 monitors (total value=\$34,409) PSAS staff had recorded in PIP. Therefore, the total on hand inventory was 195 monitors. Figure 3 shows the basement storage room where the 141 monitors were stored.

Figure 3

Monitors Not Recorded In PIP



Source: VA OIG

Based on past usage, a 30-day supply was 58 monitors (total value=\$42,918). Therefore, the VAMC had 137 new and used monitors (total value=\$95,087) that exceeded current needs. Because PSAS did not conduct physical inventories, PIP significantly understated the quantity of monitors on hand and PSAS purchased unneeded monitors and accumulated excess inventory.

*Stock Received
and Used Not
Recorded*

We estimated VAMCs did not record in PIP or GIP the receipt of about 49,000 (53 percent) of the 93,000 VHA-wide prosthetic inventory items. The estimated inventory value for these items was approximately \$38 million (54 percent) of the \$70 million value of the VHA-wide prosthetic inventory. We also estimated VAMCs did not record usage for just over 38,000 (41 percent) of the 93,000 VHA-wide items. The inventory value for

these items was nearly \$30 million (43 percent) of the \$70 million value of the VHA-wide prosthetic inventory.

VHA's Handbook does not specifically require VAMC staff to record receipts and usage in PIP or GIP within a specified period. When VAMCs do not promptly and accurately record stock received and used in PIP or GIP, inventory staff do not have the information needed to establish and monitor stock levels or otherwise manage inventories. Specifically, they do not have information showing accurate quantities on hand; item demand; or normal, reorder, and emergency stock levels. Instead, inventory staff used informal methods to manage supplies. They determined reorder frequencies and purchase quantities based on observations of stock on shelves and on their personal experience and preferences. The following examples highlight why VAMCs must record stock received and used in PIP or GIP to manage supply inventories effectively.

Stock Received Not Recorded—Aortic Bioprostheses. VAMC clinicians use aortic bioprostheses to replace diseased, damaged, or malfunctioning aortic heart valves. Three days before we arrived at one VAMC, PSAS staff began using PIP to manage surgical implants stocked in Surgery Service. Previously, Surgery Service staff maintained an automated spreadsheet to record receipts and usage of prosthetic supplies.

For the 12-month period ending April 2011, the spreadsheet showed the VAMC had received one and used three aortic bioprostheses. Our physical inventory found eight aortic bioprostheses (total value=\$54,080) in stock. Since one aortic bioprosthesis (value=\$6,760) was sufficient to meet current needs, the remaining seven aortic bioprostheses (total value=\$47,320) were excess. The inventory of aortic bioprostheses stored in Surgery Service was incorrect because clinical staff were not managing the supplies with PIP or GIP.

Stock Used Not Recorded—Telehealth Video Phone. VAMCs issue telehealth video phones to veterans to support long-distance clinical health care by providing visual and voice communication between clinicians and the veteran. For the most recent 12-month period ending May 2011, PIP showed no usage of the video phones. However, a Telehealth Service employee estimated the VAMC issued about one video phone (value=\$825) per month.

Our physical inventory found the VAMC had nine video phones (total value=\$7,420) in stock. Therefore, one video phone represented a 30-day supply and the other eight phones (total value=\$6,600) were excess inventory. Because PSAS staff did

not record usage of the phones in PIP, they could not accurately evaluate item demand and set appropriate normal, reorder, and emergency stock levels.

*Stock Not
Managed Using
PIP or GIP*

We estimated VAMCs did not manage about 15,000 (16 percent) of the 93,000 VHA-wide prosthetic inventory items using PIP or GIP. The estimated inventory value for these items was approximately \$12 million (17 percent) of the \$70 million value of the VHA-wide prosthetic inventory. VHA's Handbook requires VAMCs to use PIP or GIP to manage all recurring stock items, which the Handbook defines as all items held for future use regardless of usage rates. The Handbook states this practice will allow for a consistent inventory system, a common source for data, and automated management of all inventories.

*Mismanagement
of SDIs*

We estimated that VHA-wide, VAMCs did not use GIP, PIP, or any other automated inventory system to manage approximately 7,000 (28 percent) of nearly 25,000 SDIs. The estimated inventory value for these items was about \$8 million (22 percent) of the just over \$36 million value of the VHA-wide SDI inventory.

We found similar conditions during a 2007 audit.² During that audit, we visited four VAMCs and inventoried 147 SDIs stored in Surgery Service with a total value of \$290,836. The VAMC's inventories included 18 valves and grafts valued at \$34,381 (12 percent) that had expired or would expire within the next 6 months after the site visits. In addition, PSAS and SPD staff expressed confusion about who was responsible for SDI inventories.

To improve the effectiveness of SDI inventory controls, we recommended the Under Secretary for Health require VAMCs to conduct physical inventories of SDIs and use PIP to track SDI inventory, monitor stock levels, and reduce inventory losses. In response to this recommendation, VHA issued the directive *Management on Non-Biological Implantable Devices* (VHA Directive 2009-062, November 23, 2009). This directive requires SPD to use GIP to manage all VAMC inventories of nonbiological SDIs and to conduct annual inventories of SDI in accordance with VHA's Handbook. The directive also requires SPD staff to conduct monthly inventories and visually inspect expiration dates of SDIs, including those stored in clinical areas such as operating rooms, cardiac catheterization laboratories, and interventional radiology.

Four years after our 2007 audit, PSAS and SPD staff continued to express confusion about who was responsible for SDI inventories and did not have the required documentation of completed physical inventories of SDIs.

²OIG report, *Audit of the Acquisition and Management of Selected Surgical Device Implants* (Report No. 06-03677-221, September 28, 2007)

Although none of the sampled SDIs we inventoried had expired, we observed two instances where Surgery Service had expired SDIs in stock. The following example provides details for one of these instances.

Midface Implants. Clinicians use midface implants to aid in the reconstruction or augmentation of patients' midface. As we conducted physical inventories of SDIs stored in a VAMC's Surgery Service, we identified a cart with a bin on top containing 10 midface implants (total value=\$320). The VAMC was not managing these implants with any automated inventory system. We observed a nurse bringing the cart from an operating room where a surgeon had just completed an operation. In Figure 4, the left photograph shows the bin of implants and the right photograph shows one of seven midface implants that had expired during July and August 2011, or 2 to 3 months before October 17, 2011, the date of the photographs and our physical inventory.

Figure 4



Source: VA OIG

When we showed the expired midface implants to the nurse, she was surprised and stated she was unaware the implants had expired. The nurse stated surgeons would not have used the expired implants during an operation because before surgeons use SDIs, nurses always check expiration dates. This example highlights how unmanaged SDIs can potentially jeopardize the quality of patient care. SPD staff could have prevented the expired implants from being in the operating room by using GIP to manage the implants and by conducting monthly inventories, including a visual inspection of expiration dates.

*Consignment
Agreements
Not Sufficiently
Considered*

Of the six audited VAMCs, five procured SDIs. Of these five VAMCs, three used consignment agreements to procure SDIs. However, only one of these three VAMCs used consignment agreements to procure a significant portion of the SDIs used. SDIs procured under agreements included catheters, cochlear implants, drug eluting stents, intraocular lenses, mesh, pacemakers, and remote cardiac monitors. The VHA's directive *Management on Non-Biological Implantable Devices* states consignment and contractual agreements, authorized by a contracting officer, are the preferred method to manage SDI stock. The VISN Service Area Officer is responsible for the establishment of consignment agreements.

Under a consignment agreement, the vendor maintains vendor-owned supplies at the VAMC, and the VAMC purchases only the supplies actually used. VAMCs return unused items to the vendor at the end of the effective period of the agreement without expense to the VAMC. Procurement by consignment agreement is particularly suitable when the requirement for the item is immediate and it is not possible to predetermine which of several sizes or models are required. Having each size or model at the VAMC on a consignment basis assures instant availability and prevents VAMCs from maintaining excess inventories or experiencing supply shortages.

Surgery Service uses a variety of SDIs, such as heart valves, intraocular lenses, and mesh that VAMCs could possibly procure more effectively through consignment agreements. Implants are generally very expensive to stock because of their high unit costs and their susceptibility to obsolescence and expiration because of low and/or sporadic usage. Using consignment agreements eliminates the need to stock VAMC-owned implants. When VAMCs do not stock implants, they reduce inventory carrying costs and, more importantly, do not tie up funds in inventory. The following example highlights how not using a consignment agreement can result in VAMCs spending significant funds on excess inventory.

Vicryl Surgical Mesh. Clinicians use mesh for the repair, reconstruction, or substitution of human tissue. A VAMC's Surgery Service had eight packages of vicryl surgical mesh (total value=\$13,908) in stock. The VAMC did not use an automated inventory system to manage Surgery Service mesh inventories. Consequently, Surgery Service and SPD staff could not provide documentation of historical receipt and usage information.

However, GIP reported the most recent mesh purchase was in January 2008 and the Surgery Service Nurse Manager stated they had not used any of the mesh during the most recent 12 months. Therefore, for this one item alone, the VAMC had tied up almost \$14,000 in mesh inventory for at least a year. If the VAMC had used

a consignment agreement for the mesh and other surgical implants, the VAMC would have avoided spending funds on excess inventory.

While consignment agreements can provide significant inventory-related benefits, the VISN Service Area Officer and VAMC procurement staff should ensure the costs of implants purchased through consignment agreements are reasonable. Some consignment agreement vendors may build fees or premiums into their prices to offset the cost of providing consignment service. The significant variation of VAMC consignment use found during our audit and the identification of additional implants VAMCs could procure with consignment agreements highlights that opportunities exist for VAMCs to expand the use of consignment agreements.

Insufficient Oversight

Insufficient VHA Central Office and VISN oversight contributed to VAMCs maintaining excess inventory and supply shortages. Although VHA Central Office and the VISNs for the audited VAMCs did conduct some oversight, all needed to improve their oversight to help ensure VAMCs maintain appropriate inventory levels.

VHA Central Office Not Measuring Performance

VHA's Handbook charges P&LO with monitoring compliance with VHA inventory management policies and procedures. Specifically, the Handbook states P&LO will determine benchmarking criteria and VHA facility compliance reporting measures and provide a monthly report on compliance with the Handbook to the Deputy Under Secretary for Operations and Management. Also, P&LO must provide the report to VISN Directors and Chief Logistics Officers. Additionally, the Handbook states GIP will be the source of facility-reported inventory data and lists the following seven performance metrics facilities must report every month.

1. Total Sales. The dollar value of inventory disbursements
2. Closing Balance. The dollar value of inventory on hand at the end of the month
3. Turnover Rate. Defined as total sales x 365 days/number of days in current month/closing balance
4. Days of Stock-on-Hand. Defined as 365 days/turnover rate for the current month
5. Number of Items Managed. Number of items in inventory at the end of the month
6. Percent of Inactive Supply. Dollar value of items with no disbursements during the last 90 days/closing balance
7. Percent of Long Supply. Dollar value of items with more than a 90-day supply on hand/closing balance

By obtaining and reviewing these seven VAMC performance metrics every month, P&LO can monitor the reasonableness of supply inventory levels and compliance with many aspects of VHA's Handbook. However, because the Handbook does not specifically require PSAS to extract data for these performance metrics from PIP, VAMCs do not provide the required performance metrics for prosthetic supplies to P&LO. As a result, P&LO is not measuring and monitoring facility prosthetic supply inventory management performance.

*Ineffective
Performance
Metric*

PSAS Central Office established a metric of comparing prosthetic excess supply inventories and budgets to measure VAMC prosthetic inventory management performance. The metric stipulates the costs of a VAMC's prosthetic supply inventory over a 30-day supply should not exceed 2 percent of the VAMCs' total fiscal year facility prosthetic supply budget. If the metric percentage does not exceed 2 percent, PSAS Central Office considers the inventory levels to be reasonable. If the metric percentage exceeds 2 percent, PSAS Central Office encourages facilities to reduce supply inventory levels.

PSAS Central Office's performance metric is ineffective for two reasons. First, the prosthetic inventory costs VAMCs provide PSAS Central Office do not include the cost of SDIs on hand, which are typically a significant portion of the total cost of VAMC prosthetic supply inventories. Second, as highlighted in the following example, VAMCs can achieve a performance metric percentage less than 2 percent and still maintain significant excess inventories.

VAMC With Significant Excess Inventory Achieved Metric. As of the end of February 2011, one audited VAMC reported to PSAS Central Office the value of inventory on hand exceeding a 30-day supply was about \$162,000. The VAMC's FY 2011 prosthetic budget was about \$28 million. Using the 2 percent limit, the cost of the VAMC's inventory exceeding a 30-day supply could be as high as \$560,000 (\$28 million x .02) before PSAS Central Office staff considered the inventory level to be unreasonable. Therefore, the VAMC's inventory was well below the 2 percent limit established by PSAS Central Office, measuring only 0.58 percent (\$162,000/\$28 million). Consequently, the performance metric did not encourage the VAMC to reduce excess prosthetic supply inventories. By comparing inventory on hand with actual usage over the last 12-months, we estimated the VAMC's excess prosthetic supply inventory was valued at about \$718,000 as of April 2011.

To improve VHA oversight, PSAS Central Office needs to discontinue using the performance metric comparing prosthetic excess supply inventory and budgets. Instead, PSAS Central Office and P&LO must ensure VAMCs

submit the seven performance metrics required by the Handbook every month. By obtaining and analyzing these metrics, PSAS Central Office can improve its monitoring of VAMC prosthetic supply inventory levels and help ensure VAMCs do not spend valuable VHA resources on purchasing excess supplies.

*VISN Oversight
Responsibilities
Not Defined*

VISN Prosthetic Representatives (VPRs) did not perform adequate oversight of VAMC management of prosthetic supply inventories. VHA's Handbook and PSAS policies and procedures did not sufficiently define VPR inventory oversight responsibilities. The VPRs, who had jurisdiction over the six audited VAMCs, stated they conducted VAMC site visits. However, the frequency of the site visits varied from quarterly to annually and during the site visits VPRs did not consistently perform a complete assessment of prosthetic supply inventory management.

During VPR site visits, VPRs reviewed various aspects of PSAS operations such as procurement practices, contracting, monitoring DME services, and managing supply inventories. Although site visit reviews did include an assessment of prosthetic supply inventory management, the assessment was limited to ensuring VAMCs achieved the metric established by PSAS Central Office. As previously discussed, this metric is ineffective at ensuring VAMCs maintain appropriate inventory levels.

VHA would benefit from establishing policies and procedures requiring VPRs to conduct cyclical site visits to assess VAMC management of prosthetic inventories. During these visits, VPRs could evaluate areas such as conducting adequate physical inventories, setting stock levels in automated inventory systems, recording stock received and issued timely, and maintaining reasonable inventory levels. In addition, requiring VAMCs to provide VPRs with the monthly prosthetic inventory performance data required by the Handbook will help VPRs assist VAMCs in addressing any improvement areas. These site visits and monthly reports would help ensure VAMCs efficiently use prosthetic supply resources.

*Handbook
Inadequacies*

While VHA's Handbook provided a reasonable foundation for requiring VAMCs to eliminate excess and unofficial supply inventories, Handbook inadequacies were a contributing cause of VAMCs continuing to accumulate excess supplies for some prosthetics items and experiencing supply shortages of other items. A comprehensive and clear Handbook is an essential VHA control to ensure proper stewardship and accountability of VAMC supply inventories. We identified four Handbook inadequacies—a misleading prosthetic exception; ambiguous maximum stock levels; unclear guidance on normal, reorder, and emergency stock levels; and no timeliness standards for recording supply receipts and usage in PIP and GIP—that VHA must strengthen to help ensure VAMCs maintain reasonable inventory levels.

*Misleading
Prosthetic
Exception*

VHA's Handbook includes the following prosthetic exception:

One of the exceptions to the use of GIP is Prosthetics Service. Prosthetic items for direct issue are subject to specified variances from mandatory source requirements. Prosthetic field facilities have been mandated to use the prosthetic inventory package (PIP) in the Veterans Health information System and Technology Architecture (VistA) software for management of inventory control.

This exclusion paragraph only exempts PSAS from using GIP to manage supply inventories and emphasizes a mandate to use PIP instead. It does not exempt PSAS from complying with all other Handbook requirements. The Handbook continuously refers to GIP and all other major supply categories but does not mention prosthetic supplies or PIP when discussing the following important inventory management requirements:

- Maintaining, monitoring, and evaluating inventory accounts
- Establishing normal, reorder, and emergency stock levels
- Managing the receipt, distribution, and maintenance of supplies
- Conducting physical inventories
- Achieving inventory management performance measures
- Preparing inventory performance management and benchmarking reports
- Training supply inventory managers

The Handbook is not clear and can easily mislead VAMC staff to believe many of the Handbook requirements do not apply to managing prosthetic supply inventories.

*Ambiguous
Maximum Stock
Levels*

VHA's Handbook states, "An average of no more than 30 to 90 days stock on hand is required for the combined total of all Standard Items, depending on the inventory category specified in Appendix C." The Handbook's Appendix C lists supply inventory categories such as medical, dental, and laboratory. This area of the Handbook has two shortcomings.

First, stating a required range of 30-to-90 days of stock on hand does not establish a clear inventory level goal. Instead, the Handbook needs to establish a standard 30-day stock level goal and allow an exception of up to a 90-day level if VAMCs can justify higher stock levels to meet replenishment and safety stock requirements. Second, Appendix C does not include a prosthetic supply inventory category. Excluding prosthetic supplies from Appendix C can result in PSAS staff misinterpreting the stock level requirement as not applicable to prosthetic supplies.

*Unclear
Guidance on
Other Stock
Levels*

VHA's Handbook guidance on establishing normal, reorder, and emergency stock levels is unclear. For example, the Handbook states, "The normal stock level represents the largest amount of an item to be maintained in the inventory point." However, the Handbook does not specifically state VAMCs should generally set normal stock levels at a 30-day supply. Likewise, the Handbook also does not specifically state the days of stock level VAMCs should use when setting reorder and emergency stock levels.

*No Timeliness
Standard for
Recording*

Although VHA's Handbook emphasizes the importance of maintaining accurate inventory records, it does not include a timeliness standard for VAMC staff to record supply receipts and usage in PIP/GIP. Promptly recording supply receipts and usage in inventory systems is critical to ensure inventory managers have accurate and up-to-date quantity on hand information necessary to evaluate the reasonableness of inventory levels.

Five of the six VAMCs we visited were not consistently recording supply receipts and usage in PIP/GIP timely. As a result, PIP/GIP frequently reported inaccurate quantities on hand. For example, for one of these five VAMCs, we estimated PIP/GIP reported quantities on hand were inaccurate for about 870 (79 percent) of the approximately 1,100 prosthetic supply items stocked. Staff at this VAMC stated they had a significant backlog of supply receipts and usage they had not recorded in PIP/GIP.

*Effects of
Inadequate
VAMC
Management
of Inventories*

The limited inventory system capabilities, inadequate staff training, insufficient oversight, and inadequate policies and procedures all contributed to the ineffective VAMC management of prosthetic supply inventories. Without these inventory management tools and controls, it is difficult for VAMC managers and staff to ensure proper stewardship and accountability of prosthetic inventories and the continuous availability of prosthetic supplies needed for clinical staff to provide patient care. As a result, VAMCs spent approximately \$35.5 million in excess prosthetic supply inventories and increased the risks of supply expiration, obsolescence, theft, and delaying patient care due to supply shortages.

Conclusion

To avoid spending taxpayer dollars on excess prosthetic supply inventories and risking the disruption of patient care by experiencing supply shortages, VHA must ensure VAMCs properly manage prosthetic inventories. By strengthening VAMC management of prosthetic supply inventories and using supplies stocked in excess inventories instead of purchasing additional supplies, VHA can reduce prosthetic supply costs by approximately \$35.5 million. VA cannot afford to use valuable financial resources to purchase, maintain, and store more prosthetic supplies than necessary.

- Recommendations** 1. We recommended the Under Secretary for Health require VA medical centers to conduct comprehensive physical inventories of stocked prosthetic supplies, adjust Prosthetics Inventory Package and Generic

Inventory Package quantities on hand to match physical inventory quantities, and begin eliminating identified excess inventories and purchasing supplies to avoid identified shortages.

2. We recommended the Under Secretary for Health collaborate with the VA Office of Information and Technology to develop a detailed plan of the steps needed to replace Prosthetics Inventory Package and Generic Inventory Package with a comprehensive modern inventory system, including milestones for deliverables and a methodology for tracking progress.
3. We recommended the Under Secretary for Health establish a mechanism to ensure VA medical center prosthetic supply inventory managers receive the training required by the Veterans Health Administration's *Inventory Management Handbook*.
4. We recommended the Under Secretary for Health collaborate with the Executive Director, Office of Acquisition, Logistics, and Construction, to develop a VA Acquisition Academy curriculum and certification program for prosthetic supply inventory managers that includes training on the inventory management practices and techniques discussed in this report.
5. We recommended the Under Secretary for Health revise the Veterans Health Administration's *Inventory Management Handbook* to require at least one prosthetic supply inventory manager from each VA medical center to attend VA's Acquisition Academy's Supply Chain Management School and become Certified VA Supply Chain Managers.
6. We recommended the Under Secretary for Health establish a mechanism to identify surgical device implants stored in VA medical center inventories, perform cost/benefit analyses of using consignment agreements to procure identified surgical device implants, and when determined to be cost effective, establish surgical device implant consignment agreements.
7. We recommended the Under Secretary for Health discontinue using the metric of comparing prosthetic excess supply inventory and budgets and establish a mechanism to ensure VA medical centers submit the prosthetic inventory performance metrics required by the Veterans Health Administration's *Inventory Management Handbook*.
8. We recommend the Under Secretary for Health include performance measurement information on VA medical centers' management of prosthetic supplies in the monthly compliance report and distribute the

reports in accordance with *Inventory Management Handbook* requirements.

9. We recommended the Under Secretary for Health establish policies and procedures requiring Veterans Integrated Service Network Prosthetic Representatives to conduct cyclical reviews at VA medical centers within their jurisdiction to evaluate prosthetic supply inventory management practices and provide a comprehensive written report detailing the evaluation results to the Prosthetic and Sensory Aids Service Central Office and Veterans Integrated Service Network and VA medical center directors.
10. We recommended the Under Secretary for Health revise the Veterans Health Administration's *Inventory Management Handbook* to address inadequacies related to exempting Prosthetic and Sensory Aids Service; complying with maximum stock level requirements; establishing normal, reorder, and emergency stock levels; and recording supply receipt and usage in automated inventory systems timely.

**Management
Comments**

The Under Secretary for Health agreed with our findings and recommendations. VHA plans to address our recommendations by March 30, 2013. It is VHA's intent to work with the VA Office of Information and Technology in the next year to finalize the plan related to replacement of the PIP and GIP systems.

In addition, P&LO will coordinate with the Deputy Under Secretary for Health for Policy and Services to develop a memorandum that instructs VAMCs to conduct and reconcile physical inventories, eliminate excess inventories, and avoid shortages of prosthetic supplies.

PSAS and P&LO will coordinate with VA's Office of Information and Technology, Product Development Office, to develop a plan to replace PIP and GIP with a more comprehensive modern inventory systems. As an interim step, a patch will be integrated with PIP and GIP to allow interface with customized inventory management software developed for VHA inventory management.

P&LO will coordinate with PSAS and VHA's Education Employee System to develop standardized inventory management training guides for network and field offices. Once the guidance has been developed, P&LO Education and Talent Management Division will coordinate training for inventory managers and work with OALC to develop a VA Acquisition Academy curriculum and certification program for prosthetic supply inventory managers. In addition, P&LO will revise VHA's Handbook to include a requirement that at least one prosthetic supply inventory manager from each VAMC becomes a Certified VA Supply Chain Manager.

P&LO and the Deputy Under Secretary for Health for Operations and Management Surgical Program Office will analyze inventory and procurement data for surgical implantable devices and take action based on their findings to enter into potential strategic sourcing opportunities through consignment agreements. P&LO will also discontinue using the metric of comparing prosthetic excess supply inventory and budgets and require reporting metrics consistent with VHA's *Inventory Management Handbook*. To address prosthetic supply inventory performance measures, P&LO will issue a compliance memorandum to VAMC and network offices to report prosthetic supply inventory performance measures monthly in accordance with VHA's *Inventory Management Handbook* requirements.

The Under Secretary for Health will require VISN Prosthetic Representatives to conduct cyclical reviews of VAMC prosthetic inventories and report the results to P&LO Logistics Operations/Policy & Assessment Division. To address *Inventory Management Handbook* inadequacies related to exempting PSAS; complying with maximum stock level requirements; establishing normal, reorder, and emergency stock levels; and recording supply, receipt, and usage in automated inventory systems timely, P&LO will revise the Handbook to remove the prosthetic supply inventory exemption.

OIG Response

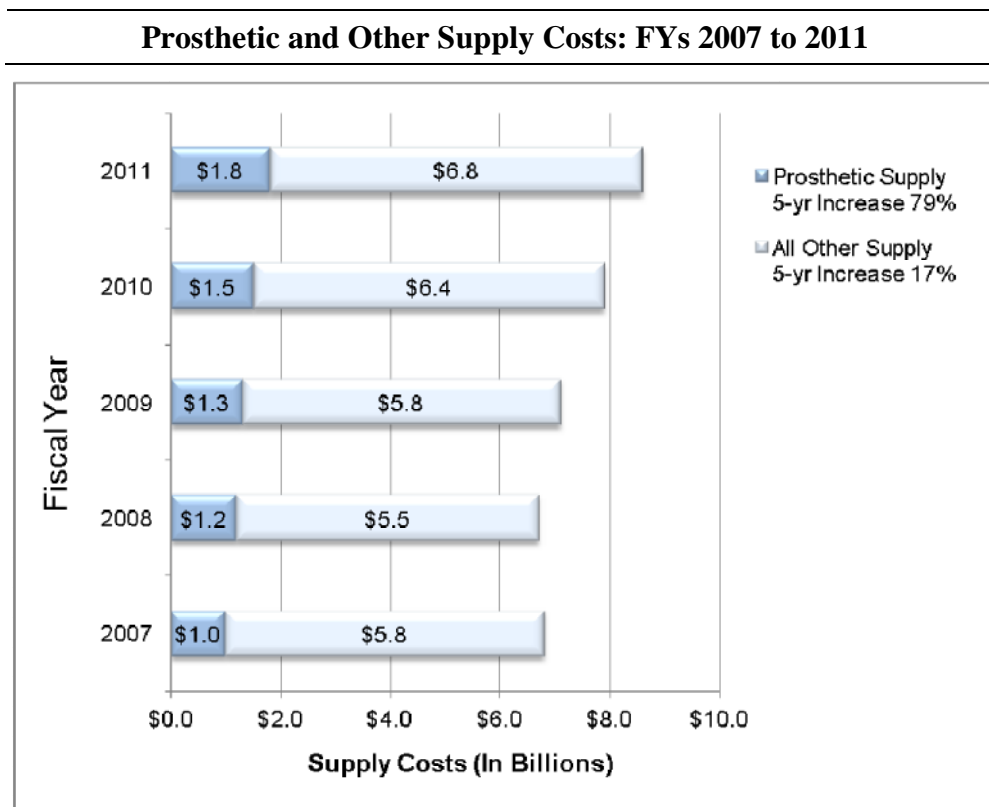
VHA's planned actions are responsive and we will monitor its progress and follow up on its implementation until all proposed actions are completed. Appendix E provides the full text of the Under Secretary for Health's comments.

Appendix A Background

VA Prosthetic Supply Costs

VA estimated FY 2011 prosthetic supply costs will total approximately \$1.8 billion, which is about 21 percent of VA's estimated total \$8.6 billion supply and material costs. VA spends more funds on prosthetic supplies than any other type of supplies, except drugs and medicines. As shown in Figure 5, over the past 5 years VA's prosthetic supply costs have increased 79 percent while the costs of all other supplies only increased 17 percent.

Figure 5



Source: VA Congressional Budget Submissions

VA's FY 2012 VA Congressional Budget Submission forecasts the trend of higher prosthetic supply costs will continue and estimates an additional 17 percent increase from \$1.8 billion in FY 2011 to \$2.1 billion in FY 2012.

Prosthetic Inventory Management Responsibilities

At VA headquarters, three offices have responsibilities related to VAMC management of prosthetic supply inventories. These three offices are the VA's Office of Acquisition, Logistics, and Construction (OALC); VHA's Procurement and Logistics Office (P&LO); and the Prosthetics and Sensory Aids Service (PSAS). At VAMCs, SPD and PSAS have primary responsibility for managing prosthetic supply inventories.

Office of Acquisition, Logistics, and Construction

OALC, which reports directly to VA's Secretary and Deputy Secretary and is organizationally independent of the activities it serves, is responsible for providing support to VA medical facilities, regional offices, and national cemeteries in the areas of acquiring, managing, and distributing supplies. To address VA's growing acquisition workforce challenges, OALC operates VA's Acquisition Academy. The Academy's mission is to create a workforce regarded as "best in class" where acquisition professionals are referred to as "trusted business advisors" who are sought out by their peers and customers for their expertise in developing the most effective and efficient acquisition strategies.

Procurement and Logistics Office

P&LO provides ongoing logistics liaison support to VISNs, VHA Central Office, and OALC. P&LO is responsible for providing guidance to VHA facilities in areas of logistics, including issuing implementation regulations, monitoring compliance with directives, collecting and reporting usage and cost data, and forming strategies to improve logistics operations. Also, P&LO is charged with performance measurement of inventory management in VHA. This includes determining benchmarking criteria and compliance reporting measures.

Central Office PSAS

VHA's PSAS is responsible for developing VA policies and procedures for providing prosthetic and sensory aids and services to veteran beneficiaries. In addition, PSAS Central Office develops national prosthetic supply and services budgets and VISN prosthetic budget allocations. PSAS Central Office is also responsible for monitoring local PSAS operations and prosthetic supply inventories and ensuring effective use of PIP to manage these inventories.

VAMC PSAS

At VAMCs, PSAS staff are responsible for providing veterans a full range of supplies and equipment. This includes items such as scooters, wheelchairs, telehealth equipment, ankle and knee braces, clocks, watches, and pedometers. Local PSAS staff are also responsible for managing inventories of all prosthetic supplies except SDIs, which SPD manages.

VAMC Supply Processing and Distribution

At VAMCs, SPD staff are responsible for ensuring medical supplies and SDIs are sterile prior to distribution and before implantation. An SDI is any material of a nonbiological nature that clinicians place in a patient's body. Heart valves, mesh, stents, vascular grafts, cranial implants, and pacemakers are all examples of SDIs.

Automated Inventory Systems

VAMCs use two VA-developed automated inventory systems to manage prosthetic supply inventories. One is PIP and the other is GIP. VHA policy requires VA medical facilities to use PIP for management of inventory control over all prosthetic items. However, VHA policy also requires VA medical facilities to use GIP to manage all SDIs.

*Prosthetic
Inventory
Package*

Beginning in 1997, a PSAS software development workgroup spent 2 years to develop and test PIP. In June 1999, VHA issued a directive requiring VAMCs to use PIP to manage PSAS prosthetic supply inventories. According to the directive, implementation of PIP would establish a valid prosthetic data inventory system that would provide accurate information on inventory items and dollar value at every facility and would identify “common use items” for cost-effective, large quantity purchases.

However, in November 1999, OIG issued the report, *Audit of Management of Prosthetic Supply Inventories at VA Medical Centers and the Denver Distribution Center* (Report No. 99-00188-13, November 15, 1999). Our report concluded PIP did not include some of the basic controls and summary reports needed to manage inventories effectively and recommended the Acting Under Secretary for Health modify PIP to include the controls and reports needed to manage inventories effectively.

*Generic
Inventory
Package*

GIP is an automated supply inventory management module of VA’s IFCAP. GIP provides automated inventory control capabilities for managing the receipt, distribution, and maintenance of supplies used throughout the VAMC. GIP can automatically generate replenishment and purchase orders, maintain perpetual inventory balances and item usage history, and provide a variety of inventory management reports. VHA policy requires SPD to use GIP to manage medical supply inventories and prosthetic supplies stored in Surgery Service, including all VA-owned SDIs.

*VHA Efforts To
Replace PIP
and GIP*

For more than a decade, VA has recognized the need for an improved inventory management system. In 1998, VA began developing the Core Financial and Logistics System in an attempt to create a single system to integrate numerous financial and asset management systems, including an inventory management system. In 2004, VA discontinued development of the Core Financial and Logistics System after VA pilot tests indicated the system failed due to significant project management weaknesses.

After the Core Financial and Logistics System failed, VA began working on the Financial and Logistics Integrated Technology Enterprise (FLITE). A key component of FLITE was the Strategic Asset Management System, which included Maximo, commercial off-the-shelf software.

VA intended for Maximo to consolidate its asset, inventory, and work order management processes into a single enterprise system. One objective was to standardize procurement and inventory to provide improved accountability and tracking of assets, including prosthetic supplies. Another objective was to reduce operational costs and allow users to be more effective in their work through increased automated support.

In July 2010, VA canceled FLITE, with the exception of the Strategic Asset Management System, partly because it had suffered from the same project management issues that plagued the Core Financial and Logistics System. As of September 2011, VA was planning to cancel the Strategic Asset Management System. However, VHA was exploring the possibility of using the Maximo component of the Strategic Asset Management System as a stand-alone application.

**Prior OIG
Audits**

VA OIG issued a report, *Audit of the Acquisition and Management of Selected Surgical Device Implants*, Report No. 06-03677-221, on September 28, 2007. During this audit, we found VHA facilities did not use PIP or any type of inventory control system to monitor and account for SDIs as required by VHA policy. We also found SDIs valued at \$34,381 (aortic valves=\$24,400 and thoracic grafts=\$9,981) had expired or would expire unused within 6 months of our site visits. We recommended VA medical facilities conduct physical inventories of SDI and use PIP to track inventory, monitor stock levels, and reduce inventory losses.

VA OIG has issued numerous reports highlighting VA's problems with managing information technology development projects, such as the Core Financial and Logistics System, FLITE, and Strategic Asset Management System. These problems have hindered VA's efforts to replace PIP and GIP and implement a more comprehensive modern automated inventory management system. Following are the OIG's most recent reports discussing VA's problems in this area:

- *Audit of the Project Management Accountability System Implementation*, Report No. 10-03162-262, August 29, 2011
- *Audit of the FLITE Strategic Asset Management Pilot Project*, Report No. 09-03861-238, September 14, 2010
- *Review of Alleged Improper Program Management within the FLITE Strategic Asset Management Pilot Project*, Report No. 10-01374-237, September 7, 2010
- *Audit of FLITE Program Management's Implementation of Lessons Learned*, Report No. 09-01467-216, September 16, 2009

Appendix B Scope and Methodology

Scope

We conducted the audit from April through December 2011. The audit focused on the categories of prosthetic supplies stored in VAMC inventories shown in Table 1.

Table 1

| Prosthetic Supplies in VAMCs Inventories | |
|--|--|
| Category | Examples |
| Accessibility Items | <ul style="list-style-type: none"> • Scooters and accessories • Standard, motorized, and custom-built wheelchairs and accessories |
| Medical Equipment | <ul style="list-style-type: none"> • Computer equipment • Hospital beds and accessories • Walking aids (for example, walkers) and patient lifts • Telehealth equipment |
| Orthosis Items | <ul style="list-style-type: none"> • Ankle, knee, leg, spinal, and other braces • Arch supports, shoe inserts, and shoes |
| Sensori-Neuro Aids | <ul style="list-style-type: none"> • Voice prosthesis • Hearing aid batteries and accessories • Clocks, watches, and pedometers |
| Surgical Device Implants | <ul style="list-style-type: none"> • Ear, dental, and midface implants • Heart valves, catheters, and grafts • Stents, shunts, and mesh • Screws and plates |

Source: VA OIG

The scope included prosthetic supply inventories VAMCs stocked in clinical service areas such as Prosthetics, Surgery, Blind Rehabilitation, Telehealth, and Audiology; other onsite storage locations such as VAMC basements and receiving warehouses; and offsite locations such as DME and VAMC-leased warehouses. The audit scope did not include prosthetic supplies VAMCs issued directly to veterans and did not stock in inventory, such as artificial limbs, pacemakers, hearing aids, and eyeglasses.

Methodology

To accomplish the audit objective, we reviewed applicable laws and VHA regulations, policies, procedures, handbooks, and guidelines. To obtain VA program officials' perspectives on VAMC management of prosthetic supply inventories, we interviewed managers from VA's OALC and VHA's PSAS and P&LO. We also audited a statistical sample of 870 prosthetic supply items selected from the universe of 3,990 prosthetic supply items stocked at 6 statistically sampled VAMCs. Appendix C provides details on the sampling methodology and estimates. Table 2 lists the locations of the six audited VAMCs.

Table 2

| Audited VAMCs | |
|----------------------|----------------------------|
| VISN | VAMC Location |
| 1 | Northampton, MA |
| 4 | Clarksburg, WV |
| 6 | Salem, VA |
| 7 | Atlanta, GA |
| 9 | Nashville/Murfreesboro, TN |
| 11 | Indianapolis, IN |

Source: VA OIG

We visited the six VAMCs from April through October 2011. At these VAMCs, we interviewed VISN Prosthetic Representatives, VAMC managers and staff who maintained prosthetic inventories, and DME contractors who stored prosthetic supplies. For each of the 870 sampled prosthetic items, we performed physical counts of quantities on hand and reviewed available PIP and GIP reports and other procurement documents such as purchase orders, invoices, and receiving reports.

Reliability of Data

During the audit, we used computer-processed data from PIP, GIP, and PSAS Central Office automated spreadsheets. To test the reliability of PIP and GIP data, for the sampled prosthetic supply inventory items, we compared PIP and GIP reported quantities on hand with our physical count of quantities on hand and PIP and GIP reported unit costs with unit costs shown on available hardcopy purchase orders. We determined PIP and GIP unit cost data were sufficiently reliable for the audit objective. However, we determined PIP and GIP quantities on hand were not sufficiently reliable. Therefore, we relied on our physical count of quantities on hand instead of PIP and GIP quantities on hand.

To test the reliability of VAMC prosthetic supply inventory costs reported on PSAS Central Office automated spreadsheets, for the six audited VAMCs, we compared audit-determined prosthetic supply inventory costs with the cost data from the automated spreadsheets. We determined PSAS Central Office automated spreadsheet data were not sufficiently reliable for the audit objectives. Therefore, we did not rely on the spreadsheets and instead estimated VAMC and VHA-wide prosthetic supply inventory costs based on our audit results for the sampled prosthetic supply inventory items. Appendix C provides details on the sampling methodology and estimates.

Government Audit Standards

Our assessment of internal controls focused on those controls relating to the audit objective. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Appendix C Statistical Sampling Methodology

The purpose of statistical sampling in this audit was to estimate the quantity and value of on-hand and excess prosthetic supply inventories and potential prosthetic supply shortages VHA-wide. We also used statistical sampling to estimate the quantity and value of prosthetic supply inventories where VAMCs did not apply various inventory management practices or techniques, such as setting stock levels and conducting physical inventories.

Population

The VHA-reported population consisted of 872,599 prosthetic items with a total value of \$37.1 million as of February 28, 2011.

Sampling Design

We used a two-stage sampling design to first select a sample of 6 VAMCs, then to select samples of 145 prosthetic items within each of the 6 VAMCs. (Table 2 in Appendix B shows the six selected VAMCs.) Both stages of the sampling were stratified.

We stratified the universe of VAMCs into three groups based on the combined total purchases and inventory value of prosthetics. We allocated VAMCs with high-dollar purchases and inventory values into one stratum, medium-to-large values into a second stratum, and the remaining VAMCs into a third stratum. We selected samples using different random seeds within each of the three strata until we obtained a sample of VAMCs, each from a different VISN. This approach ensured the sample represented as many different VISNs as possible.

This stratified sampling technique provides better precision and allows more flexibility when a sample includes a large number of errors. All VAMCs had a chance of selection, therefore, allowing estimates over the entire population.

We built an audit-determined inventory population for each VAMC to sample prosthetic items. The prosthetics inventory population included all prosthetic items purchased using budget object codes 2674 (Home Oxygen) and 2692 (Prosthetic Supplies) regardless of whether or not VAMCs reported the inventories in PIP, GIP, or any other automated or manual inventory system.

We selected a sample of 870 items, 145 at each of the 6 VAMCs, using 2 steps. We first selected prosthetic items from three strata, items recorded in PIP, items recorded in GIP, and other items not recorded in any automated inventory system. Second, within each of the first three strata, we further stratified the inventories into five additional strata based on the total value of the inventory. This resulted in 15 strata (3 systems with 5 strata each) within each of the 6 sampled VAMCs. Table 3 shows these strata.

| Table 3. Prosthetics Inventory Populations and Sample For Six VAMCs Selected For OIG Review | | | | | | | |
|---|-------------------------|----------------|---------------|---------------|-------------------------|-------------------|--------------|
| First Stratum | Second Stratum | >= Lower Limit | < Upper Limit | Universe Size | Dollars in the Universe | Total Sample Size | Total Sample |
| 1-PIP | 1 | \$0.00 | \$0.01 | 781 | \$000 | 90 | |
| | 2 | \$0.01 | \$500 | 1,542 | \$247,942 | 143 | \$16,288 |
| | 3 | \$500.01 | \$2,500 | 361 | \$412,056 | 114 | \$112,235 |
| | 4 | \$2,500.01 | \$125,939 | 234 | \$1,705,904 | 189 | \$1,442,909 |
| | 5 | High Risk* | | 10 | \$12,379 | 10 | \$12,379 |
| | Total selected to audit | | | 2,928 | \$2,378,281 | 546 | \$1,583,811 |
| | Total excluded | | | 101 | \$9,017 | - | |
| | Total-1 PIP | | | 3,029 | \$2,387,297 | 546 | \$1,583,811 |
| 2-GIP | 1 | \$0.00 | \$0.01 | 47 | \$0 | 20 | |
| | 2 | \$0.01 | \$500 | 148 | \$16,281 | 38 | \$3,995 |
| | 3 | \$500.01 | \$2,500 | 43 | \$72,501 | 27 | \$43,619 |
| | 4 | \$2,500.01 | \$125,939 | 21 | \$83,248 | 21 | \$83,248 |
| | 5 | High Risk | | | | | |
| | Total selected to audit | | | 259 | \$172,030 | 106 | \$130,862 |
| | Total excluded | | | 195 | | - | |
| | Total-2 GIP | | | 454 | \$172,030 | 106 | \$130,862 |
| 3-Other | 1 | \$0.00 | \$0.01 | 66 | \$0 | 26 | |
| | 2 | \$0.01 | \$500 | 378 | \$46,626 | 55 | \$4,916 |
| | 3 | \$500.01 | \$2,500 | 188 | \$194,609 | 66 | \$43,134 |
| | 4 | \$2,500.01 | \$125,939 | 167 | \$380,582 | 67 | \$293,827 |
| | 5 | High Risk | | 4 | \$1,235 | 4 | \$1,235 |
| | Total selected to audit | | | 803 | \$623,051 | 218 | \$343,112 |
| | Total excluded | | | | | | |
| | Total-3 Other | | | 803 | \$623,051 | 218 | \$343,112 |
| Grand Total | 1 | \$0.00 | \$0.01 | 894 | \$0 | 136 | |
| | 2 | \$0.01 | \$500 | 2,068 | \$310,849 | 236 | \$25,199 |
| | 3 | \$500.01 | \$2,500 | 592 | \$679,165 | 207 | \$198,988 |
| | 4 | \$2,500.01 | \$125,939 | 422 | \$2,169,733 | 277 | \$1,819,983 |
| | 5 | High Risk | | 14 | \$13,614 | 14 | \$13,614 |
| | Total selected to audit | | | 3,990 | \$3,173,362 | 870 | \$2,057,785 |
| Total excluded | | | | 296 | \$9,017 | - | |
| Grand Total | | | | 4,286 | \$3,182,379 | 870 | \$2,057,785 |

Source: VA OIG

*The high-risk stratum included prosthetic items with high susceptibility of theft, such as global positioning navigation systems, personal digital assistants, and iPods.

We designed the sample to achieve a precision of 10 percent of the estimated dollar amount at a 90 percent confidence level. We analyzed each sampled prosthetic item to determine if VAMCs reported accurate inventory data and properly applied inventory management practices and techniques to eliminate excess inventories; avoid potential supply shortages; and minimize risks of supply expiration, obsolescence, and theft.

We considered prosthetic item totals to be in error if our physical counts of quantities on hand differed from PIP/GIP reported quantities. In addition, we considered items to be in error if VAMCs had not applied various inventory management practices and techniques, such as setting stock levels and not recording stock received and used in PIP/GIP.

Weights

We computed sampling weights as a product of the inverse of the probability of selection at each stage of sampling. We used these weights to compute population estimates from the sample findings.

Estimates and Margins of Error

We used WesVar software to calculate the weighted population estimates and associated sampling errors. WesVar employs replication methodology to calculate margins of error and confidence intervals that correctly account for the complexity of the sample design. The margins of error and confidence intervals are indicators of the precision of estimates. If we repeated this audit with multiple samples, the confidence intervals would differ for each sample, but would include the true population value 90 percent of the time. For example, in Table 4 below, we are 90 percent confident that the true population value of inventory that exceeds current needs for Field Site A is between \$225,000 and \$440,000. For each estimate, we used the midpoint of the 90 percent confidence interval. Tables 4 and 5 show the statistical estimates.

| Table 4. Audited VAMCs Statistical Estimates (\$ in Thousands) | | | | | | | |
|--|--------------------------------|---------------|-----------------|--------------------------|---------------|-------------|--|
| Field Site | Estimated Total Value or Count | Estimated | Margin of Error | 90% Confidence Interval* | | Sample Size | |
| | | | | Lower Limit | Upper Limit | | |
| Inventory Exceeded Current Needs – Value | | | | | | | |
| A | \$462 | \$333 (72.0%) | \$108 (6.0%) | \$225 (66.0%) | \$440 (78.0%) | 86 | |
| B | \$150 | \$103 (69.0%) | \$55 (11.0%) | \$48 (58.0%) | \$158 (79.0%) | 101 | |
| C | \$638 | \$433 (68.0%) | \$240 (13.0%) | \$193 (55.0%) | \$673 (81.0%) | 59 | |
| D | \$1,127 | \$718 (64.0%) | \$252 (10.0%) | \$465 (54.0%) | \$970 (73.0%) | 94 | |
| E | \$57 | \$41 (72.0%) | \$16 (5.0%) | \$25 (67.0%) | \$57 (77.0%) | 58 | |
| F | \$537 | \$382 (71.0%) | \$222 (15.0%) | \$160 (56.0%) | \$604 (86.0%) | 86 | |
| Inaccurate Inventory Quantities On Hand – Item Count | | | | | | | |
| A | 636 | 117 (18.4%) | 56 (9.5%) | 62 (9.0%) | 173 (27.9%) | 40 | |
| B | 441 | 40 (9.1%) | 19 (4.2%) | 22 (5.0%) | 59 (13.4%) | 16 | |
| C | 1,130 | 871 (77.1%) | 201 (9.7%) | 670 (67.4%) | 1,072 (86.8%) | 110 | |
| D | 1,331 | 124 (9.3%) | 82 (6.0%) | 42 (3.3%) | 206 (15.4%) | 16 | |
| E | 292 | 54 (18.5%) | 17 (5.6%) | 37 (13.1%) | 72 (24.2%) | 30 | |
| F | 666 | 126 (18.9%) | 39 (5.8%) | 87 (13.1%) | 165 (24.7%) | 41 | |

Source: VA OIG

*The lower and upper limit percentages are calculated by dividing the estimated value or count by the upper or lower limit of the estimated total value or count. The lower and upper limits of the estimated total values and counts are not shown in this table.

| Table 5. VHA-Wide Statistical Estimates (\$ in Millions) | | | | | | | | | | | |
|--|---------------------|---------------------------------------|---------|-----------------------------------|---------|---------------------------------------|---------|--|---------|--------------------------------------|---------|
| Field | On Hand Inventory | Inventory Not Exceeding Current Needs | | Inventory Exceeding Current Needs | | Excess Inventory 31- to 90-Day Supply | | Excess Inventory 91- to 180-Day Supply | | Excess Inventory Over 180-Day Supply | |
| Item Sample Size | 870 | 386 | | 484 | | 333 | | 77 | | 61 | |
| Estimate | | | | | | | | | | | |
| Items | 92,629 ¹ | 49,166 | (53.1%) | 43,463 | (46.9%) | 29,458 | (67.8%) | 7,396 | (17.0%) | 5,119 | (11.8%) |
| Value | \$70.03 | \$18.26 | (26.1%) | \$35.53 | (69.0%) | \$19.21 | (54.1%) | \$7.09 | (20.0%) | \$8.95 | (25.2%) |
| Margin of Error | | | | | | | | | | | |
| Items | 5,312 | 5,549 ² | (4.5%) | 4,230 | (4.5%) | 3,619 | (6.0%) | 2,301 | (5.0%) | 2,024 | (4.4%) |
| Value | \$13.07 | \$5.71 | (7.9%) | \$9.11 | (6.0%) | \$5.12 | (14.7%) | \$4.65 | (12.2%) | \$6.21 | (15.3%) |
| 90 Percent Confidence Interval | | | | | | | | | | | |
| Lower Limit Items | 87,317 | 43,617 | (48.6%) | 39,233 | (42.4%) | 25,839 | (61.8%) | 5,095 | (12.1%) | 3,094 | (7.3%) |
| Lower Limit Value | \$56.96 | \$12.54 | (18.2%) | \$26.42 | (63.0%) | \$14.09 | (39.4%) | \$2.45 | (7.8%) | \$2.74 | (9.9%) |
| Upper Limit Items | 97,942 | 54,715 | (57.6%) | 47,693 | (51.4%) | 33,077 | (73.8%) | 9,697 | (22.0%) | 7,143 | (16.2%) |
| Upper Limit Value | \$83.10 | \$23.97 | (34.0%) | \$44.64 | (75.0%) | \$24.33 | (68.8%) | \$11.74 | (32.2%) | \$15.16 | (40.5%) |
| Field | | Physical Inventories Inadequate | | Emergency Levels Not Set | | Reorder Levels Not Set | | Normal Levels Not Set | | Usage Not Recorded | |
| Item Sample Size | | 725 | | 851 | | 825 | | 824 | | 459 | |
| Estimate | | | | | | | | | | | |
| Items | | 74,991 | (81.0%) | 90,932 | (98.2%) | 88,684 | (95.7%) | 88,615 | (95.7%) | 38,360 | (41.4%) |
| Value | | \$53.17 | (75.9%) | \$69.68 | (99.5%) | \$67.09 | (95.8%) | \$63.58 | (90.8%) | \$29.68 | (42.4%) |
| Margin of Error | | | | | | | | | | | |
| Items | | 5,730 | (3.3%) | 5,321 | (0.8%) | 5,310 | (1.1%) | 5,309 | (1.1%) | 4,316 | (4.1%) |
| Value | | \$11.52 | (8.4%) | \$13.08 | (0.3%) | \$13.08 | (2.2%) | \$11.80 | (8.1%) | \$8.25 | (9.9%) |
| 90 Percent Confidence Interval | | | | | | | | | | | |
| Lower Limit Items | | 69,261 | (77.7%) | 85,611 | (97.3%) | 83,374 | (94.7%) | 83,306 | (94.6%) | 34,045 | (37.3%) |
| Lower Limit Value | | \$41.65 | (67.5%) | \$56.60 | (99.2%) | \$54.02 | (93.7%) | \$51.79 | (82.7%) | \$21.44 | (32.5%) |
| Upper Limit Items | | 80,720 | (84.2%) | 96,253 | (99.0%) | 93,994 | (96.8%) | 93,925 | (96.7%) | 42,676 | (45.6%) |
| Upper Limit Value | | \$64.69 | (84.3%) | \$82.76 | (99.9%) | \$80.17 | (98.0%) | \$75.38 | (98.9%) | \$37.93 | (52.3%) |

Source: VA OIG

¹The 92,629 estimated VHA-wide inventory items was significantly less than VHA's reported 872,599 items. We attributed this difference to PIP reports often listing the same items several times and including items no longer stocked in inventories. We also rounded percentages in the body of the report to the nearest whole percent. In some cases, the percentages in the report may vary from the percentages in Tables 4 and 5 because in the report we rounded item counts to the nearest thousand and values to the nearest million.

²In some cases, the margin of error for a subset of the total value may be larger than the margin of error for the total value itself. This is due to sample size differences as well as other impacts of the complex sample design.

| Table 5 (Continued). VHA-Wide Statistical Estimates (\$ in Millions) | | | | | | | | | |
|--|-----------------------|---------|-----------------------------------|---------|---------------------------------------|---------|---------------------------------|---------|---|
| Field | Obsolete Inventory | | Inventory Managed With PIP or GIP | | Inventory Not Managed With PIP or GIP | | Inaccurate Inventory Quantities | | No Inventory |
| Item Sample Size | 13 | | 642 | | 228 | | 233 | | 36 |
| Estimate | | | | | | | | | |
| Items | 1,490 | (3.4%) | 77,245 | (83.4%) | 15,385 | (16.6%) | 30,486 | (39.4%) | 7,477 |
| Value | \$0.27 | (0.8%) | \$58.46 | (83.5%) | \$11.56 | (16.5%) | \$36.54 | (62.2%) | NA |
| Margin of Error | | | | | | | | | |
| Items | 892 | (2.1%) | 5,226 | (1.3%) | 975 | (1.3%) | 5,319 | (5.5%) | 3,025 |
| Value | \$0.24 | (0.5%) | \$12.93 | (4.0%) | \$1.97 | (4.0%) | \$12.42 | (10.0%) | NA |
| 90 Percent Confidence Interval | | | | | | | | | |
| Lower Limit Items | 598 | (1.4%) | 72,018 | (82.1%) | 14,410 | (15.3%) | 25,167 | (33.9%) | 4,452 |
| Lower Limit Value | \$0.03 | (0.3%) | \$45.54 | (79.5%) | \$9.60 | (12.6%) | \$24.11 | (52.2%) | NA |
| Upper Limit Items | 2,382 | (5.5%) | 82,471 | (84.7%) | 16,359 | (17.9%) | 35,805 | (44.8%) | 10,501 |
| Upper Limit Value | \$0.52 | (1.3%) | \$71.39 | (87.5%) | \$13.53 | (20.5%) | \$48.96 | (72.2%) | NA |
| Field | Receipts Not Recorded | | Low Inventory | | Total Inventory Shortages | | Surgical device Implants | | Surgical Device Implants Not In PIP/GIP |
| Item Sample Size | 512 | | 14 | | 50 | | 290 | | 138 |
| Estimate | | | | | | | | | |
| Items | 49,203 | (53.1%) | 2,385 | (2.6%) | 9,862 | (10.7%) | 24,898 | | 6,942 (27.9%) |
| Value | \$38.34 | (54.8%) | \$.99 | (1.4%) | \$.99 | (1.4%) | \$36.33 | | \$7.51 (20.7%) |
| Margin of Error | | | | | | | | | |
| Items | 5,514 | (4.5%) | 1,695 | (1.8%) | 3,418 | (3.5%) | 4,674 | | 959 (6.0%) |
| Value | \$8.53 | (10.5%) | \$.75 | (1.1%) | \$.75 | (1.1%) | \$10.03 | | \$1.39 (6.8%) |
| 90 Percent Confidence Interval | | | | | | | | | |
| Lower Limit Items | 43,689 | (48.6%) | 690 | (0.8%) | 6,443 | (7.1%) | 20,223 | | 5,983 (21.9%) |
| Lower Limit Value | \$29.81 | (44.3%) | \$.24 | (0.3%) | \$.24 | (0.3%) | \$26.30 | | \$6.12 (13.9) |
| Upper Limit Items | 54,717 | (57.6%) | 4,080 | (4.4%) | 13,280 | (14.2%) | 29,572 | | 7,901 (33.8%) |
| Upper Limit Value | \$46.87 | (65.2%) | \$1.75 | (2.5%) | \$1.75 | (2.5%) | \$46.36 | | \$8.90 (27.4%) |

Source: VA OIG

Appendix D Potential Monetary Benefits in Accordance With Inspector General Act Amendments

| Recommendations | Explanation of Benefits | Better Use of Funds | Questioned Costs |
|-----------------|---|---------------------|------------------|
| 1 thru10 | Strengthen VAMC management of prosthetic supply inventories and use excess prosthetic supplies instead of purchasing additional supplies. | \$35.5 million | \$0 |
| Total | | \$35.5 million | \$0 |

Appendix E Under Secretary for Health Comments

Department of Veterans Affairs

Memorandum

Date: March 19, 2012

From: Under Secretary for Health (10)

Subj: Office of Inspector General, Office of Audits and Evaluations Draft Report, Audit of Prosthetics Supply Inventory Management (VAIQ 7204419)

To: Assistant Inspector General for Healthcare Inspections (52)

1. I have reviewed the draft report and concur with all ten of the report's recommendations. Attached is the Veterans Health Administration's (VHA) corrective action plan for the report's recommendations. VHA also agrees with the Office of Inspector General estimate of a possible better use of \$35.5 million if the recommendations are implemented.
2. Thank you for the opportunity to review the draft report. If you have any questions, please contact Linda H. Lutes, Director, Management Review Service (10A4A4) at (202) 461-7014.



Robert A. Petzel, M.D.

Attachment

**VETERANS HEALTH ADMINISTRATION (VHA)
Action Plan**

**OIG Draft Report, Audit of Prosthetics Supply Inventory Management
(VAIQ 7204419)**

Date of Draft Report: February 17, 2012

| Recommendations/ Actions | Status | Completion Date |
|-----------------------------|--------|--------------------|
|-----------------------------|--------|--------------------|

Recommendation 1: We recommend the Under Secretary for Health require VA medical centers to conduct comprehensive physical inventories of stocked prosthetic supplies, adjust Prosthetics Inventory Package and Generic Inventory Package quantities on hand to match physical inventory quantities, and begin eliminating identified excess inventories and purchasing supplies to avoid identified shortages.

VHA Comments

Concur

VHA's Procurement and Logistics Office (P&LO) will prepare memorandum for Deputy Under Secretary for Health for Operations and Management (DUSHOM) signature to be issued to network/field offices. This memorandum will include policy and procedures to conduct/reconcile physical inventories, and it will provide guidance on actions to take to eliminate excess and avoid shortages of prosthetic supplies maintained in the Prosthetics Inventory Package (PIP) and the Generic Inventory Package (GIP). The memorandum will also include a requirement for Veterans Integrated Service (VISN) Chief Logistics Officers to validate that physical inventories were conducted and VISN directors will in turn provide certification to P&LO.

P&LO will work in conjunction with the Deputy Under Secretary for Health for Policy and Services (DUSHPS), Prosthetic and Sensory Aids Service (PSAS), to ensure issued guidance included both PIP and GIP inventory systems.

| | |
|------------|---|
| In process | April 30, 2012— memorandum issued |
| | June 30, 2012— physical inventory reconciliation completed |

Recommendation 2: We recommend the Under Secretary for Health collaborate with the VA Office of Information and Technology to develop a detailed plan of the steps needed to replace Prosthetics Inventory Package and Generic Inventory Package with a comprehensive modern inventory system, including milestones for deliverables and a methodology for tracking progress.

VHA Comments

Concur

VHA's Offices of Health Information, PSAS, and P&LO will work in conjunction with the Department of Veterans Affairs (VA), Office of Information and Technology (OI&T), Product Development (PD) Office, to develop a plan to replace PIP and GIP inventory systems with a more comprehensive system. As an interim step, a VA OI&T patch (VistA Prosthetics patch 101) has been 95 percent completed. This patch includes an enhancement that will enable the prosthetics package to interface with the customized inventory management software developed for VHA inventory management. Release of this patch is pending VA OI&T approval and funding to complete and move into a graphical user interface with Integrated Funds Control, Accounting, and Procurement.

In process

March 30, 2015—
a comprehensive system
will be in place

Recommendation 3: We recommend the Under Secretary for Health establish a mechanism to ensure VA medical center prosthetic supply inventory managers receive the training required by the Veterans Health Administration's Inventory Management Handbook.

VHA Comments

Concur

P&LO will work in conjunction with PSAS and VHA's Education Employee System to develop standardized inventory management training guides to network/field offices.

In process

June 30, 2012

Once the guidance is developed, P&LO Education and Talent Management Division will coordinate training of inventory managers utilizing various modes including but not limited to Live Meeting and placing training modules on the Talent Management System site for continued use, etc., as appropriate to the needs identified by the VISN.

In process

September 30, 2012

Recommendation 4: We recommend the Under Secretary for Health collaborate with the Executive Director, Office of Acquisition, Logistics, and Construction to develop a VA Acquisition Academy curriculum and certification program for prosthetic supply inventory managers that includes training on the inventory management practices and techniques discussed in this report.

VHA Comments

Concur

P&LO's Education and Talent Management Division is currently working with the VA Office of Acquisition, Logistics and Construction to develop VA Acquisition Academy curriculum and certification program for prosthetic supply inventory managers.

In process

September 30, 2012

Recommendation 5: We recommend the Under Secretary for Health revise the Veterans Health Administration's Inventory Management Handbook to require at least one prosthetic supply inventory manager from each VA medical center to attend VA's Acquisition Academy's Supply Chain Management School and become Certified VA Supply Chain Managers.

VHA Comments

Concur

P&LO will revise VHA Handbook 1761.02, VHA Inventory Management, to include a requirement that at least one prosthetic supply inventory manager from each VA medical center (VAMC) become a Certified VA Supply Chain Manager. Each VAMC will certify to the VHA's Chief Procurement and Logistics Officer upon completion of certification.

In process

September 30, 2012

Recommendation 6: We recommend the Under Secretary for Health establish a mechanism to identify surgical device implants stored in VA medical center inventories, perform cost/benefit analyses of using consignment agreements to procure identified surgical device implants, and when determined to be cost effective, establish surgical device implant consignment agreements.

VHA Comments

Concur

P&LO will work in conjunction with the DUSHOM's Surgical Program office to analyze inventory/procurement data relative to implantable devices and take actions, and based on findings proceed with potential strategic sourcing opportunities via consignment agreements through the appropriate P&LO Program Executive Office Project Management Team.

In process

December 30, 2012

Recommendation 7: We recommend the Under Secretary for Health discontinue using the metric of comparing prosthetic excess supply inventory and budgets and establish a mechanism to ensure VA medical centers submit the prosthetic inventory performance metrics required by the Veterans Health Administration's *Inventory Management Handbook*.

VHA Comments

Concur

P&LO will revise VHA Handbook 1761.02 to remove exception clause related to comparing excess supply inventories and budgets, and require reporting metrics consistent with VHA's Inventory Management Handbook.

In process

June 30, 2012

Recommendation 8: We recommend the Under Secretary for Health include performance measurement information on VA medical centers' management of prosthetic supplies in the monthly compliance report and distribute the reports in accordance with *Inventory Management Handbook* requirements.

VHA Comments

Concur

P&LO will issue compliance requirements via a DUSHOM memorandum to field/network offices indicating compliance and monthly reporting requirements for performance measures related to prosthetic supply inventories. The monthly report will be distributed in accordance with VA Inventory Management Handbook requirements.

In process

April 30, 2012

Recommendation 9: We recommend the Under Secretary for Health establish policies and procedures requiring Veterans Integrated Service Network Prosthetic Representatives to conduct cyclical reviews at VA medical centers within their jurisdiction to evaluate prosthetic supply inventory management practices and provide a comprehensive written report detailing the evaluation results to the Prosthetic and Sensory Aids Service Central Office and Veterans Integrated Service Network and VA medical center directors.

VHA Comments

Concur

Prosthetic representatives will conduct cyclical reviews and will provide subsequent reports to VHA P&LO Logistics Operations/Policy & Assessment Division.

In process

June 30, 2012

Recommendation 10: We recommend the Under Secretary for Health revise the Veterans Health Administration's *Inventory Management Handbook* to address inadequacies related to exempting Prosthetic and Sensory Aids Service; complying with maximum stock level requirements; establishing normal, reorder, and emergency stock levels; and recording supply receipt and usage in automated inventory systems timely.

VHA Comments

Concur

P&LO will revise VHA Handbook 1761.02 to remove prosthetic supply inventory exemption.

In process

June 30, 2012

Veterans Health Administration
March 2012

Appendix F Office of Inspector General Contact and Staff Acknowledgments

| | |
|-------------|---|
| OIG Contact | For more information about this report, please contact the Office of Inspector General at (202) 461-4720. |
|-------------|---|

| | |
|-----------------|--|
| Acknowledgments | Kent Wrathall, Director Ann Batson Elizabeth Butler Marci Davis Lee Giesbrecht Felicia Stovall Al Tate Alvin Wiggins Jessica Woodard Nelvy Viguera Butler |
|-----------------|--|

Appendix G Report Distribution

VA Distribution

Office of the Secretary
Veterans Health Administration
Veterans Benefits Administration
National Cemetery Administration
Assistant Secretaries
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Non-VA Distribution

House Committee on Veterans' Affairs
House Appropriations Subcommittee on Military Construction, Veterans
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Senate Appropriations Subcommittee on Military Construction, Veterans
Affairs, and Related Agencies
Senate Committee on Homeland Security and Governmental Affairs
National Veterans Service Organizations
Government Accountability Office
Office of Management and Budget

This report will be available in the near future on the OIG's Web site at <http://www.va.gov/oig/publications/reports-list.asp>. This report will remain on the OIG Web site for at least 2 fiscal years.