

GAO

Testimony

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International Affairs, and Criminal Justice, Committee on
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Representatives

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INVENTORY MANAGEMENT

Greater Use of Best Practices Could Reduce DOD's Logistics Costs

Statement of David R. Warren, Director, Defense
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Affairs Division



Mr. Chairman and Members of the Subcommittee:

We are pleased to be here to discuss the Department of Defense's (DOD) use of innovative business practices to improve inventory management and the opportunities we see for further application of best practices to DOD's operations. We have identified defense inventory management as 1 of our 25 high risk areas in the federal government because of vulnerabilities to waste, fraud, and abuse.¹ Today, we will discuss DOD's management of consumable items, which represent \$18.7 billion, or 27 percent of the total secondary inventory dollar value.² As requested, our testimony today will focus on (1) an overview of the success DOD has had in using prime-vendor-type programs for medical, food, and clothing items; (2) the feasibility of using prime vendor systems for hardware items (such as bearings, valves, and bolts); and (3) our observations on recently introduced legislation that pertains to improving DOD's inventory management practices.

Results in Brief

DOD has successfully applied best practices to improve the management of medical and food items, which account for 2 percent of the consumable items DOD manages. DOD's prime vendor program for medical supplies, along with other DOD inventory reduction efforts, has resulted in savings that we estimate exceed \$700 million. More importantly, this program has moved DOD out of the inventory storage and distribution function for these supplies, emptying warehouses, eliminating unnecessary layers of inventory, and reducing the overall size of the DOD supply system. Also, DOD buys only the items that are currently needed because consumers can order and receive inventory within hours of the time the items are used.

Despite the success of its prime vendor program for medical supplies and, to a lesser extent, food items, DOD has made little progress in adopting best practices for hardware supplies, which account for 97 percent of the consumable items. DOD continues to manage hardware items using inefficient and outdated business practices, which have resulted in excessive inventory levels, poor customer service, and delays in the repair

¹In 1990, we began a special effort to review and report on the federal program areas we identified as high risk because of vulnerabilities to waste, fraud, abuse, and mismanagement. This effort, which was supported by the Senate Committee on Government Affairs and the House Committee on Government Reform and Oversight, brought a much needed focus on problems that were costing the government billions of dollars. We identified DOD's secondary inventory management as a high risk area at that time because of too high levels of unneeded inventory and inadequate systems for determining inventory requirements.

²Consumable items are items discarded after use rather than repaired.

of expensive military equipment. Although the private sector has developed solutions to these problems, DOD's efforts to adopt such practices are limited in scope and represent only a small part of its logistics operations.

Since 1991, we have issued a series of reports highlighting best practices we believe have direct application to DOD's operations.³ However, DOD has not applied these best practices to the majority of DOD consumable items, and inefficiencies in DOD's logistics systems remain. In this context, proposed legislative initiatives, if enacted, would encourage DOD to change its inventory management practices. Also, congressional oversight will continue to be a critical element as DOD establishes plans, goals, objectives, and milestones for addressing its inventory management processes.

We strongly support the need to improve DOD's business practices and further reduce the logistics infrastructure. Because of the potential impact improved business practices would have on DOD inventory levels, operating costs, and the repair of weapon systems and component parts, we believe DOD must be more aggressive in expanding the use of new management techniques for these items.

DOD Inventory Management Overview

The Defense Logistics Agency (DLA) is the primary manager of DOD's consumable items and acts as the custodian of military aircraft, ship, and vehicle parts. To perform these functions, DLA operates a massive logistics system that currently contains about 4 million items with a total inventory value of \$11.1 billion.⁴ To store and distribute DOD's secondary inventory, DLA has reported that it uses storage structures at 27 sites that provide 531 million cubic feet of storage space. According to DLA, it employed more than 30,000 people in its material management operations in 1996.

DLA's 1996 material management costs, excluding the management of fuels, were reported at about \$8.3 billion. Of that amount, approximately \$5.5 billion was spent to purchase consumable items and \$2.8 billion was spent to manage and distribute inventory. Also, DLA reported that it disposed of \$1.1 billion of excess consumable material in 1996.

³See Related GAO Products at the end of this testimony.

⁴The \$11.1 billion value of the inventory was estimated using the last acquisition cost of each item. In reporting the value to Congress, DOD reduced the amount to \$9.5 billion, because excess inventory was valued at salvage value (3.2 percent of the last acquisition cost).

DOD recognizes that it can no longer continue to operate a costly and inefficient logistics system. In addition, DOD needs to achieve significant savings in its support infrastructure to help increase funding for weapon system modernization and meet the goal of increasing procurement funding from about \$40 billion to over \$60 billion between fiscal year 1997 and 2002. DOD is relying on initiatives, such as outsourcing and privatization, acquisition reforms, organizational streamlining and consolidations, management process reengineering, base realignments and closures, personnel reductions, and inventory reductions to help produce savings in its support areas.

In this connection, the Secretary of Defense has established, as part of the Quadrennial Defense Review, a Defense Reform Task Force to review the Office of the Secretary of Defense, defense agencies, DOD field activities, and the military departments to look at ways DOD can consolidate functions, eliminate duplication of effort, and improve efficiency. The Task Force plans to consult with Congress and business executives who have streamlined their corporations in recent years. The Secretary has directed the Task Force to submit its findings and report by November 30, 1997.

Best Practices Have Reduced Private Sector Logistics Costs

We have identified several best practices that have been successfully used in the private sector to reduce inventory levels and logistics costs. In general, these practices provide inventory users with a capability to order supplies as they are needed and then delivering those items directly to the customer within hours after the order is placed. Ordering supplies only as they are needed, combined with quick logistics response times, enable companies to reduce or eliminate inventory levels, buy only the items that are currently needed, reduce or eliminate the possibility of inventory spoilage or obsolescence, and reduce overall supply system costs.

Since 1991, we have highlighted three best practices—prime vendor, local distribution centers/supplier parks, and integrated supplier—that reflect the new business philosophy in the management of consumable items (see table 1). These techniques resulted in significant savings for the companies that have used them to improve their inventory management systems. We recommended that DOD test these concepts and expand them, where feasible, to other defense facilities.

Table 1: Best Practices Recommended by GAO

Concept	Description
Prime vendor	A single vendor (prime vendor) buys inventory from a variety of suppliers and stores the inventory in its warehouse. This concept is characterized by a close partnership between the prime vendor and customer. The customer orders supplies from the prime vendor, using electronic ordering systems that, in some cases, are provided by the prime vendor. The prime vendor delivers inventory items to the customer within hours of receiving the order.
Local distribution centers/supplier parks	One or more suppliers locate a distribution center within close proximity to their customers. From this location, the supplier delivers items to the customer within 24 hours or less of receiving an order. The supplier is linked electronically with the customer. In some cases, the supplier can perform the receiving function for the customer in the local distribution center before the inventory leaves the facility.
Integrated supplier	An integrated supplier assumes almost total inventory management responsibilities for a customer. This is the most aggressive form of a supplier partnership where a supplier representative works in the customer's facility, ordering supplies as they are needed, and replenishing storage locations. Inventory is stored by the supplier in the supplier's warehouse until ordered and then delivered on a "just-in-time" basis. An integrated supplier can also perform quality inspections, maintain data on usage, test the quality of parts, prepare parts kits, establish electronic data interchange links and bar coding, and provide vendor selection management.

The companies that have adopted these best practices have significantly reduced their logistics costs. For example, as we reported in December 1991, Vanderbilt University Medical Center reduced inventory levels by \$1.7 million (38 percent) through the use of a prime vendor program. In 1993, we reported PPG Industries eliminated \$4.5 million (80 percent) in maintenance and repair supplies and saved approximately \$600,000 in annual operating costs by locating 10 suppliers' activities at a supplier park about 600 yards from the PPG facility. In 1996, we found that a leading distributor of aircraft supplies reported its integrated supplier program reduced one customer's inventory by \$7.4 million (84 percent), while filling 98 percent of the customer's orders within 24 hours.

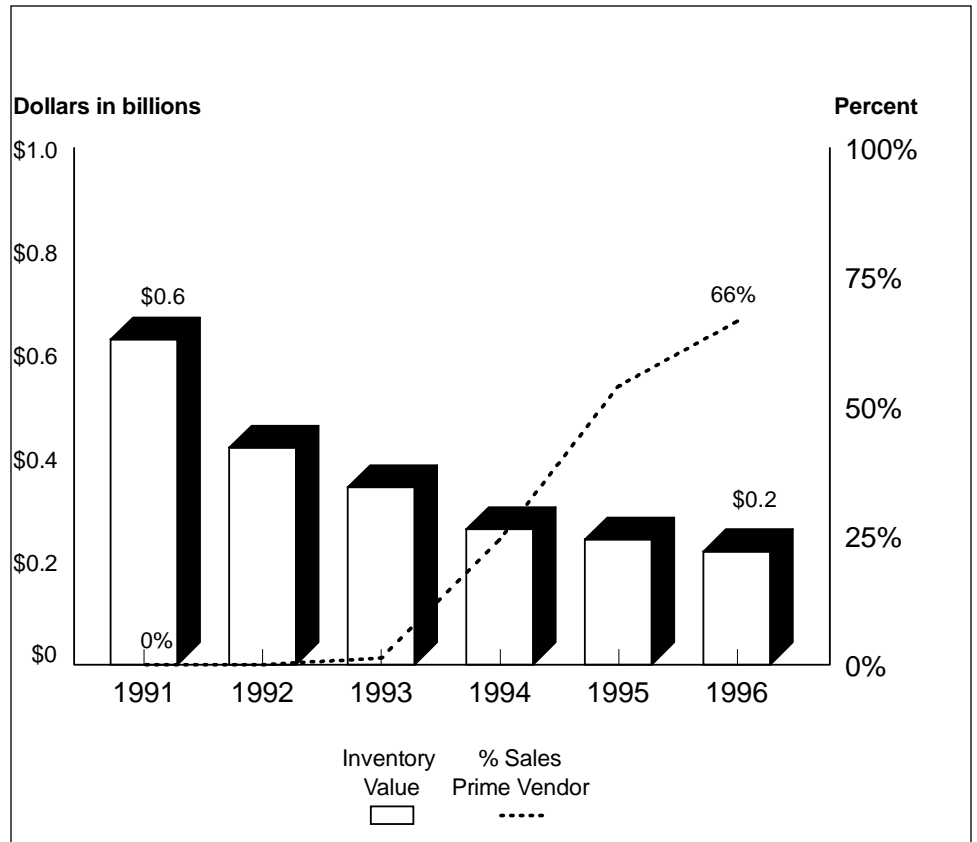
DOD Has Achieved Success With Medical and Food Prime Vendor Programs

Starting in 1993, DOD has successfully applied the prime vendor concept to its management of medical supplies. The prime vendor, which delivers the items to the DOD hospitals when ordered, has enabled DOD to reduce the need to store and distribute medical supplies. As a result, DOD has been able to reduce its inventory and supply system resource requirements.

DOD implemented this prime vendor program within a relatively short period of time. The overall implementation strategy was to test and evaluate the concept first in one geographic region (the National Capital Area), and expand the concept nationwide to 20 other geographic regions. DOD began first with pharmaceutical items, such as aspirin and antibiotics, then followed with medical supplies, such as syringes and surgical gloves. According to DLA, nationwide roll-out of the pharmaceutical and medical prime vendor programs took a total of 20 and 40 months, respectively. Presently, DLA reported that almost 200 DOD medical facilities use a prime vendor to meet most of their pharmaceutical and medical supplies needs.

As the prime vendor program was established nationwide, inventory levels began to decline, and warehouses once filled with these items were being emptied (see fig. 1). At one of DLA's primary storage depots for medical supplies, DLA estimated that storage space requirements dropped by about 40 percent over a 3-year period.

Figure 1: DOD Medical Inventory Levels and Prime Vendor Trends 1991-1996



In addition, as a result of the prime vendor program, logistics systems at DOD medical facilities were shrinking. Walter Reed Army Medical Center officials, for example, estimate the prime vendor program reduced inventory lines stocked by the Medical Center from 4,342 to 534, reduced inventory levels from \$17.4 million to \$1.8 million, reduced personnel levels from 72 to 36 full-time equivalents, and closed 6 out of 7 warehouses. Walter Reed officials estimate that they save approximately \$6 million each year as a result of the prime vendor program. Table 2 summarizes our estimate of savings that have accrued DOD-wide from 1991 to 1996 as a result of the medical prime vendor program and other related inventory reduction efforts.

Table 2: Estimated DOD Medical Inventory Savings

Dollars in millions	
Type of savings	Estimated amount
Inventory reductions	\$409.5
Holding cost reductions	118.9
Product cost reductions	154.0
Distribution cost reductions	31.3
Total	\$713.7

As table 2 illustrates, this estimate includes realized savings from reduced inventory levels and the associated holding and distribution costs and realized reduced product costs. For example, in 1995, DOD estimated that the amount paid by medical facilities for the top 16 prime vendor pharmaceutical items was \$37.7 million lower than 1993 prices.

The medical prime vendor program has also provided a quicker pipeline between the manufacturer and end users, which has moved the procurement decision closer to the time the items are actually used. Under the traditional military logistics system, hospital warehouses would wait an average of 20 days to receive supplies ordered from DLA warehouses. DLA would take an average of 90 days to order and receive items from manufacturers. The prime vendor can deliver supplies directly to the hospital within 1 day of receiving the order and can order and receive supplies from manufacturers within 7 days. Therefore, the process that used to take an average of 110 days has been reduced to 8 days.

Food and Clothing Prime Vendor Programs

As with medical supplies, DLA’s use of prime vendors for food has reduced DOD logistics costs and improved customer service. In 1994, DLA began testing the use of prime vendors to supply food to military dining facilities. By the end of fiscal year 1997, DLA plans to have prime vendors supporting all military dining halls in the continental United States.

Since fiscal year 1994, DLA has reduced peacetime food inventories by over 40 percent. In a demonstration test of the prime vendor concept in a four-state area (Florida, Georgia, South Carolina, and Alabama), DOD estimated that it saved \$16.8 million in food inventory reductions and related costs. Another location outside the test area using the prime vendor concept estimated that it saved about \$7 million. At one facility we visited, service officials were able to vacate two warehouses that previously were needed to store food items. Officials we spoke with were more satisfied with the delivery service provided by the prime vendor than

that provided by the traditional DOD supply system. For example, the prime vendor can deliver food to dining facilities within 1 to 2 days instead of 30 days under the DOD system. DLA is projecting that the potential savings associated with this program could be as much as \$1 billion over the next 5 years.

DLA's adoption of the prime vendor concept for clothing items is not as advanced as the medical and food prime vendor programs. In April 1994, we recommended that DOD test the prime vendor concept to improve management of high-usage uniform items. In March 1996, DOD began testing a prime vendor program at the Air Force recruit induction center located at Lackland Air Force Base. This test is expected to continue for 2 more years. Since 1993, based on DLA's records, clothing inventory has decreased 12 percent, from \$1.7 billion to \$1.5 billion. According to our analysis, this inventory could meet DOD's requirements for the next 1.5 years, based on demands received in 1996.

DOD Uses Inefficient and Ineffective Management Techniques for Hardware Items

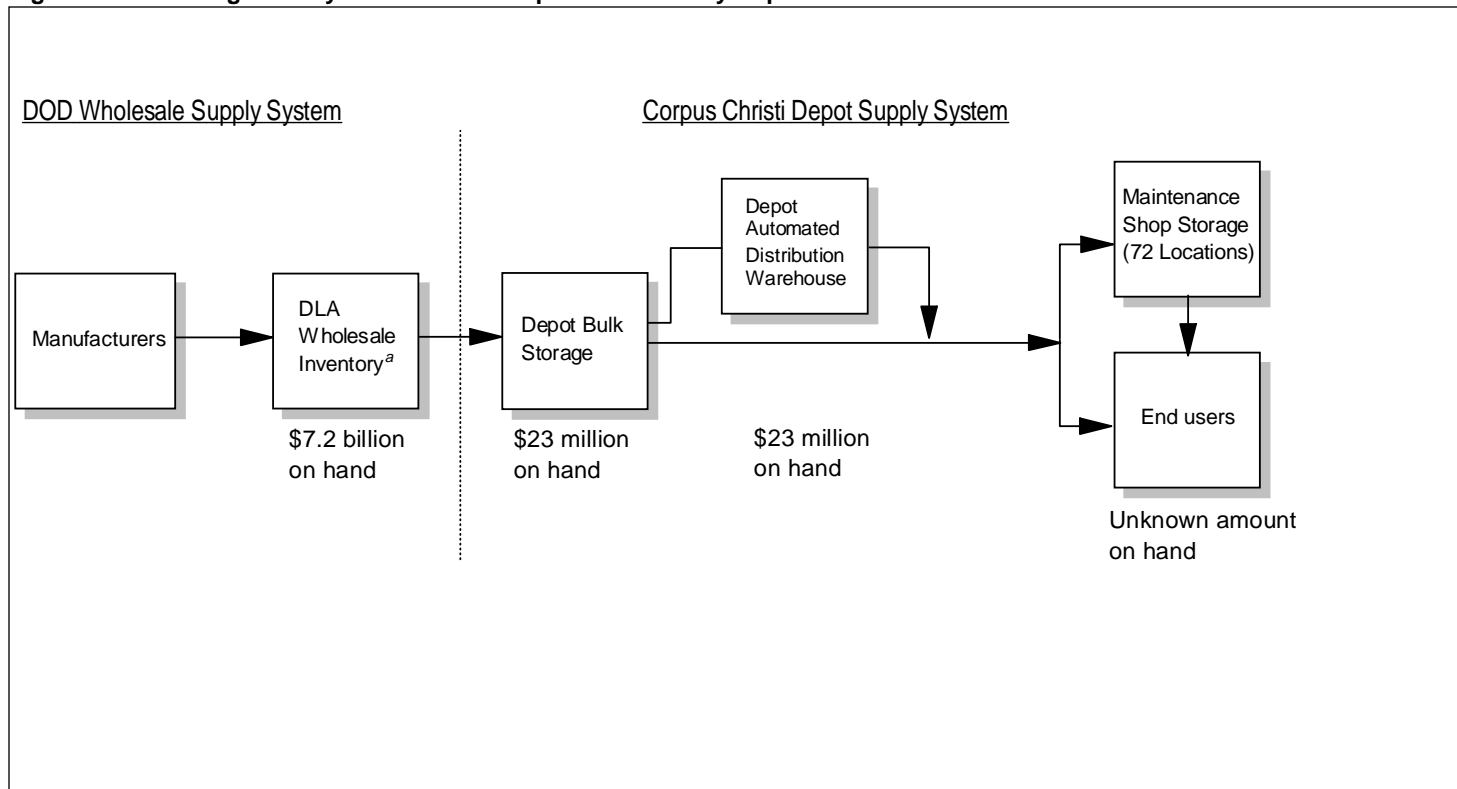
DOD's use of best practices is least advanced for hardware items (such as bearings, valves, and bolts), which represent 97 percent of DLA's inventory items. DOD continues to use outdated and inefficient business practices that require DOD to buy and store hardware items in DLA warehouses and base-level supply systems in an attempt to ensure that inventory will be available to customers. In some cases, DOD buys inventory years in advance of when the items are actually used. For example, based on our analysis of DOD records, over 60 percent of DOD hardware items, valued at \$2.7 billion, did not have a demand from September 1995 to August 1996. Despite this inventory investment, however, in many cases, hardware inventory is not available when needed by DOD customers. When hardware inventory is not available, the repair of costly weapon systems and components is delayed. Although DOD has taken steps to improve its logistics practices and reduce inventories, more aggressive steps could provide better customer service, enhance readiness, and reduce logistics costs.

During fiscal year 1996, DLA reported it purchased \$2.6 billion in hardware supplies and sold \$3.1 billion in supplies to the military services.⁵ When the services order hardware supplies from DLA, the supplies are sent from the DLA warehouses to the military services, which, according to DOD records, takes an average of 25 days. The services operate a base-level logistics

⁵DLA buys inventory using working capital funds. The services purchase inventory from DLA using operations and maintenance funds appropriated by the Congress.

system to deliver the inventory to the end user. This system usually requires that the inventory be stored in three separate locations—bulk storage warehouses, central distribution storerooms, and end-user locations. When DLA and service-owned inventories are combined, the total inventory levels could meet current DOD requirements, in some cases, for several years. Figure 2 is an illustration of the traditional multilayered logistics system, as highlighted in our April 1997 report on the Army’s logistics system, and shows the millions of dollars of hardware inventory that a service facility can hold.

Figure 2: DOD’s Logistics System Used at Corpus Christi Army Depot



^aDLA inventory is stored at multiple locations nationwide to support all DOD customers.

As of September 1996, DLA reported it stored \$7.2 billion worth of hardware items in distribution depots and warehouses. On the basis of inventory levels and past demands for items, we estimate that this inventory could satisfy DOD’s requirements, on average, for the next 2.3 years.

Despite DOD's large investment in inventory, the supply system frequently does not meet the needs of its customers. As of September 1996, DLA reported it had over 574,000 customer orders, valued at \$843 million, that it could not fill because it did not have the right stock on hand. Customers had been waiting on these parts for an average of over 3 months. Also, the base-level supply system frequently did not meet orders placed by mechanics and other customers. For example, according to Army records, the base warehouse at one Army depot did not fully meet customer orders 76 percent of the time during 1996. At four other locations we examined, base-level systems did not meet customer needs between 30 and 72 percent of the time.

When hardware supplies and other parts are not immediately available to mechanics, it delays the timely repair of weapon systems and their components. For example, the Navy calculates that the lack of parts increases the repair time for aviation parts by as much as 74 percent. As of January 1997, the Navy reported it had stopped repairing over 12,000 broken aircraft components, valued at \$516 million, because parts were not available to complete repairs. The Navy had packaged and moved the partially repaired items to a warehouse next to the repair facility. At the time of our review, these items had been in storage for an average of 230 days. Also, according to Air Force records, mechanics at one Air Force depot location had stopped repairs on 2,748 items, valued at \$193 million, because necessary parts were not available.

DOD Could Build on Efforts to Adopt Best Practices for Hardware Items

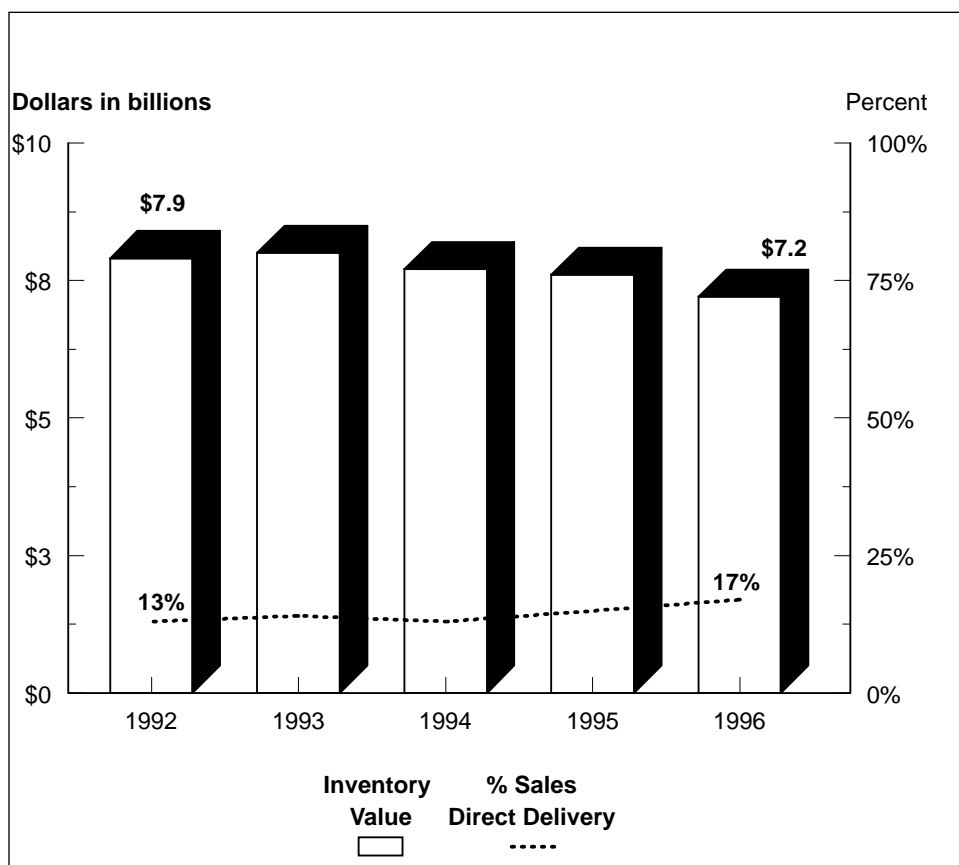
To its credit, DLA has tried new inventory practices for managing hardware items. However, the efforts are limited in scope and represent only a small part of its logistics operations. To attain the same level of success that DOD has achieved with the medical prime vendor program and to realize the dramatic inventory reductions and infrastructure savings we have seen in the private sector, we believe DOD should expand the prime vendor concept and fully use the services offered by prime vendor and integrated supplier programs.

DOD Should Move Beyond Direct Vendor Delivery Concepts

Since 1992, the use of a direct vendor delivery program has been one of DLA's main improvement initiatives. Under the direct vendor delivery initiative, DLA uses long-term contracts and electronic data systems to enable certain suppliers to deliver items directly to the military customers instead of having the items delivered to DLA warehouses. In fiscal year 1996, DLA reported that 17 percent of hardware inventory sales were

filled using the direct vendor delivery program. This percentage has not varied much since 1992. Figure 3 shows the direct delivery sales and inventory levels from fiscal year 1992 to 1996.

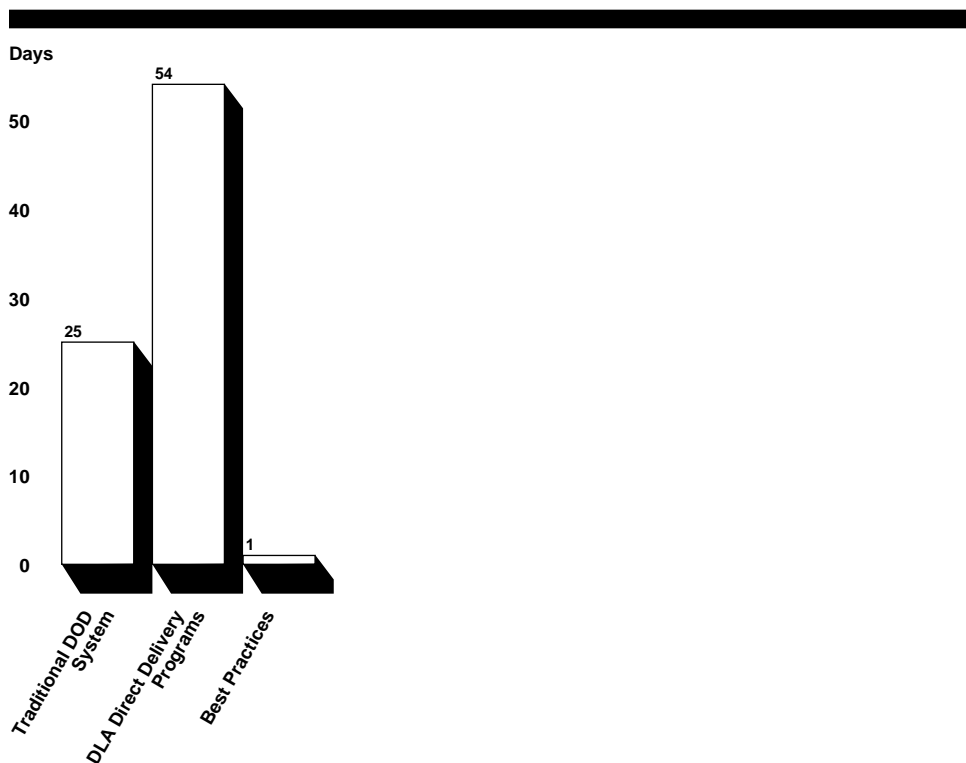
Figure 3: DOD Hardware Inventory Levels and Direct Delivery Trends 1992-1996



Although the direct delivery program eliminates the need to store and distribute inventory from DLA warehouses, lowering the cost to the DOD customer, it does not provide a quick response to customer orders. For example, according to DLA records, the cost recovery rate for some hardware items is reduced from 46.6 percent to 7.4 percent under the direct vendor delivery program. However, under the direct delivery program, it took an average of 54 days for customers to receive items ordered, or twice as long as the 25-day delivery average for items stocked in DLA warehouses. As shown in figure 4, both of these delivery times are

significantly longer than that achieved by prime vendors or integrated suppliers, which can often deliver parts within hours of receiving an order.

Figure 4: Delivery Time Comparison



DOD Has Applied a Limited Form of the Prime Vendor Concept to Hardware Items

In fiscal year 1997, DOD began using the prime vendor concept, called the virtual prime vendor program, for hardware supplies on a limited basis. One of the two testing areas was supply support of repair depot operations. In February 1997, DOD began using a prime vendor program to support the C-130 propeller repair shop at the Warner-Robins Air Logistics Center. By the end of fiscal year 1997, the Air Force, the Navy, and DLA plan to have prime vendor demonstration projects at three other repair facilities. We estimate these demonstration projects will account for about 2 percent of DLA's \$3.1 billion annual sales of hardware items.

Also in February 1997, DLA began using the prime vendor concept for facility maintenance supplies, such as plumbing, electrical, and lumber items. Under this concept, a prime vendor will serve a geographic region

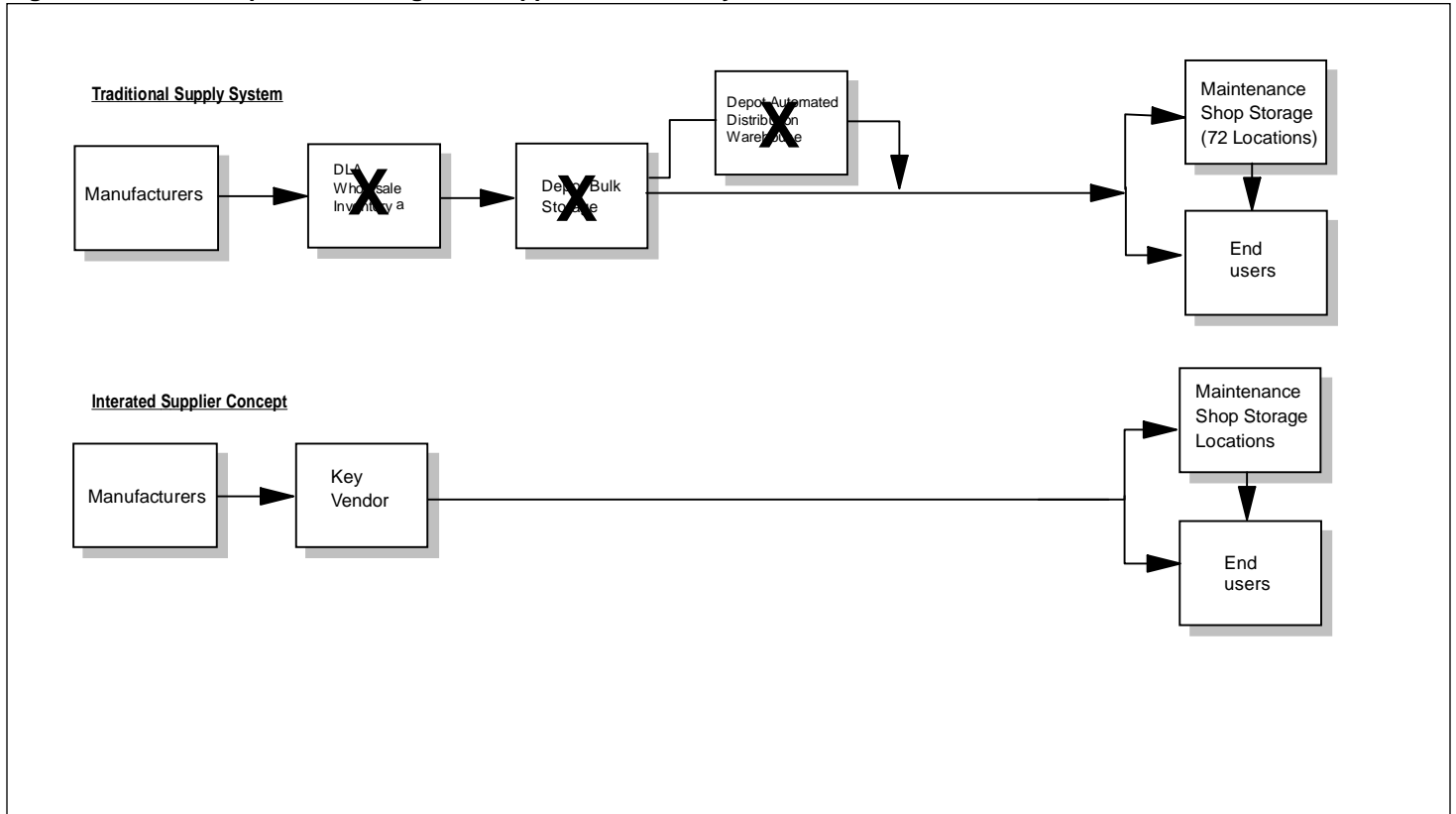
where all military facilities within the region can elect to order maintenance supplies from the vendor. In the first test region, four military facilities have elected to use the prime vendor, representing about \$8 million in annual sales. By the end of 1997, DLA plans to have a prime vendor under contract for 10 geographic regions.

The Under Secretary of Defense (Comptroller)/Chief Financial Officer endorsed these initiatives in June 1997 and asked the DLA Director, along with each of the military services, to develop a regional implementation blueprint for the facilities maintenance supplies prime vendor program. He asked that the blueprint identify the critical events and site designations for regional implementation within 12 months and nationwide availability by the middle of fiscal year 1999. This blueprint is critical to the success of this particular prime vendor program because it will demonstrate top management support and encourage military units to use the prime vendor services once they are established.

DOD Could Use Prime Vendor and Integrated Supplier Programs to a Greater Extent

DOD's prime vendor programs for hardware items are similar to the best practices we observed in the private sector. We believe, however, that DOD can build on this concept to achieve greater savings and improve service. For example, neither DLA's direct delivery nor prime vendor programs streamline the service's base-level logistics systems to the extent that we have seen in the private sector. DOD personnel still perform the function of ordering, receiving, storing, and distributing material to the end users. If DOD was more aggressive in its approach to streamlining its system and transferred these functions to a prime vendor or to an integrated supplier, it could achieve substantial reductions in resource requirements and improved service to its customers. For example, at Walter Reed, the prime vendor program resulted in a 50-percent reduction in full time equivalents associated with the supply system within the Medical Center. Figure 5 illustrates the potential impact an integrated supplier program could have on the traditional DOD supply system for hardware supplies.

Figure 5: Potential Impact of an Integrated Supplier on DOD's System



As the illustration shows, the integrated supplier concept could by-pass the DLA wholesale system and two of the three primary storage points in the base-level supply system. The integrated supplier would deliver inventory directly to either maintenance shop storage points or end-user locations. In the private sector, having the supplier deliver inventory directly to these locations has improved the availability of inventory and has actively involved the supplier as a “partner” in the customer’s operations. The supplier also becomes involved in testing parts for quality, monitoring part usage, and ordering supplies as they are needed.

Our discussions with DLA and Air Force officials indicated that the main reason that a more aggressive approach has not been adopted is that a cost comparison of the prime vendor and DOD systems may be required. A prime vendor program that would replace the base-level supply system (considered a commercial activity) and involve more than 10 government

personnel generally may not be contracted out without a cost comparison in accordance with Office of Management and Budget Circular A-76. According to the Air Force, the Warner-Robins Air Logistics Center has approximately 219 government personnel involved in supply operations. Air Force officials stated that, if these positions were eliminated through the prime vendor program, a cost comparison would first be required that may take 2 years to complete. We agree that A-76 could be a significant issue in implementing these programs. Our work has consistently shown, however, that outsourcing is cost-effective because competition generates savings—usually through a reduction in personnel—whether the competition is won by the government or the private sector.

Objectives of Recently Introduced Legislation Can Be Met Through the Use of Best Practices

Several legislative proposals have been introduced this year in Congress relating to inventory management and the adoption of best commercial practices. For example, the proposed Defense Reform Act of 1997 (H.R. 1778) was a legislative initiative introduced in June 1997 that related to defense personnel reforms, defense business practice reforms, and additional miscellaneous defense reforms. We generally agreed with many of the aims of this particular legislation. Pertinent provisions of H.R. 1778 were incorporated into the recently passed House version of the proposed National Defense Authorization Act of 1998 (H.R. 1119). We believe that two specific sections of H.R. 1119—one dealing with a reduction to the acquisition work force and another with a reduction in overhead costs of inventory control points—can be addressed by DOD to a certain degree by adopting best practices.

Section 1302 of H.R. 1119 would require DOD to reduce its acquisition work force by 42 percent by October 1, 2001. If DOD were to aggressively pursue best practices in the form of an integrated supplier concept for consumable items, DOD could reduce its work force involved in procurement, storage, and distribution of consumable items. For example, the prime vendor program at Walter Reed resulted in a 50-percent reduction in full time equivalents associated with the medical supply system.

Section 1421 of H.R. 1119 would require DOD inventory control points to reduce their overhead costs to 8 percent of net sales by the end of fiscal year 2000. This goal is a very aggressive goal, considering that the current cost recovery rate (the rate applied to the cost of goods to recover overhead costs) for some DOD hardware items is as high as 41.4 percent. However, DOD has accomplished the goal for medical supplies through the

use of the prime vendor program in that DLA reduced the rate for medical supplies from 21.7 in fiscal year 1992 to 7.9 percent in fiscal year 1997.

We also support several requirements of the recently passed Senate version of the proposed National Defense Authorization Act of 1998 (S.936) that relate to the application of best business practices at depot-level activities and the expansion of best inventory management practices of DLA commodities. For example, section 312, which deals with the designation of depot-level activities as “Centers of Industrial and Technical Excellence,” contains provisions requiring DOD to establish a policy to encourage the military services and defense agencies to reengineer their processes and adopt best business practices in connection with their core competency requirements. The section also allows the services to conduct pilot programs to test practices they believe will contribute to the efficiency and effectiveness of depot-level operations, improve support to the military users of such activities, and enhance readiness by reducing the time it takes to repair equipment.

Section 366 of the act deals with the implementation of best inventory practices for DLA-managed supplies and equipment. This section requires the DLA Director to develop and submit to Congress, not later than 180 days after enactment of the act, a schedule for implementing practices that the Director defines as the best commercial inventory practices applicable to the acquisition and distribution of medical supplies, food and subsistence, clothing and textiles, commercially available electronics, construction supplies, and industrial supplies. The act requires that the schedule for completing implementation of such practices be completed not later than 3 years after the date of enactment.

Summary

In closing, we have identified the specific practices that warrants DOD’s consideration and recommended that DOD test best practice concepts and expand the most successful ones to its logistics operations, where applicable. However, DOD has not applied these best practices to the majority of DOD consumable items, and inefficiencies in DOD’s logistics systems remain. In this regard, proposed legislative initiatives, if enacted, would help encourage DOD to change its inventory management practices. In addition, congressional oversight will continue to be a critical element as DOD establishes plans, goals, objectives, and milestones for addressing its inventory management processes.

Mr. Chairman, this concludes our statement. We would be happy to answer any questions you or the members of the Subcommittee may have.

Related GAO Products

Inventory Management: The Army Could Reduce Logistics Costs for Aviation Parts by Adopting Best Practices ([GAO/NSIAD-97-82](#), Apr. 15, 1997).

Defense Inventory Management: Problems, Progress, and Additional Actions Needed ([GAO/T-NSIAD-97-109](#) Mar. 20, 1997).

Defense Logistics: Much of the Inventory Exceeds Current Needs ([GAO/NSIAD-97-71](#), Feb. 28, 1997).

High-Risk Series: Defense Inventory Management ([GAO/HR-97-5](#), Feb. 1997).

Defense Inventory: Spare and Repair Parts Inventory Costs Can Be Reduced ([GAO/NSIAD-97-47](#), Jan. 17, 1997).

Logistics Planning: Opportunities for Enhancing DOD's Logistics Strategic Plan ([GAO/NSIAD-97-28](#), Dec. 18, 1996).

1997 DOD Budget: Potential Reductions to Operation and Maintenance Program ([GAO/NSIAD-96-220](#), Sept. 18, 1996).

Defense IRM: Critical Risks Facing New Materiel Management Strategy ([GAO/AIMD-96-109](#), Sept. 6, 1996).

Navy Financial Management: Improved Management of Operating Materials and Supplies Could Yield Significant Savings ([GAO/AIMD-96-94](#), Aug. 16, 1996).

Inventory Management: Adopting Best Practices Could Enhance Navy Efforts to Achieve Efficiencies and Savings ([GAO/NSIAD-96-156](#), July 12, 1996).

Defense Logistics: Requirement Determinations for Aviation Spare Parts Need to Be Improved ([GAO/NSIAD-96-70](#), Mar. 19, 1996).

Best Management Practices: Reengineering the Air Force's Logistics System Can Yield Substantial Savings ([GAO/NSIAD-96-5](#), Feb. 21, 1996).

Inventory Management: DOD Can Build on Progress in Using Best Practices to Achieve Substantial Savings ([GAO/NSIAD-95-142](#), Aug. 4, 1995).

Defense Inventory: Opportunities to Reduce Warehouse Space ([GAO/NSIAD-95-64](#), May 24, 1995).

Related GAO Products

Best Practices Methodology: A New Approach for Improving Government Operations ([GAO/NSIAD-95-154](#), May 1995).

Defense Business Operations Fund: Management Issues Challenge Fund Implementation ([GAO/NSIAD-95-79](#), Mar. 1, 1995).

Defense Supply: Inventories Contain Nonessential and Excessive Insurance Stocks ([GAO/NSIAD-95-1](#), Jan. 20, 1995).

Defense Supply: Acquisition Leadtime Requirements Can Be Significantly Reduced ([GAO/NSIAD-95-2](#), Dec. 20, 1994).

Reengineering Organizations: Results of a GAO Symposium ([GAO/NSIAD-95-34](#), Dec. 13, 1994).

Commercial Practices: Opportunities Exist to Enhance DOD's Sales of Surplus Aircraft Parts ([GAO/NSIAD-94-189](#), Sept. 23, 1994).

Organizational Culture: Use of Training to Help Change DOD Inventory Management Culture ([GAO/NSIAD-94-193](#), Aug. 30, 1994).

Partnerships: Customer-Supplier Relationships Can Be Improved Through Partnering ([GAO/NSIAD-94-173](#), July 19, 1994).

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Commercial Practices: Leading-Edge Practices Can Help DOD Better Manage Clothing and Textile Stocks ([GAO/NSIAD-94-64](#), Apr. 13, 1994).

Defense Transportation: Commercial Practices Offer Improvement Opportunities ([GAO/NSIAD-94-26](#), Nov. 26, 1993).

Defense Inventory: Applying Commercial Purchasing Practices Should Help Reduce Supply Costs ([GAO/NSIAD-93-112](#), Aug. 6, 1993).

Commercial Practices: DOD Could Save Millions by Reducing Maintenance and Repair Inventories ([GAO/NSIAD-93-155](#), June 7, 1993).

DOD Food Inventory: Using Private Sector Practices Can Reduce Costs and Eliminate Problems ([GAO/NSIAD-93-110](#), June 4, 1993).

Related GAO Products

Organizational Culture: Techniques Companies Use to Perpetuate or Change Beliefs and Values ([GAO/NSIAD-92-105](#), Feb. 27, 1992).

DOD Medical Inventory: Reductions Can Be Made Through the Use of Commercial Practices ([GAO/NSIAD-92-58](#), Dec. 5, 1991).

Commercial Practices: Opportunities Exist to Reduce Aircraft Engine Support Costs ([GAO/NSIAD-91-240](#), June 28, 1991).

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