

GAO

Report to the Ranking Minority Member,
Subcommittee on Oversight of
Government Management and the
District of Columbia, Committee on
Governmental Affairs, U.S. Senate

August 1995

INVENTORY MANAGEMENT

DOD Can Build on Progress in Using Best Practices to Achieve Substantial Savings





United States
General Accounting Office
Washington, D.C. 20548

**National Security and
International Affairs Division**

B-261155

August 4, 1995

The Honorable Carl Levin
Ranking Minority Member,
Subcommittee on Oversight of
Government Management and the
District of Columbia
Committee on Governmental Affairs
United States Senate

Dear Senator Levin:

This report was prepared in response to your request that we continue to compare commercial logistics practices with similar Department of Defense (DOD) operations. It summarizes DOD's progress in adopting the practices recommended in our prior reports in which we compared DOD's logistics practices with those of the private sector. These practices were discussed in five reports that identified ways that DOD could incorporate modern logistics practices to better manage its \$22 billion inventory of consumable items such as medical, food, clothing, and hardware supplies. This report addresses (1) the extent to which DOD has adopted the specific practices we recommended for consumable items, (2) the savings and benefits being achieved through the use of these practices, and (3) DOD's overall progress in improving consumable item management.

We are sending copies of this report to appropriate congressional committees; the Secretaries of Defense, the Air Force, the Army, and the Navy; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

If you have any questions, please call me on (202) 512-8412. Major contributors are listed in appendix II.

Sincerely yours,

A handwritten signature in black ink that reads "David R. Warren". The signature is fluid and cursive, with a long horizontal stroke at the end.

David R. Warren
Director, Defense Management and
NASA Issues

Executive Summary

Purpose

In December 1993, the former Chairman (now ranking minority member), Subcommittee on Oversight of Government Management and the District of Columbia, Senate Committee on Governmental Affairs, asked GAO to review the Department of Defense's (DOD) efforts to adopt best inventory management practices, specifically those practices highlighted in past GAO reports on that subject. These practices were discussed in five reports that have identified ways that DOD could incorporate modern logistics practices to better manage its \$22 billion inventory of consumable items such as food, clothing, and industrial supplies. As of September 30, 1994, consumable items accounted for only 29 percent of DOD's \$74 billion secondary inventory value, but for 88 percent of the total items. This report addresses (1) the extent to which DOD has adopted the specific practices GAO recommended for consumable items, (2) the savings and benefits being achieved through the use of these practices, and (3) DOD's overall progress in improving consumable item management.

Background

DOD operates a worldwide logistics system to buy, store, and distribute inventory items. Through this system, DOD manages over 4 million types of consumable items, of which 3.6 million are managed by the Defense Logistics Agency (DLA). Traditionally, DLA buys consumable items (such as food, clothing, and hardware supplies) in large quantities, stores them in wholesale distribution depots until they are requested by the military services, and then ships them to the appropriate service facility where the items are used. To accomplish this role, DLA uses over 1,400 warehouses at 27 distribution depots and other storage locations. The depots held DLA consumable inventory valued at \$10.2 billion as of June 1994. Like DOD, the private sector uses similar consumable supplies in its day-to-day operations. Faced with increasing costs associated with acquiring supplies and increasing competitive pressure, some private sector companies have developed new inventory management practices to eliminate the need to buy, store, and distribute large quantities of supplies. For this reason, GAO has focused this report on the consumable items managed and distributed to the services by DLA.

Results in Brief

While DLA has taken steps to improve its logistics practices and reduce consumable inventories, it could do more to achieve substantial savings. DLA can make the most improvements with hardware items because it continues to store large amounts of items, such as bolts, valves, and fuses, that cost millions of dollars to manage and store. DLA inventories of hardware items existing in 1992 are expected to decrease only 20 percent

by 1997. Even then, hardware inventories could last for more than 2 years. In contrast, private sector companies, such as PPG Industries and Bethlehem Steel, have reduced similar inventories by as much as 80 percent and saved millions in associated costs by using “supplier parks” and other techniques that give established commercial distribution networks the responsibility to manage, store, and distribute inventory on a frequent and regular basis directly to end-users. To date, DLA has not tested the most innovative commercial practices GAO has seen used by companies to reduce inventories and costs. If DLA were able to adopt these practices, hardware inventories and related management costs could be significantly reduced.

DLA’s use of best inventory practices is best exemplified for personnel (medical, food, and clothing) items. Since 1993, DLA has taken steps that use prime vendors to supply personnel items directly to military facilities. By 1997, with the expanded use of prime vendors and by eliminating obsolete and unnecessary items, DLA expects to reduce personnel item inventories 53 percent from 1992 levels. DLA’s most successful program to date uses prime vendors at approximately 150 military medical facilities, which has reduced overall wholesale pharmaceutical inventories by \$48.6 million and has achieved inventory reductions and cost savings at medical facilities. However, DOD has not achieved the same level of reductions as some civilian hospitals. DOD hospitals still hold more layers and larger inventories to meet patient needs than those civilian hospitals that have reduced inventories through effective partnering arrangements with prime vendors. For example, one civilian hospital established a close partnership with its prime vendors who deliver supplies in very small quantities directly to the end-users within hours of its need. This partnership with the prime vendor allowed the hospital to reduce inventories to only a minimal level while still providing quality patient care at lower costs. If DOD took similar steps with its prime vendor program and consistently applied it within each service, the current savings could be significantly increased.

Principal Findings

Opportunities for Improvements

GAO previously reported that DOD's large inventory levels reflected the management practice of buying and storing supplies at both wholesale and retail locations to ensure they were available to customers—sometimes years in advance of when they were actually needed. DOD often stored inventories in as many as four different layers between suppliers and end-users, which resulted in inventory that turned over slowly, producing large amounts of obsolete and excess items. As of September 1992, DLA stored \$11 billion worth of consumable items in distribution depots and warehouses located throughout the United States. Distribution depots are DOD facilities with several large warehouses that store a variety of supplies until they are requisitioned by the military services. GAO estimated, on the basis of past demand, that this inventory could last DOD for an average of 2 years or more. The military services hold three different layers of inventory near the locations where the items are used: base warehouses, central storerooms, and end-user locations. Service facilities GAO visited had retail stock on hand ranging from 1 month to over 5 years of supply.

The private sector provided a sharp contrast to DOD's methods of managing and distributing consumable items. GAO found that some private sector companies avoided inventory management problems by using modern business practices that shift responsibilities for storing and managing inventory to suppliers. In fact, some companies no longer stored inventory in intermediate locations at all; their suppliers deliver inventory to them only when they need it. Some companies achieved large savings for personnel items by standardizing items being used, eliminating bulk storage locations, and most importantly, relying on prime vendors to deliver small quantities when and where needed. For hardware items, these practices included having suppliers located at a supplier park near industrial centers, which allowed for the supplies to be delivered directly to the end-users on a frequent and regular basis. In past reports, GAO recommended DOD test the use of prime vendors and supplier parks to streamline its logistics operations.

DOD Is Taking Steps to Adopt Best Inventory Practices

DLA's efforts to adopt private sector inventory practices are most advanced for personnel (medical, food, and clothing and textile) items. At present, DLA is in various stages of establishing prime vendor programs for the personnel items it manages. DLA's most successful program to date uses

prime vendors in 21 geographic regions nationwide to buy, store, and distribute medical inventory to approximately 150 military hospitals and clinics. Since 1993, DLA, by using prime vendor programs, has reduced overall wholesale pharmaceutical inventories by \$48.6 million and has achieved savings at DOD medical facilities. The Army, for example, reduced inventories at the Walter Reed Medical Center by \$3.8 million, and it saves over \$6 million, on an annual recurring basis, in related costs by using the prime vendor system. By using prime vendor concepts and eliminating obsolete and unnecessary items, DLA expects to reduce inventories of personnel items from \$3 billion in 1992 to \$1.4 billion in 1997, or 53 percent of its on-hand inventory. As of June 1994, DLA's personnel item inventories were valued at \$2.3 billion.

Although DLA has initiated several programs to adopt commercial practices for hardware items, DLA's overall progress is slow and results are limited. The central focus of DLA's efforts has been to expand the use of wholesale-level direct delivery programs. However, such programs do not eliminate unnecessary layers of inventory management and storage and do not provide the quick response achieved through innovative concepts such as supplier parks. As a result, DLA estimates hardware inventory levels of \$8 billion in 1992 will decrease to only \$6.4 billion, or approximately 20 percent, by 1997. Even then, this 1997 inventory level will be unnecessarily large and could last, on average, between 795 days and 1,381 days based on DLA's projected demands. In comparison, private sector firms that supply similar types of items often hold only 90 days of supply to meet their customers needs.

In September 1994, DLA contracted for a study of the feasibility of using supplier parks at three maintenance and repair facilities. In December 1994, the contractor reported that the concept of a supplier park was feasible and strongly recommended that DLA give serious consideration to using this concept at these facilities. According to DLA, it plans to continue studying the feasibility of using this concept.

More Aggressive Actions Could Further Reduce Inventories

DLA's prime vendor programs for personnel items provide a basis for inventory reductions and cost savings, but DOD has not optimized these programs by adopting the most aggressive practices being used in industry. Because each service has used the medical prime vendor program differently, and some continue to retain unnecessary inventory layers, DOD has not realized the same improvements that civilian hospitals have achieved. For example, DOD hospitals GAO visited still held inventories

that could last the hospitals an average of 42 to 82 days. In comparison, one civilian hospital GAO visited, the Vanderbilt University Medical Center, reduced or eliminated unnecessary inventory layers and decreased hospital inventory levels to a 2- to 15-day supply by establishing a close partnership with its prime vendors. By establishing this partnership, Vanderbilt arranged with the prime vendors to have supplies delivered several times a day, in many cases, directly to the point of use within the medical center. If DOD medical facilities were to consistently and aggressively apply the prime vendor program enhancing partnerships between DOD medical facilities and the prime vendors, they could further reduce their hospital inventories, in some cases, by as much as 75 percent.

Because DLA's adoption of best inventory management practices is least advanced for hardware items, which represent 77 percent of DLA's total inventory investment, it provides them the greatest source for inventory reductions and cost savings. Private sector organizations GAO visited have reduced their hardware inventories by as much as 80 percent using aggressive inventory management techniques, such as supplier parks. Although GAO recommended DOD test the supplier park concept in its June 1993 report on maintenance and repair supplies, DOD is still studying the feasibility of the concept.

Recommendations

To ensure that the medical prime vendor programs are more consistently and aggressively applied, GAO recommends that the Secretary of Defense direct the Secretaries of each of the military services to use the prime vendor program in enhancing the partnership between the DOD medical facilities and the prime vendors. Actions that would enhance such an arrangement include

- delivering supplies directly to the point of use in the hospital,
- integrating the vendor into the day-to-day supply operations,
- delivering supplies on a frequent basis (several times a day), and
- using the vendor's expertise to improve inventory management operations.

These actions could further reduce inventory layers in the DOD system and bring military medical facilities closer to the levels of success achieved by progressive private sector hospitals.

To encourage DLA and the services to establish supplier parks for hardware items, GAO recommends that the Secretary of Defense direct the secretaries of each of the military services and the Director of DLA to

initiate several actions that have been taken by private sector companies when developing these concepts. Specifically, each service and DLA should work together to

- identify an Army, Navy, and Air Force site that will test the supplier park concept;
- identify specific items with high usage rates and low unit costs to use in a test program;
- negotiate with prospective suppliers to perform these inventory management functions during the test program;
- establish partnerships with the suppliers allowing them access to DOD inventory information and facilities, which will enable the suppliers to deliver items directly to the end-user;
- develop evaluation criteria that will measure the total costs of inventory delivered under the test program in order to compare costs and benefits to the total cost being incurred under the current system; and
- establish aggressive milestones for the initial phases of this test program to achieve early results.

Agency Comments

In commenting on a draft of this report, DOD generally agreed with the findings, conclusions, and recommendations and stated that, while significant gains have occurred, further progress can be made in adopting best commercial practices in providing both personnel and hardware items to the military services. DOD also stated that additional steps are underway, specifically in regard to the application of the supplier park approach to hardware items.

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Abbreviations

DLA	Defense Logistics Agency
DOD	Department of Defense
OSD	Office of the Secretary of Defense

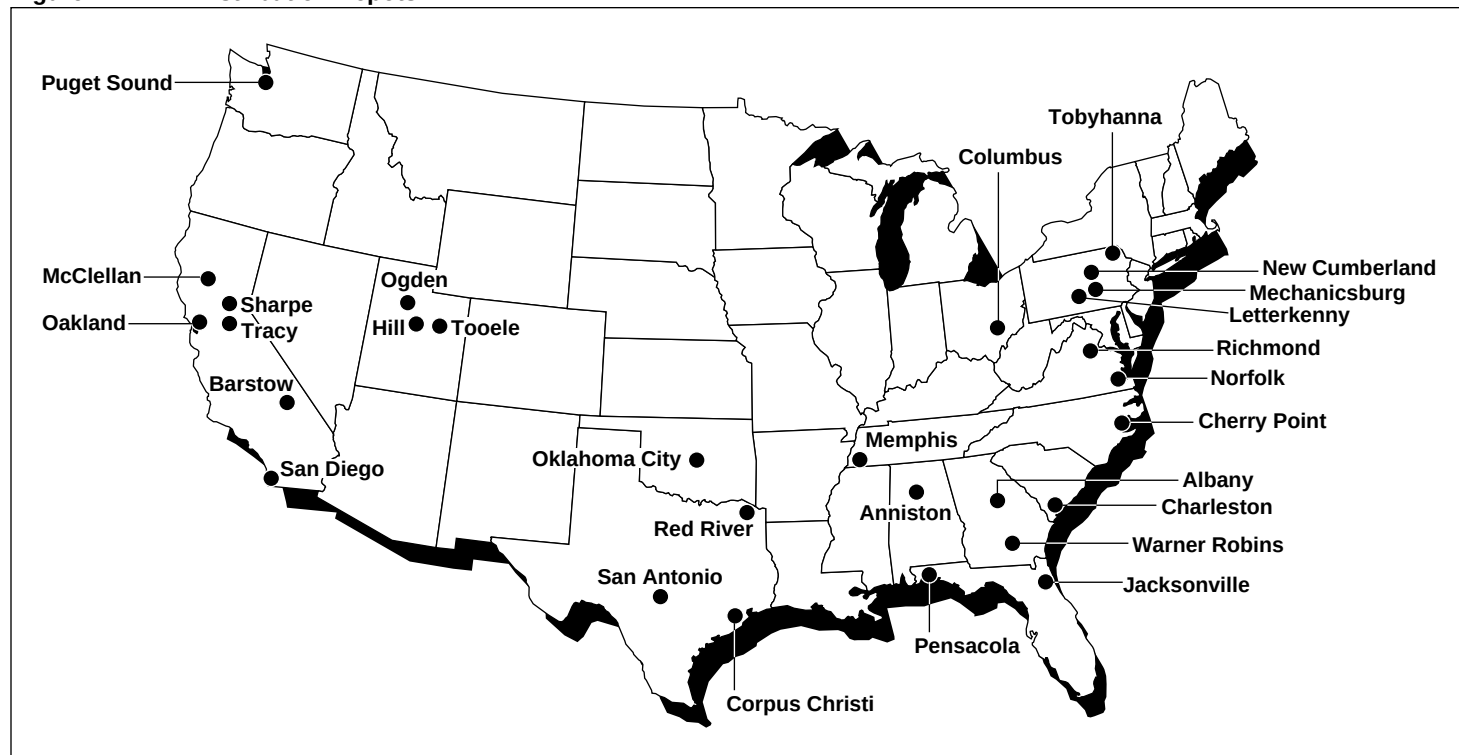
Introduction

The Department of Defense (DOD) operates a worldwide logistics system to buy, store, and distribute inventory items. Traditionally, the Defense Logistics Agency (DLA) buys and stores consumable items (such as food, clothing, and hardware supplies) in large quantities until they are needed by the military services. Faced with increasing costs associated with acquiring supplies, and increasing competitive pressures, some private sector companies have developed new inventory management practices to reduce inventories and operating costs. Over the past 5 years, we have compared DOD's inventory practices for these items to the practices of a number of progressive private sector firms with similar operations.

DOD's Traditional Logistics System

The Secretary of Defense created DLA in 1962 to be the wholesale manager of "consumable supplies" commonly used by the military services, other DOD components, and federal agencies. Consumable supplies are items discarded after use rather than repaired. Through its wholesale system, DLA manages 3.6 million of DOD's 4.4 million consumable items. For about 30 years, DLA has generally bought items in large quantities, stored the items until the services requested them, and then shipped them to the services' retail facilities. To receive, store, and issue these items and other inventories to the military services and other DOD organizations throughout the world, DLA maintains over 1,400 warehouses at 27 distribution depots, which are DOD facilities with several large warehouses that store a variety of supplies, and also uses other storage locations. The locations of the 27 distribution depots are shown in figure 1.1.

Figure 1.1: DLA Distribution Depots

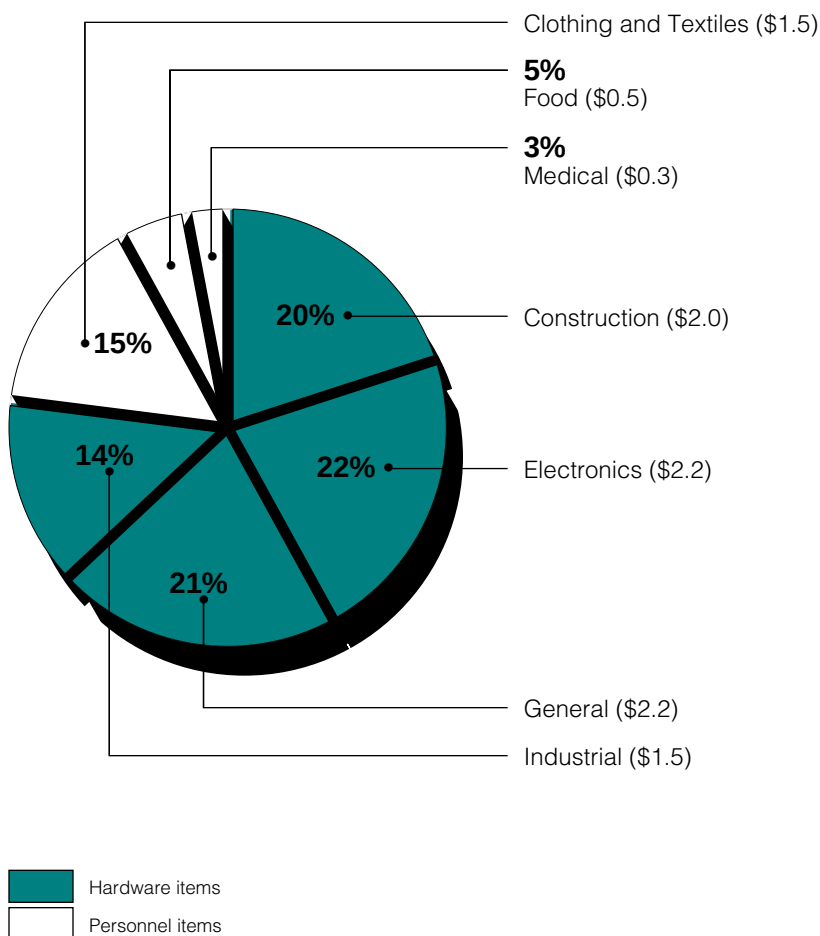


Note: Four of these depots (Charleston, Pensacola, Oakland, and Tooele) have been designated for closure under the Base Closure and Realignment Act for 1993. The total of 27 depots includes counting Tracy and Sharpe as one depot (San Joaquin) and New Cumberland and Mechanicsburg as one depot (Susquehanna). This figure does not reflect decisions made under the Base Closure and Realignment Act for 1995.

Source: DLA.

Consumable items are classified as hardware (construction, electronics, general, and industrial) and personnel (clothing, food, and medical) items. As of June 1994, hardware items accounted for 77 percent of DLA's wholesale inventory, and personnel items accounted for 23 percent (see fig. 1.2). DLA reported that its June 1994 inventory of consumable items was about \$10.2 billion.

Figure 1.2: DLA's Consumable Item Inventory as of June 30, 1994 (dollars in billions)



During fiscal year 1994, DLA sold \$5.6 billion of consumable items to the services and other federal agencies. The services use large amounts of these items in their peacetime operations. For example, the services operate about 25 industrial centers where large amounts of maintenance and repair supplies are used for regularly scheduled maintenance of equipment and weapon systems. The services operate 14 recruit induction centers and over 300 military exchange stores that issue clothing items to military personnel. In addition, large quantities of medical supplies and food are consumed annually at U.S. military hospitals and troop dining halls. The services at the retail facilities usually store these items at

different locations until they are needed by service personnel, who are the ultimate end-users.

Private Sector Initiatives

Like DOD, private sector companies use similar consumable supplies in their day-to-day operations. In addition, both DOD and the private sector have a common requirement to control costs while meeting customer needs. During the 1980s, competition and increasing inventory costs forced many private sector companies to assess inventory management practices and to adopt new methods that reduced inventories and associated operating costs. Recognizing that inventories can be reduced without affecting supply availability, private sector companies began to change the way they buy, store, and distribute large quantities of supplies. The private sector has tried new techniques on consumable items because these items are generally standard and low unit cost, are commonly stocked by several suppliers, and are used in large quantities.

Many private sector facilities are analogous to the services' facilities in DOD's supply system. To identify ways for DOD to reduce inventory costs, while maintaining quality service, over the past 5 years we have compared DOD's logistics practices involving DLA-managed consumable items with those of companies that have adopted best practices for their logistics operations. Best practices are often defined as implementation of the most efficient means of inventory management to improve cost savings for the organization and enhance levels of service for the customer.

Objectives, Scope, and Methodology

On December 3, 1993, the former Chairman (now ranking minority member), Subcommittee on Oversight of Government Management and the District of Columbia, Senate Committee on Governmental Affairs, asked us to review DOD's efforts to adopt best practices for consumable items managed and distributed by DLA. Specifically, the former Chairman asked us to address DOD's progress in adopting the practices recommended in our prior five reports in which we compared DOD's logistics practices with those of the private sector. This report summarizes our past reviews and addresses (1) the extent to which DOD has adopted the specific practices we recommended, (2) the savings and benefits being achieved through the use of these practices, and (3) DOD's overall progress in improving consumable item management.

To obtain information on DOD's logistics practices, policies, and procedures, we contacted officials from the following organizations:

- Office of the Deputy Under Secretary of Defense, Logistics, Washington, D.C.;
- Office of the Assistant Secretary of Defense, Health Affairs, Washington, D.C.;
- Headquarters, Defense Logistics Agency, Alexandria, Virginia;
- Defense Construction Supply Center, Columbus, Ohio;
- Defense Industrial Supply Center, Philadelphia, Pennsylvania;
- Defense Personnel Supply Center, Philadelphia, Pennsylvania;
- Defense Electronics Supply Center, Dayton, Ohio; and
- Defense Distribution Depot Susquehanna, Pennsylvania.

Our discussions focused on (1) the inventory management practices that DOD is using for consumable items; (2) commercial practices, programs, and tests underway or planned to improve DOD operations and reduce costs; and (3) DOD officials' positions on the use of best practices as alternatives to traditional DOD inventory practices. We reviewed and analyzed detailed information on past, present, and future annual usage amounts; inventory levels; and other related inventory factors, such as calculations of days of supply on hand. Days of supply is a measure of how efficiently a business manages its inventory investment and is calculated by dividing the aggregate inventory by the sales per day at cost.

To determine the nature and extent of DOD's progress in adopting best practices, we visited the following military organizations:

- Walter Reed Army Medical Center, Washington, D.C.;
- Kenner Army Community Hospital, Fort Lee, Virginia;
- Blanchfield Army Community Hospital, Fort Campbell, Kentucky;
- Malcolm Grow Air Force Medical Center, Andrews Air Force Base, Maryland;
- Langley Air Force Hospital, Langley Air Force Base, Virginia;
- Portsmouth Naval Hospital, Portsmouth, Virginia;
- Director of Logistics, Fort Lee, Virginia; and
- Air Force Services, Langley Air Force Base, Virginia.

These organizations are involved in initiatives that are to improve DOD's logistics operations. At these locations, we discussed with logistics personnel and medical and food service end-users the results of the initiatives and the impacts on supply operations and customer satisfaction. We also discussed with private sector companies that act as prime vendors to these organizations the initiatives, the impact on their operations, and the feasibility of adopting these programs to encompass a greater part of

DOD's operations. These companies included (1) McKesson Drug Company, Landover, Maryland; (2) Owens & Minor Corporation, Savage, Maryland; (3) Bergen Brunswig Corporation, Norfolk, Virginia; and (4) Sandler Foods, Virginia Beach, Virginia. In addition, we visited the Vanderbilt University Medical Center, Nashville, Tennessee—highlighted in our 1991 report because of its leadership in hospital logistics management—to discuss the steps it has taken to improve its logistics operations since 1991 and any planned changes to adopt new and best inventory management practices.

We conducted our review from January 1994 to December 1994 in accordance with generally accepted government auditing standards.

Best Practices Can Reduce Inventory Management Costs and Provide Quality Service

We previously reported that DOD's large inventory levels reflect DOD's management practice of buying and storing supplies at both wholesale and retail locations to ensure they are available to customers—sometimes years in advance of when actually needed. Storing inventory at many different locations results in inventory that often turns over slowly, thereby producing large amounts of old, obsolete, and excess items. In the private sector, many companies avoid these types of problems by using inventory practices that shift responsibilities for storing and managing inventory to suppliers. In fact, companies that are using the most aggressive practices no longer store inventory in intermediate locations at all; their suppliers deliver inventory only when needed. As a result, we recommended that DOD test the applicability of using similar types of private sector practices as an alternative to its current multilayered system. DOD concurred with our recommendation, but implementation progress and results have varied with the different commodities. Specific details on DOD's progress in adopting these best practices are described in chapter 3.

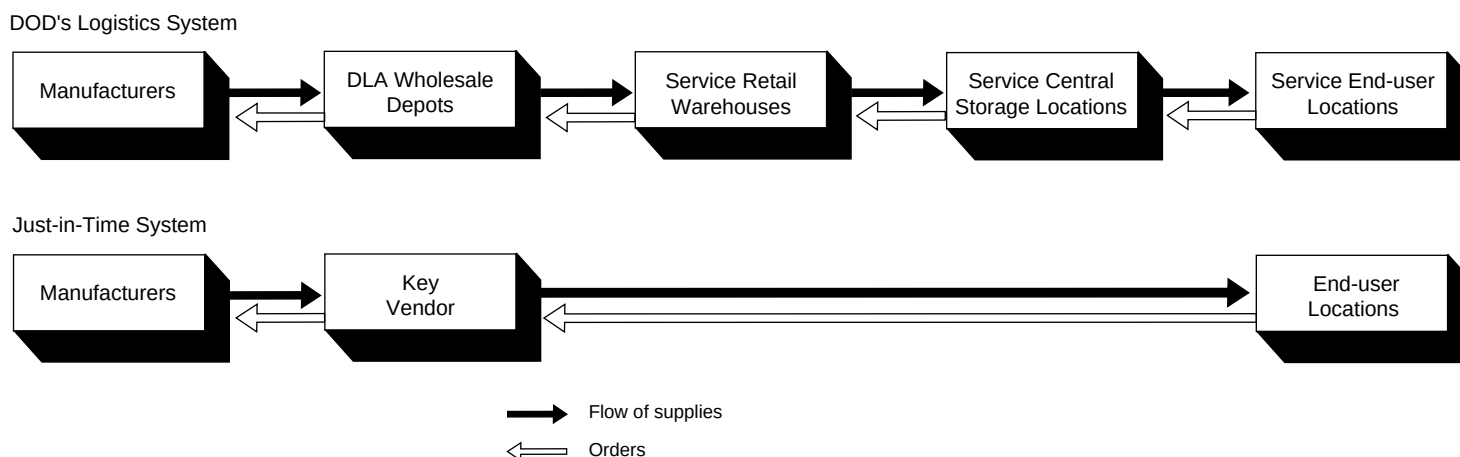
DOD and Private Sector Manage and Distribute Inventory Differently

At a time when many private sector companies were adopting practices that reduced intermediate storage locations while improving service levels, DOD continued to use a logistics system that stored duplicative inventories between suppliers and end-users. DOD often stored inventories in as many as four different layers. In 1992, at the wholesale level, DLA stored \$11 billion worth of consumable items in distribution depots and warehouses located throughout the United States. Our analysis indicated that this inventory could last DOD an average of over 2 years based on past demand. At the retail level, the services hold inventory at three different layers near the locations where the items are used—base warehouses, central storerooms, and end-user locations. Service facilities we visited had retail stock on hand sufficient to last from 1 month to over 5 years. Several factors contribute to this multilayered system, including DOD's philosophy of relying on large stock levels at wholesale and retail locations to readily meet customer needs and the long procurement lead times that require DOD to hold inventory to ensure items are available until ordered supplies are received from suppliers.

The private sector provides a sharp contrast to DOD's methods of managing and distributing consumable items. Private sector companies have modified their inventory practices to reflect an increasingly competitive business environment. Companies have reduced their number of suppliers by establishing a close partnership with only a few key ones that are often

close to the end-users' facilities.¹ Typically, suppliers are contracted to manage and distribute a company's supplies for a particular commodity or class of items. By using aggressive direct delivery arrangements with the suppliers, companies bypass the need for intermediate storage and handling locations. Once end-users order supplies, the suppliers deliver the items directly to the end-users' facilities close to the time the items are needed, commonly called "just-in-time." This technique allows companies to eliminate unnecessary inventory layers and reduce on-hand inventories and operating costs. Figure 2.1 compares DOD's multilayered system with a just-in-time inventory system.

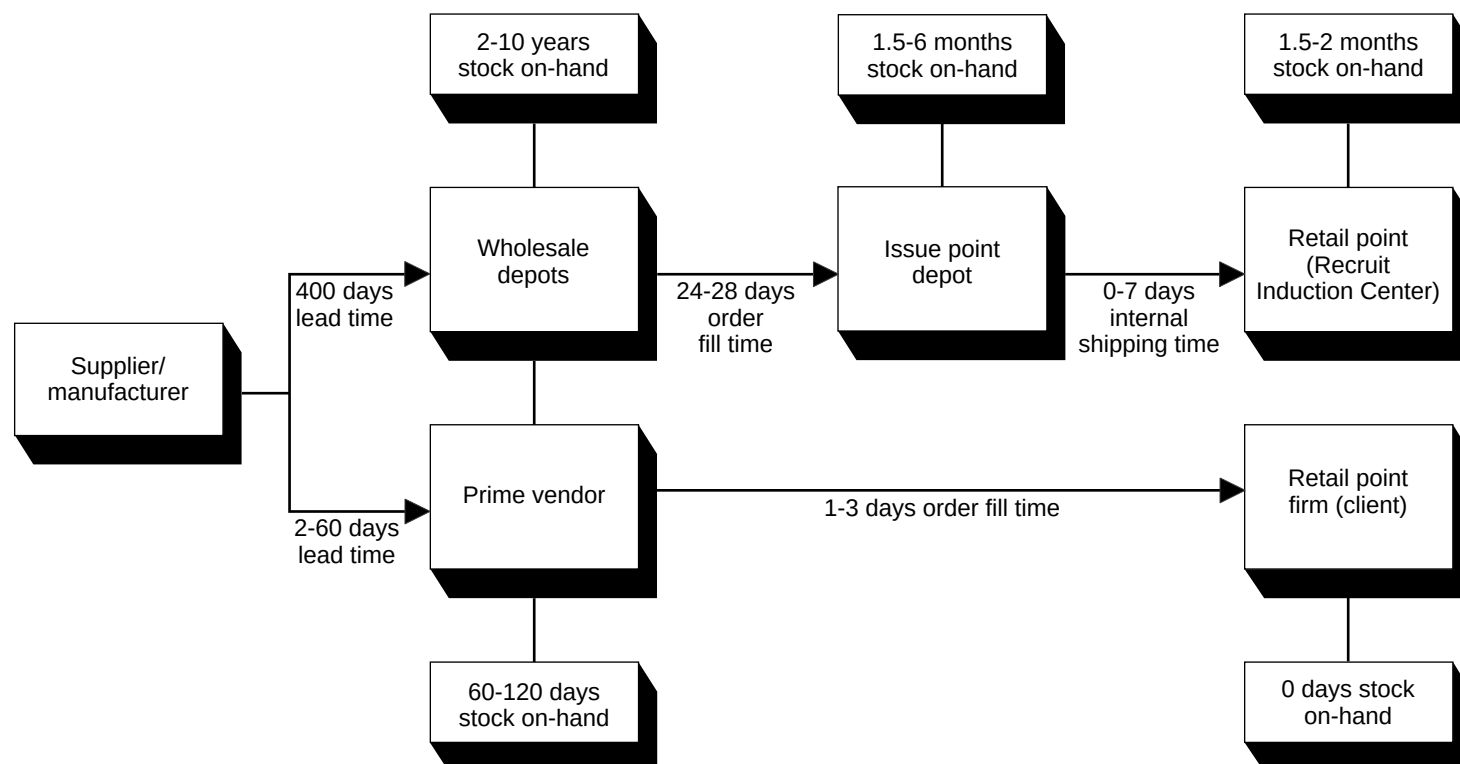
Figure 2.1: Multilayered Inventory System Used by DOD and Just-in-Time System Used by Some Private Sector Companies



Private sector companies that remain competitive in today's marketplace are able to hold less inventory, fill orders more quickly, turn stock over more frequently, and obtain replenishment supplies significantly faster than DOD. For example, figure 2.2 illustrates that for clothing stocks, DOD's multilayered system results in added procurement and distribution time and increased inventories at all levels.

¹The benefits achieved from private sector partnerships and the potential for benefits in DOD are discussed in our report *Partnerships: Customer-Supplier Relationships Can Be Improved Through Partnering* (GAO/NSIAD-94-173, July 19, 1994).

Figure 2.2: How DOD and Prime Vendors Provide Clothing Stocks to End-Users



Past Reports Highlight Problems and Identify Opportunities

Since 1991, we have issued five reports that compared commercial logistics practices with similar DOD operations for consumable items. In these reports, we described various innovative private sector inventory management practices and highlighted companies that had successfully used the practices to streamline their operations. Some companies indicated that they had achieved large savings for personnel items by standardizing items, eliminating bulk storage locations, and most importantly, relying on prime vendors that procured items from many sources, and then warehoused and distributed these items to their clients when and where needed. Other companies adopted practices that located suppliers at a supplier park near industrial centers, which allowed hardware items to be delivered directly to end-users frequently and regularly. As a result, we recommended that DOD conduct tests to demonstrate the applicability of using concepts such as prime vendors and supplier parks to better manage inventories at DLA and military facilities.

Summarized below are the key issues addressed in our reports on medical items, food, clothing and textiles, maintenance and repair items, and electronics items and the actions DOD has taken in response to our recommendations.

Medical Inventory

We reported that DOD's health care system could save millions of dollars by increased use of inventory management practices pioneered by leading civilian hospitals.² Military medical facilities and warehouses we visited held multiple layers of supplies to satisfy peacetime requirements and initial supplies for wartime requirements. The hospital warehouses we visited held inventory that would last for approximately 1 to 3 months. In addition, DLA, through its depot system, stored another layer of supplies that would last approximately 8 months. Some items in this system were packed in the 1940s and 1950s. Figure 2.3 shows the medical inventory in one warehouse at the DLA depot near Mechanicsburg, Pennsylvania.

Figure 2.3: Medical Supplies in DLA Warehouse at Mechanicsburg, Pennsylvania



²DOD Medical Inventory: Reductions Can Be Made Through the Use of Commercial Practices (GAO/NSIAD-92-58, Dec. 5, 1991).

In contrast, very progressive civilian hospitals maintained much smaller levels and fewer layers of supplies and had no depot system. These hospitals, through improved ordering systems, standardization of supplies, and better communication with vendors, greatly reduced inventories by having prime vendors deliver supplies where and when needed. One hospital, the Vanderbilt University Medical Center, reduced inventory levels from \$4.5 million to \$2.8 million (38 percent) between 1986 and 1991 by taking an aggressive approach to inventory management, including requiring its two prime vendors to deliver supplies within 4 hours of ordering.

Due to the significant opportunities for DOD to save millions of dollars, we recommended in our December 1991 report on medical supplies that DOD test the use of inventory management practices pioneered by leading civilian hospitals such as using prime vendors to deliver supplies directly to medical facilities. DOD agreed with our recommendation and has established prime vendor programs at about 150 military hospitals nationwide.

Food Inventory

We reported that, while making some limited use of prime vendors, DOD's food system was generally outmoded and inefficient.³ DOD routinely stored large stocks of food throughout the military supply system. As of the end of fiscal year 1992, for example, DLA had, on average, an 82-day supply of food for peacetime operations, valued at more than \$150 million. Military base warehouses also held large food inventories, worth about \$200 million. As a result, food items often sat on shelves for months or even years before reaching end-users. When this occurs, food items can spoil and become unfit for human consumption. During visits to military installations, we found numerous items that had an extended inspection date—the date food producers stamp on their products to indicate when the first signs of deteriorating food quality may be detected.

The private sector avoided many of the problems experienced by the military food supply system by relying on prime vendors to move food from suppliers to end-users. Because of heavy competition within the food industry, prime vendors had a financial incentive to cut their costs, keep their prices low, and provide quality service. Prime vendors deal with end-users (such as hospitals, restaurants, and hotels) on a daily basis, including taking orders and making direct deliveries. By relying on the

³DOD Food Inventory: Using Private Sector Practices Can Reduce Costs and Eliminate Problems (GAO/NSIAD-93-110, June 4, 1993).

prime vendors, end-users do not incur the direct costs of holding, handling, and transporting food. As a result, we believed many of the costs DOD incurred managing food inventories were unnecessary because the commercial distribution network could supply food to DOD much more efficiently.

Because of the possible inventory reductions and cost savings that could be achieved by using private sector techniques, we recommended in our June 1993 report that DOD conduct a demonstration project of an expanded use of prime vendors delivering food directly to military dining facilities. As we recommended, DOD is currently testing the expanded use of food prime vendors to over 200 military dining facilities in the southeastern part of the United States.

Clothing and Textile Inventories

At a time when private sector companies were cutting costs by minimizing inventories, DOD continued to store redundant levels of clothing and textile inventories at both wholesale and retail locations and to hold such inventories for longer periods of time than the private sector firms we visited.⁴ As previously shown in figure 2.2, private sector distributors maintain low inventories because they depend on suppliers delivering goods when they are needed.

These inventory differences reflect contrasting approaches to meeting customers' needs. DOD's system attempts to satisfy customer needs by having large clothing stocks readily available. Commercial firms, on the other hand, rely on prime vendors to manage their clothing inventories. Prime vendors use quick order and delivery systems to satisfy customer demands, relieving the need for large inventories and helping to avoid items deteriorating or becoming obsolete before they are used. One prime vendor we visited managed an agency's employee uniform program through a central database, which enabled order information to be transmitted directly to a distribution point and issued to a customer in a few days. The agency estimated it had saved at least 15 percent of the amount it had allocated for clothing items over the previous year.

Because DOD's inventory practices for clothing items differed significantly to best practices used in the private sector, we recommended in our April 1994 report on clothing and textiles that DOD conduct a pilot project to demonstrate whether a prime vendor concept is beneficial in providing

⁴Commercial Practices: Leading-Edge Practices Can Help DOD Better Manage Clothing and Textile Stocks (GAO/NSIAD-94-64, Apr. 13, 1994).

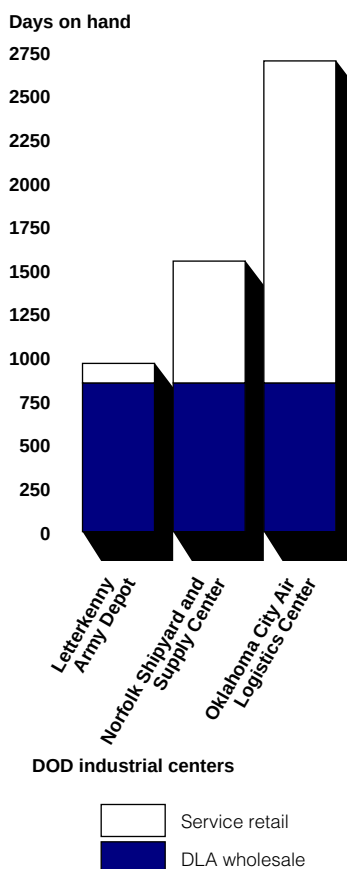
clothing items to military installations, particularly recruit induction centers. DOD agreed with our recommendation to test the prime vendor concept, and it expects to begin a demonstration project in January 1996.

Maintenance and Repair Inventories

At both wholesale and retail locations, DOD stored duplicate maintenance and repair inventories that could be reduced using commercial practices.⁵ For example, about \$2 billion of DLA's \$6.4 billion inventory of construction, general, and industrial supplies was invested in consumable maintenance and repair items. Some of the items in this wholesale level inventory were duplicated at the services' retail inventories, which were at or near each of their industrial centers. For three industrial centers, one from each military service, we combined the number of days each center would take to use the available DLA wholesale and service retail inventories (see fig. 2.4).

⁵Commercial Practices: DOD Could Save Millions by Reducing Maintenance and Repair Inventories (GAO/NSIAD-93-155, June 7, 1993).

Figure 2.4: Combined Wholesale and Retail Inventory Available to Three Industrial Centers



As figure 2.4 shows, the combined inventory could last as long as 7-1/2 years (2,696 days) at the Oklahoma Air Logistics Center.

In contrast, two private sector companies we visited adopted unique inventory management practices to reduce maintenance and repair inventories and save operating expenses. These companies do not use a wholesale system to store and distribute items, as DOD does, but instead rely on suppliers to deliver items directly to the end-users' facilities. One company we visited—PPG Industries — established a "supplier park," where 10 of its suppliers provided maintenance and repair items as needed throughout each day. This park is located in a central location 600 yards from PPG's industrial center where the items are used. With the supplier

park concept, PPG eliminated \$4.5 million, or 80 percent, of its maintenance and repair inventory and saved \$600,000 annually in operating costs. Another company, The Timken Company, reduced inventory levels at one location by \$4 million, or 33 percent, by using direct delivery programs and customized agreements with suppliers. Timken has set a goal to reduce its inventory an additional 50 percent by establishing a supplier park facility.

In our June 1993 report on maintenance and repair inventories, we recommended DOD test best practices at its military industrial centers where large quantities of these same items are used. Specifically, we recommended that DOD test the use of supplier parks to reduce the need to store supplies in the DLA depot system and eliminate unnecessary retail inventories. DOD concurred with our recommendations and stated it planned to expand, where appropriate, the use of commercial practices. Also, DOD stated that it would investigate the applicability of using supplier parks and would determine whether a test was feasible by the second quarter of fiscal year 1994. As of July 1995, DLA had not completed its investigation into the feasibility of testing this concept.

Electronics Inventories

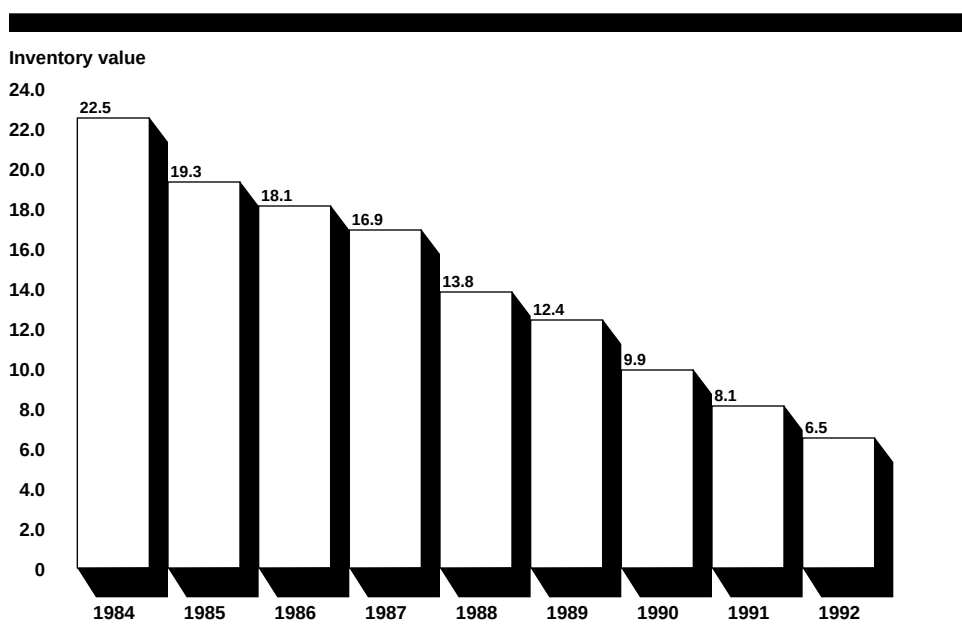
We reported that DLA stored over \$2 billion of wholesale electronics supplies at distribution depots and other storage locations.⁶ This large inventory turns over slowly, about once every 4 years on average, whereas, private sector suppliers often turn their stock over 4 times a year. The slow turnover of inventory costs DOD millions of dollars. Based on DLA's September 1993 electronics inventory, we estimated DOD's annual inventory cost to be as much as \$330 million. In addition, a significant amount of DLA inventory exceeded DOD's needs. As of September 1993, DLA categorized \$231.4 million of its electronics, or 10.5 percent, as excess inventory.

During the past decade, many private sector companies adopted modern inventory management practices that significantly reduced electronics inventories, decreased procurement lead times, and saved millions in associated operating costs while improving the availability of stock. One company we visited, Bethlehem Steel Corporation, reduced its maintenance and repair inventory, including electronics, by about \$16 million, or 71 percent (see fig. 2.5), and estimated that it had avoided over \$47 million in inventory costs and related expenses since 1984. By

⁶Commercial Practices: DOD Could Reduce Electronics Inventories by Using Private Sector Techniques (GAO/NSIAD-94-110, June 29, 1994).

establishing long-term agreements with 21 key suppliers and giving them the responsibility to manage, deliver, and stock items at over 60 end-user locations within its facility, Bethlehem Steel (1) eliminated the need to store and distribute supplies from a central warehouse, (2) increased its access to suppliers' technical expertise, and (3) consolidated and standardized the types of items used.

figure 2.5: Bethlehem Steel Inventory Levels (1984-92) (in millions of constant year 1992 dollars)



We believed that DOD could reduce electronics inventories by using private sector techniques, but because DOD stated that it planned to determine the feasibility of concepts like supplier parks for maintenance and repair items, we did not make recommendations in our 1994 report on electronics inventories. As discussed earlier, however, DLA has not tested or implemented this concept.

DOD Has Adopted Commercial Inventory Practices, but Can Build on Progress

DOD has made progress in improving its logistics system by adopting best practices, but further opportunities exist to achieve significant savings. For the personnel items it manages, which account for 23 percent of DLA's inventory value, DLA has made the most progress to adopt best inventory practices by establishing prime vendor programs that have reduced inventories and improved service to the customer. As a result of its improvement efforts, DLA expects to reduce its inventories and days of supply of personnel items by over 50 percent between 1992 and 1997.

For the hardware items it manages, which account for 77 percent of DLA's inventory value, DLA has made the least amount of progress in using best practices. To date, DLA has not tested the most innovative just-in-time concepts we have seen used by private sector companies to reduce inventories and costs. DLA has focused its efforts on direct delivery programs at the wholesale level, which do not provide the same benefits as concepts like supplier parks. As a result, DLA estimates it will achieve about a 20-percent reduction in inventory levels and days of supply of hardware items between 1992 and 1997. Even then, hardware inventory in its depot system could last for more than 2 years.

DOD Guidance Encourages Adoption of Commercial Practices

During the past 2 years, the Office of the Secretary of Defense (OSD) issued guidance to DLA and the services that emphasized the use of alternatives to DOD's traditional logistics system to improve operations. In January 1993, OSD issued a policy stating that all DOD components are to employ direct delivery from vendors to end-users wherever it is cost-effective and responsive to the end-users' requirements. The policy also stated that the use of existing commercial distribution systems shall be maximized, when possible. In 1994, OSD issued its logistics strategic plan, which focused on achieving improvements in logistics system performance while reducing associated infrastructure costs. According to the plan, an important aspect of achieving these improvements will involve the identification and adoption of successful government and commercial practices. The plan, for example, specifically states that DOD components should (1) implement commercial distribution of food to DOD dining facilities by September 1996 and (2) use direct delivery methods for supplying all routine medical and clothing needs by September 1997. The plan also states that DLA should determine the feasibility of establishing supplier parks or other commercial arrangements at one or more major defense installations by July 1994.

To further its adoption of commercial practices, DLA established a program called "Buy Response Vice Inventory" in December 1992. This program, intended to minimize operating and inventory costs, encourages inventory managers to use commercial practices, such as long-term contracts, electronic data interchange systems, direct vendor delivery, and prime vendor programs. DLA also established the following goals for this program: (1) 50 percent of sales will use direct delivery and prime vendor programs by fiscal year 1997, (2) 80 percent of dollars obligated will be under long-term contracts by fiscal year 1997, and (3) 70 percent of orders with suppliers will be electronically transmitted by 1995.

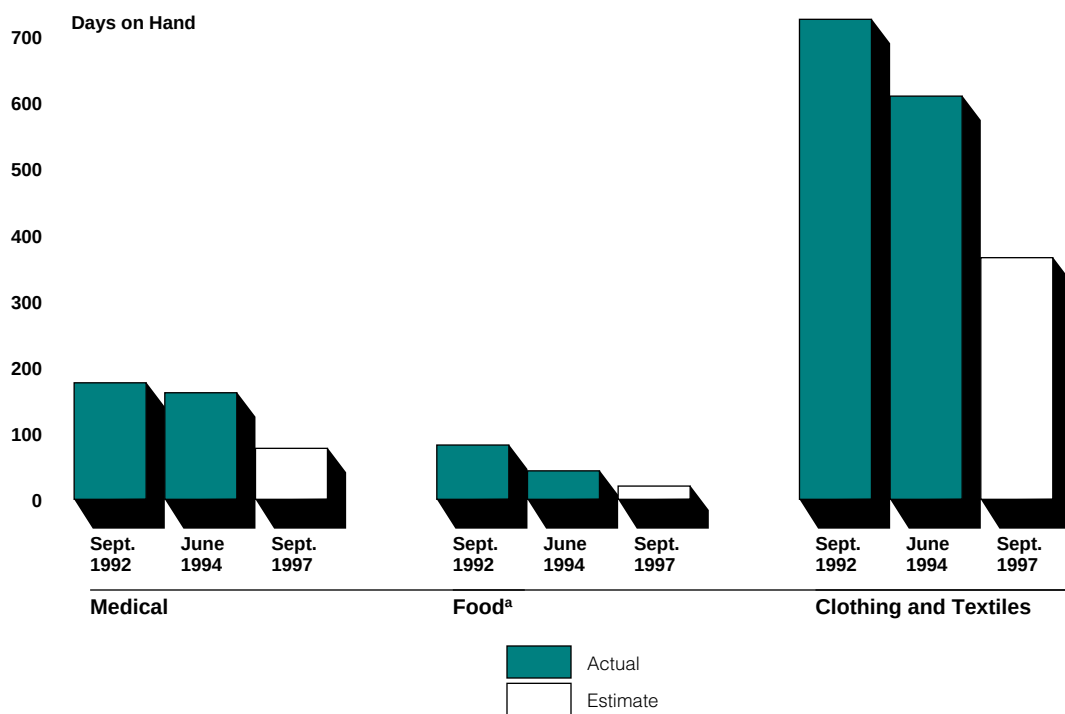
DLA's Use of Best Practices Are Most Advanced for Personnel Items

DLA has made the most progress in adopting best practices for personnel items. Since 1993, DLA has taken steps that use prime vendors to supply personnel items directly to military facilities. At present, DLA is establishing agreements with prime vendors to manage, store, and distribute pharmaceutical products, medical supplies, food, and clothing and textile items.

DLA plans to have prime vendor programs to encompass a large portion of its total logistics operations for personnel items by 1997. As a result, DLA expects the use of prime vendors and other inventory concepts that eliminate obsolete and unnecessary items to significantly decrease its wholesale personnel inventories. By 1997, DLA estimates its 1992 inventory level of these items will have decreased from \$3 billion to \$1.4 billion, a 53-percent reduction. As of June 1994, DLA's personnel inventories were valued at \$2.3 billion.

Based on DLA's projected dollar-value sales for personnel items, we believe this reduction in inventory will significantly decrease the number of days of supplies on hand in DLA depots (see fig. 3.1).

Figure 3.1: DLA Inventory Levels of Personnel Items



^aWar reserves and rations not included.

As figure 3.1 illustrates, medical inventory levels are expected to decrease from 176 days to 77 days of supply; food inventory levels are expected to decrease from 82 days to 20 days of supply; and clothing and textile inventories are expected to decrease from 725 to 365 days of supply.

Medical Prime Vendor Program

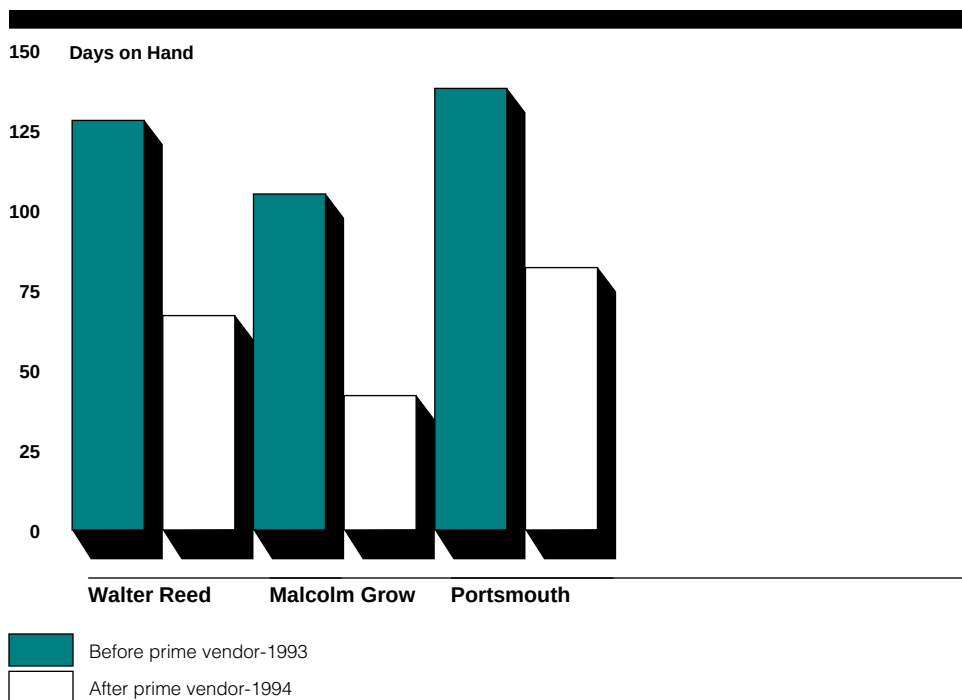
In January 1993, DLA implemented a prime vendor program for pharmaceutical products, followed in June 1993 by a program for medical and surgical supplies. By the end of 1995, about 150 DOD medical facilities will be using these prime vendor programs in 21 geographic regions across the United States. A prime vendor is a distributor that has been awarded a contract to store and distribute various medical products to individual military hospitals, which reduces the need for DOD wholesale and retail systems. Under this concept, DLA negotiates prices for medical products directly with the manufacturers or suppliers. DLA then contracts with the

prime vendor to buy the products at these prices and distribute the products directly to the military hospital within 24 hours of receiving an order. In most cases, the prime vendor charges a distribution fee for these services. Once the products are delivered to the hospitals, DLA pays the prime vendor within 15 days.

The use of this concept has allowed DOD to reduce stock levels at both wholesale and retail locations. During fiscal year 1994, DLA reduced wholesale pharmaceutical inventory \$48.6 million (49 percent), and it estimates it will reduce its total medical inventory (which includes pharmaceutical, surgical, and dental supplies) by \$97 million (37 percent) over the next 3 years.

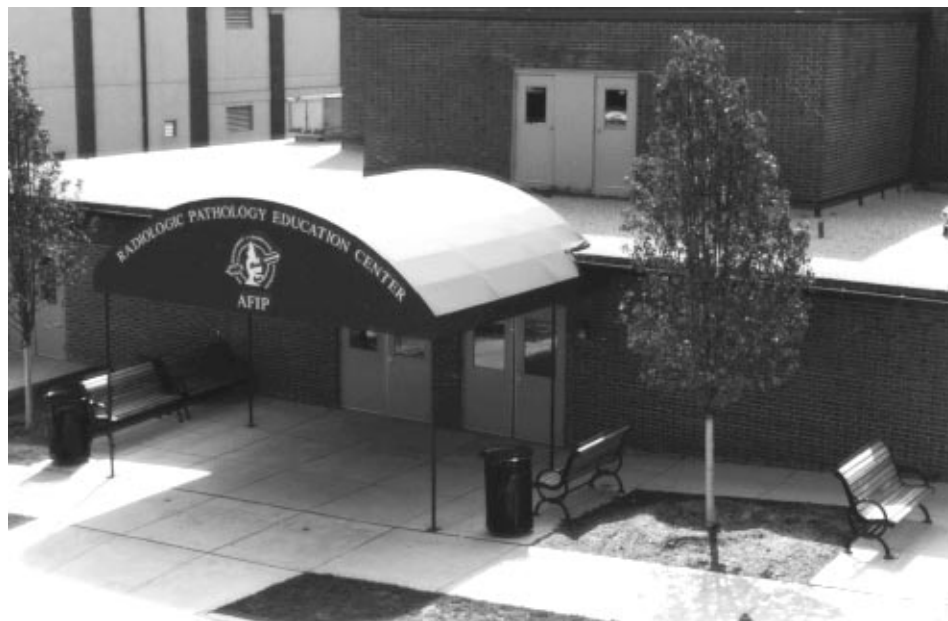
The prime vendor program also enables DOD hospitals to reduce retail inventory levels and save millions in operating costs. For example, we compared the pharmaceutical inventory levels of three military hospitals before and after the prime vendor program was started and found that these hospitals had reduced their total pharmaceutical inventory levels (see fig. 3.2). Other DOD hospitals have achieved similar reductions.

Figure 3.2: Pharmaceutical Inventories at Selected Military Medical Facilities



In addition to a 48-percent reduction in pharmaceutical inventories (\$3.8 million), Walter Reed officials estimate it saves over \$6 million a year in related inventory management expenses by using the prime vendor system. This savings involve (1) \$2.2 million through reduced paperwork and administrative costs, (2) over \$2.9 million because its products generally cost less, (3) \$504,000 through the reduction of 15 personnel positions previously required for inventory management, and (4) \$397,000 by reusing material handling equipment and warehouse space previously needed for medical supplies. Figure 3.3 shows a medical warehouse that has been converted into a training facility for medical personnel.

Figure 3.3: Medical Warehouse
Converted Into a Training Facility



While DOD has achieved inventory reductions and cost savings, further opportunities exist to build on this progress by adopting the most aggressive practices being used in industry. Because each service uses this program differently, and some continue to retain unnecessary inventory layers, DOD has not realized the same benefits that civilian hospitals have achieved. Military hospitals we visited still held inventories that could last the hospitals an average of 42 to 82 days. In comparison, the Vanderbilt University Medical Center reduced or eliminated unnecessary inventory layers and decreased hospital inventory levels to between 2 and 15 days of supply by taking an aggressive approach to inventory management. Vanderbilt, by establishing a close partnership with its prime vendors, arranged for supplies to be delivered several times a day, in many cases, directly to the point of use within the medical center. If DOD hospitals were to use a similar system, they could reduce inventories, in some cases, by as much as 75 percent.

Food Prime Vendor Program

During 1994, DLA initiated a prime vendor program that it estimated would reduce the amount of food supplies stored in DLA depots by \$69 million, or 74 percent of peacetime stocks, by 1998. In March 1994, DLA awarded a contract to a full-line food distributor to serve as a prime vendor for delivering certain foods (semiperishable, chilled, and frozen) to dining facilities at four military bases in the Norfolk, Virginia, area. DLA established this pilot project to determine the feasibility of using prime vendors instead of the traditional military supply system. The project's goals were to improve service and reduce costs and inventories. Four months after the project was started, two service facilities we visited—Fort Lee Army Base and Langley Air Force Base—had realized inventory reductions of over \$165,520 (84 percent) and \$66,005 (81 percent), respectively, at their retail warehouses. At one of these facilities, service officials were able to vacate two warehouses that previously were required 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 military food supply system. For example, the prime vendor can deliver food to the dining facilities about 4 weeks faster than DOD can under its traditional system.

In January 1995, DLA and the services began a test project to expand the food prime vendor program to over 200 military dining facilities located in the southeastern part of the United States. All four services are participating in the 1-year project, which includes military facilities located in metropolitan and rural areas as well as Navy ships. Through this

project, military personnel electronically order food items from a distributor who is required to deliver the items to the dining facility within 48 hours. As a part of this test, DOD will measure the monetary cost and benefits, customer satisfaction, and distributor performance by comparing the traditional military food supply system to the prime vendor method. If this project is successful, DOD plans to expand the program to all dining facilities in the continental United States and ships by the end of fiscal year 1997.

Clothing and Textile Prime Vendor Program

Under a demonstration project that is expected to start in January 1996, a military service recruit induction center will test the prime vendor concept for clothing items. The project is DOD's first effort to use a prime vendor to manage clothing and textile items. DLA plans to award a contract to a prime vendor that will be responsible for the manufacture, quality, storage, and delivery of all clothing items provided to the Air Force's recruit induction center at Lackland Air Force Base, San Antonio, Texas. Items are expected to be delivered within 10 days after the orders are placed, with a delivery goal of 3 days by the 10th month of the program. If the test proves successful, DOD plans to apply it to other service locations.

DLA Is Pursuing Commercial Practices for Hardware Items, but Progress Is Slow

DLA's adoption of best practices is least advanced for hardware items. Although DLA is examining the potential application of some commercial practices for hardware items, DLA's overall progress is slow and results are limited.

The central focus of DLA's efforts to improve management of hardware items has been to expand the use of direct delivery programs at the wholesale level. By using long-term contracting agreements and electronic data interchange systems, DLA makes arrangements with manufacturers or suppliers to deliver items directly to the services' retail facilities. DLA expects the use of direct vendor delivery to result in better service and reduced inventory levels and to eliminate the cost of receiving, storing, and issuing these items from wholesale depots. In fiscal year 1994, DLA reported that 13 percent of its hardware dollar-value sales resulted from direct delivery programs at this level. According to DLA, it expects to increase the use of direct delivery programs so that they account for 30 percent of all hardware dollar-value sales by 1997.

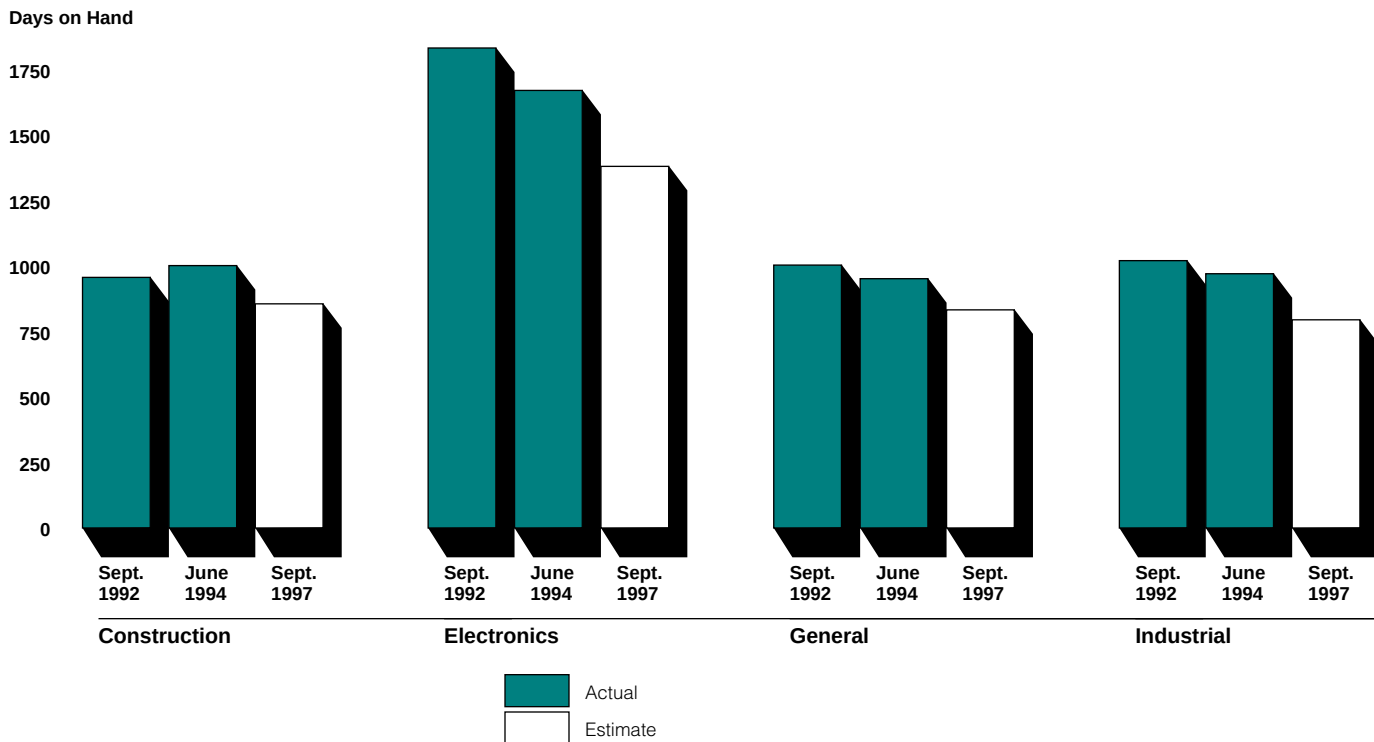
These direct delivery programs, however, neither eliminate costs to manage, store, and distribute items at a service's retail location nor

provide the same quick response achieved through best inventory practices such as the supplier park concept. With direct delivery programs, requisitions are sent from the services to DLA, where the orders are then electronically relayed to the supplier or manufacturer. The length of time from requisition to delivery of the item can take 30 days or longer. In comparison, private sector companies using just-in-time techniques often receive supplies from their key suppliers within hours after ordering. The use of such techniques allows these companies to reduce or eliminate the need to manage, store, and distribute these items from warehouse locations at their facilities.

DLA's direct delivery programs provide only incremental reductions from hardware inventory levels held in 1992. DLA estimates that hardware inventories of \$8 billion in 1992 will decrease to \$6.4 billion in 1997, or approximately 20 percent.¹ As of June 1994, DLA's hardware inventories were valued at \$7.8 billion. Much of this overall reduction will result from the disposing of excess and obsolete items. Even then, based on DLA's projected inventory and demand for the four groups of hardware items (construction, electronics, general, and industrial), it could have enough inventory on hand to last for an average between 795 days and 1,381 days (see fig. 3.4). In comparison, private sector suppliers of similar types of items often hold only 90 days of supply to meet customer needs.

¹In commenting on a draft of this report, DOD stated that the \$8 billion and \$6.4 billion includes inventory transferred from the military departments as part of DOD's consumable item transfer program. When those transferred items are excluded, DLA's inventory of consumable items decreased 36 percent between fiscal years 1992 and 1994.

Figure 3.4: DLA's Inventory of Hardware Items



Companies have applied innovative practices at industrial centers where they use large quantities of consumable hardware items, such as bearings, valves, and fasteners, to maintain and repair their equipment. According to private sector officials, these items offer the greatest opportunity because they are generally standard, used in large quantities, and commonly stocked by several suppliers. Through concepts like supplier parks, companies have reduced similar types of inventories and the costs to manage and store them. For example, PPG Industries and Bethlehem Steel Corporation have used supplier parks and similar just-in-time concepts to eliminate as much as 80 percent of their consumable item inventories. In addition, these companies estimate that they have saved millions in related operating costs.

In September 1994, DLA contracted for a study of the feasibility of using supplier parks at three maintenance and repair facilities. In December 1994, the contractor reported that the concept of a supplier park was feasible and strongly recommended that DLA give serious consideration to using this concept at these facilities. The study concluded that a supplier park concept would provide enhanced customer support in terms of quicker response times and improved material availability while reducing both operating and inventory costs at DLA depots and maintenance and repair facilities. The contractor estimated a first year savings between \$9.9 million and \$16.8 million to DOD. According to DLA, it plans to continue studying the feasibility of this concept.

Factors Affecting DOD's Ability to Implement Best Practices

The success of DOD's initiatives to improve inventory management practices will depend on DOD's ability to change its traditional inventory management philosophy. Private sector companies have moved away from this philosophy in an attempt to lower the cost of doing business, provide better service, and remain competitive. Private sector companies have changed their philosophy by relying on established commercial distribution networks where suppliers have a financial incentive to make their operations efficient and achieve savings. In response to competition, these suppliers must be extremely cost conscious and responsive to their customers in order to stay in business. DOD can achieve similar results by adopting a philosophy in which it relies more on the existing distribution network that supports the private sector.

Another factor is that DOD will be continuously challenged to identify and adopt the best practices being used to improve logistics operations. Private sector companies that have achieved the greatest success continually seek new and better practices to further improve operations. For example, Vanderbilt University Medical Center officials told us that they plan to take the next step with their inventory system by controlling inventory consumption through closer supply arrangements with its prime vendor. According to these officials, the latest concept involves a risk-sharing strategy designed around the development of an agreed upon cost per medical treatment. Under this arrangement, the doctors, nurses, and the prime vendor agree on a standard medical supplies listing for each type of medical treatment. When a patient is admitted to the hospital for treatment, the prime vendor will be notified and a standard set of supplies will be delivered to the patient's floor. This concept is expected to minimize the amount of supplies used by the hospital staff to that amount necessary to perform the required treatment. The monetary risks and

benefits of this arrangement are shared by both the prime vendor and the hospital.

Conclusions and Recommendations

DOD has made progress in adopting best inventory practices for consumable items, but it could do more to further reduce inventories and operating costs. Private sector companies that have successfully adopted innovative just-in-time concepts for consumable items have taken several key steps. First, they selected high usage, low unit cost items to test these practices. Second, they arranged for suppliers to make small, frequent deliveries of these items to a point close to where the items are used. As they gained confidence in this new system and as suppliers refined the distribution process, the companies expanded this service to include a wider range of items. Finally, they established a close partnership between the supplier and end-user, thereby enabling the supplier to use its expertise and the pre-existing distribution network to maximize savings for its customers. As discussed in chapter 2, these savings can result in as much as an 80-percent reduction in inventory levels and in millions of dollars in lower annual operating costs.

For personnel items, which represent 23 percent of DLA's inventory, DLA is beginning to take similar steps. The most successful program to date is the pharmaceutical prime vendor program, which is now in place at DOD hospitals nationwide. Thus far, DLA's implementation of the prime vendor concept has reduced wholesale pharmaceutical inventories by 49 percent. At the retail level, one of the most aggressive DOD medical facilities applying this concept is the Walter Reed Army Medical Center, which has reported an inventory reduction of \$3.8 million and a estimated savings of over \$6 million annually in related inventory management expenses. To accomplish these savings, Walter Reed has turned over much of its inventory management responsibilities to the prime vendor.

However, the aggressive steps taken by Walter Reed are not typical of those throughout all of the DOD medical facilities we visited. Because each service has used the prime vendor's services differently, and some even continue to retain unnecessary inventory layers, DOD has not realized the same improvements that progressive civilian hospitals have achieved. In fact, military hospitals we visited still held inventories that could last for many weeks compared to just days for some leading civilian hospitals. DOD's approach neither eliminates unnecessary inventory storage locations nor allows hospitals to fully use the inventory management expertise of the prime vendor. Under this approach, a partnership environment may not fully develop.

For hardware items, which represent 77 percent of its inventory and a \$7.8-billion investment, DLA has not taken the steps necessary to adopt

just-in-time concepts. DOD operates industrial facilities that use large quantities of hardware items to repair and maintain aircraft, land vehicles, and ships. At these facilities, DOD uses the same types of hardware items for which private sector companies have established supplier parks and other innovative concepts that transfer management responsibilities to their suppliers and reduce inventory levels. Although we recommended a DOD test of the supplier park concept in our June 1993 report, it is still studying the feasibility of the concept 2 years later.

Recommendations

To ensure that the medical prime vendor programs are more consistently and aggressively applied, we recommend that the Secretary of Defense direct the secretaries of each of the military services to use the prime vendor program in enhancing the partnership between the DOD medical facilities and the prime vendors. Actions that would enhance such an arrangement include

- delivering supplies directly to the point of use in the hospital,
- integrating the vendor into the day-to-day supply operations,
- delivering supplies on a frequent basis (several times a day), and
- using the vendor's expertise to improve inventory management operations.

These actions could further reduce inventory layers in the DOD system and bring military medical facilities closer to the levels of success achieved by progressive private sector hospitals.

To encourage DLA and the services to establish supplier parks for hardware items, we recommend that the Secretary of Defense direct the secretaries of each of the military services and the Director of DLA to initiate several actions that have been taken by private sector companies when developing these concepts. Specifically, each service and DLA should work together to

- identify an Army, Navy, and Air Force site that will test the supplier park concept;
- identify specific items with high usage rates and low unit costs to use in a test program;
- negotiate with prospective suppliers to perform these inventory management functions during the test program;
- establish partnerships with the suppliers allowing them access to DOD inventory information and facilities, which will enable the suppliers to deliver items directly to the end-user;

-
- develop evaluation criteria that will measure the total costs of inventory delivered under the test program in order to compare costs and benefits to the total cost being incurred under the current system; and
 - establish aggressive milestones for the initial phases of this test program to achieve early results.

Agency Comments

In commenting on a draft of this report, DOD generally agreed with the findings, conclusions, and recommendations and stated that, while significant gains have occurred, further progress can be made in adopting best commercial practices in providing both personnel and hardware items to the military services. DOD stated that DLA, in its role as commodity manager for medical supplies, is taking the lead in enhancing prime vendor arrangements for medical items. DOD also stated that DLA is aggressively pursuing the establishment of a supplier park at two military service facilities in Texas.

According to DOD, DLA has contracted with a consultant to complete an analysis of existing purchasing systems, compile an economic analysis, and develop an implementation plan. The consultant is expected to complete a report by August 31, 1995. DLA has not yet established specific milestones to test the operation of the concept. An actual operational test of the concept can help DLA (1) determine whether the concept can be applied to its logistics operations and (2) evaluate the feasibility of expanding the concept at other locations having similar inventory requirements.

Comments From the Department of Defense



ACQUISITION AND
TECHNOLOGY

(L/MDM)

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000



21 JUN 1995

Mr. Henry L. Hinton, Jr.
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Hinton:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "INVENTORY MANAGEMENT: DoD Can Build On Progress In Using Best Practices To Achieve Substantial Savings," dated May 2, 1995 (GAO Code 709055), OSD Case 9919. The Department generally concurs with the draft report.

The Department agrees that, while significant gains have occurred, further progress can be made in adopting best commercial practices in providing both personnel and hardware items to the Military Services. The Defense Logistics Agency has taken the lead to work with both the Military Services and vendors to adopt those practices where the goals of military readiness and cost-effectiveness are met. Additional steps are underway, specifically in regard to application of the supplier park approach to industrial items.

The detailed DoD comments on the draft report findings and recommendations are provided in the enclosure. The DoD appreciates the opportunity to comment on the draft report.

Sincerely,

Roy A. Willis
Principal Assistant Deputy Under
Secretary of Defense (Logistics)

Enclosure



GAO DRAFT REPORT--DATED MAY 2, 1995
(GAO CODE 709055) OSD CASE 9919

**"INVENTORY MANAGEMENT: DOD CAN BUILD ON PROGRESS IN USING
BEST PRACTICES TO ACHIEVE SUBSTANTIAL SAVINGS"**

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A: DLA's Use of Best Practices Is Most Advanced for Personnel Items.** The GAO reported that since 1993, DLA has taken steps that use prime vendors to supply personnel items directly to military facilities and at present, DLA is establishing agreements with prime vendors to manage, store, and distribute pharmaceutical products, medical supplies, food, and clothing and textile items. On pages 35 to 40 of the report, the GAO provided details on each of the prime vendor programs. According to the GAO, DLA plans to have prime vendor programs to encompass a large portion of the total logistics operations for personnel items by 1997. The GAO reported that as a result, DLA expects to significantly decrease wholesale personnel item inventories and that by 1997, the 1992 inventory level of these items will have decreased from \$3 billion to \$1.4 billion. The GAO pointed out that as of June 1994, DLA personnel inventories were valued at \$2.3 billion. The GAO concluded that based on the DLA projected dollar-value sales for personnel items, the reduction in inventory will significantly decrease the number of days of supplies on hand in DLA depots. The GAO reported that the use of the prime vendor program medical inventory levels is expected to decrease from 176 days to 77 days of supply; food inventory levels are expected to decrease from 82 days to 20 days of supply; and clothing and textile inventories are expected to decrease from 725 to 365 days of supply by 1997. The GAO concluded that while the DoD has achieved inventory reductions and cost savings, further opportunities exist by adopting the most aggressive practices being used in industry. (pp. 3-7, pp. 34-40, pp. 45-46/GAO Draft Report)

DoD RESPONSE: Concur. The DoD agrees that the DLA is significantly decreasing wholesale inventories of personnel items. The DoD also agrees that opportunities

ENCLOSURE

Now on pp. 3-5, 27-33,
and 38-39.

exist for further reductions. However, as discussed in the DoD response to Recommendation 1, the applicability of the most aggressive practices being used in industry may vary.

- **FINDING B: DLA Is Pursuing Commercial Practices for Hardware Items, But Progress Is Slow.** The GAO reported that DLA's adoption of best practices is least advanced for hardware items. The GAO explained that although DLA is examining the potential application of some commercial practices for hardware items, overall progress is slow and results are limited.

The GAO explained that the central focus of DLA efforts to improve management of hardware items has been to expand the use of direct delivery programs at the wholesale level. According to the GAO, by using long-term contracting agreements and electronic data interchange systems, DLA makes arrangements with manufacturers or suppliers to deliver items directly to the Services' retail facilities. The GAO noted that DLA expects the use of direct vendor delivery to result in better service and reduced inventory levels and to eliminate the cost of receiving, storing, and issuing items from wholesale depots. The GAO reported that in FY 1994, DLA reported that 13 percent of hardware dollar-value sales resulted from direct delivery programs at this level. According to the GAO, DLA expects to increase the use of direct delivery programs so that they account for 30 percent of all hardware dollar-value sales by 1997.

The GAO found that the direct delivery programs, however, neither eliminate costs to manage, store, and distribute items at a Service's retail location nor provide the same quick response achieved through best inventory practices, such as the supplier park concept. The GAO reported that with direct delivery programs, requisitions are sent from the Services to DLA, where the orders are electronically relayed to the supplier or manufacturer; however, the length of time from requisition to delivery of the item can take 30 days or longer. The GAO pointed out that in comparison, private sector companies using just-in-time techniques often receive supplies from key suppliers within hours after ordering, thereby allowing the companies to reduce or eliminate the need to manage, store, and distribute these items from warehouse locations at their facilities.

The GAO concluded that DLA direct delivery programs provide only incremental reductions from hardware inventory levels held in 1992. According to the GAO, DLA estimates that hardware inventories of \$8 billion in 1992 will decrease to \$6.4 billion in 1997, or approximately 20 percent. As of June 1994, the GAO found that DLA hardware inventories were valued at \$7.8 billion. The GAO commented that much of the overall reduction will result from disposing of excess and obsolete items. The GAO reported that even then, based on DLA projected inventory and demand for the four groups of hardware items (construction, electronics, general, and industrial), it could have enough inventory on hand to last for an average between 795 days and 1,381 days, while private sector suppliers of similar types of items often hold only 90 days of supply to meet customer needs.

The GAO explained that in September 1994, DLA contracted for a study of the feasibility of using supplier parks at three maintenance and repair facilities. According to the GAO, in December 1994, the contractor reported that the concept of a supplier park was feasible and strongly recommended that DLA give serious consideration to using the concept. The GAO reported that the study concluded that a supplier park concept would provide enhanced customer support in terms of quicker response times and improved material availability while reducing both operating and inventory costs at DLA depots and maintenance and repair facilities. The GAO noted that the contractor estimated a first year saving between \$9.9 million and \$16.8 million. (pp. 4-7, pp. 40-43, pp. 45-46/GAO Draft Report)

DoD RESPONSE: Concur. The DoD agrees that progress in adopting the most aggressive commercial practices has been greater for personnel items than for hardware items. It should be noted, however, that commercial national distribution networks are more prevalent for personnel items than for hardware items. This makes the application of the supplier park concept to hardware items even more complex and time-consuming than the application of the prime vendor approach to personnel items. Furthermore, it should be recognized that the 20 percent projected decrease in Defense Logistics Agency inventories of hardware items between 1992 and 1997 cited by the GAO ignores the impact of the transfer of inventory from the Military Departments under the Consumable Item Transfer program. When those transferred

items are excluded, the Defense Logistics Agency inventory of hardware items decreased 36 percent between 1992 and 1994. Finally, regarding the status of the supplier park concept for hardware items, the Defense Logistics Agency considered the supplier park concept as one of the initiatives to improve logistics support under the Tailored Logistics Support Program. Attempts to establish a supplier park operation for fasteners at the Warner Robins (Georgia) Air Logistics Command, and for electronic items at the North Island (California) Naval Air Station did not result in satisfactory proposals. However, the Defense Logistics Agency is aggressively pursuing the establishment of a supplier park in the South Texas region. The Defense Logistics Agency awarded a contract in October 1994 to explore supplier park feasibility in the South Texas region. The study report, dated February 27, 1995, supported a supplier park concept in the South Texas region. The current contract phase of the supplier park initiative was awarded on May 3, 1995, and requires the contractor to pursue the implementation of a supplier park prototype for the South Texas region.

- **FINDING C: Factors Affecting DoD's Ability To Implement Best Practices.** The GAO concluded that the success of DoD initiatives to improve inventory management practices will depend on the ability of the DoD to change its traditional inventory management philosophy. The GAO reported that private sector companies have changed their philosophy by relying on established commercial distribution networks where suppliers have a financial incentive to make their operations efficient and achieve savings. The GAO concluded that the DoD can achieve similar results by adopting a philosophy in which it relies more on the existing distribution network that supports the private sector. The GAO pointed out that the DoD will be continuously challenged to identify and adopt the best practices being used to improve logistics operations. The GAO reported that private sector companies that have achieved the greatest success continually seek new and better practices to further improve operations. (p. 4, pp. 43-44/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency is continuing to take the lead in aggressively pursuing additional opportunities to expand the use of commercial distribution networks for both personnel and hardware items wherever that approach is cost-effective and

responsive to the readiness requirements of the Military Services.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services to use the prime vendor program in enhancing the partnership between the DoD medical facilities and the prime vendors. The GAO added that actions that would enhance such an arrangement include delivering supplies directly to the point of use in the hospital, integrating the vendor into day-to-day supply operations, delivering supplies on a frequent basis, and using the vendor's expertise to improve inventory management operations. (pp. 8-9, pp. 46-47/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency, in its role as commodity manager for medical items, is taking the lead in enhancing prime vendor arrangements for medical items. It should be noted that adoption of the actions cited by the GAO at specific DoD medical facilities will depend on the extent to which those actions are judged to be cost-effective and responsive to the readiness requirements of the Military Services. For example, many DoD medical facilities have responsibility for maintaining deployable medical units and require some on hand inventory to allow rotation of dated stock. Furthermore, the Defense Logistics Agency explored the concept of multiple daily supply deliveries with some of the largest medical suppliers in the industry during pre-solicitation conferences. That concept was not pursued due to lack of interest on the part of the suppliers, even prior to establishment of the cost-effectiveness of this approach at DoD medical facilities.

- **RECOMMENDATION 2:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to identify an Army, Navy, and Air Force site that will test the supplier park concept. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. As discussed in the DoD response to Finding B, the Defense Logistics Agency is in the process of implementing this recommendation in the South Texas region. The Army, Navy, and Air Force have worked closely with the Defense Logistics Agency in this initiative. The Corpus Christi Army Depot and the San Antonio Air Logistics Center at Kelly Air Force Base will be participants. The Navy Mine Warfare Community of Ingleside was considered, but the business base there was not sufficient for inclusion.

- **RECOMMENDATION 3:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to identify specific items with high usage rates and low unit costs to use in a test program. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency is taking the lead and is nearing accomplishment of this recommendation. With contractor assistance, the Defense Logistics Agency has reviewed 50,000 National Stock Numbers to determine their suitability for a supplier park in the South Texas region. The Defense Logistics Agency has initiated a follow-on analysis to refine the list of candidate items, compile an economic analysis, and develop an implementation plan.

- **RECOMMENDATION 4:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to negotiate with prospective suppliers to perform inventory management functions during the test program. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency is taking the lead and is nearing accomplishment of this recommendation. The contractor engaged by the Defense Logistics Agency to assist in the analysis of supplier park implementation in the South Texas region recommended that a single third party operator assume the responsibility of maintaining inventory; expediting, scheduling, and making deliveries; and operating the ordering, invoicing, and payment processes. Under this concept, the third party operator would hold inventory owned by up to 50 supporting vendors. The operator would serve as the single focal point with the customers, processing

the single focal point with the customers, processing transactions with the government and reimbursing participating vendors as sales occur.

- **RECOMMENDATION 5:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to establish partnerships with the suppliers allowing them access to DoD inventory information and facilities, thereby enabling the suppliers to deliver items directly to the end-user. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency is already working with the Military Services in the South Texas region to address the implementation of a supplier park prototype. The Defense Logistics Agency is using a consultant to complete the project analysis and prototype implementation. That effort includes access to customers' inventory file data and operational facilities.

- **RECOMMENDATION 6:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to develop evaluation criteria that will measure the total costs of inventory delivered under the test program in order to compare costs and benefits to the total cost being incurred under the current system. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. The DoD agrees that evaluation criteria should be developed to measure the total costs of inventory delivered under the supplier park prototype operation in order to compare costs and benefits to the total cost being incurred under the current system. The Defense Logistics Agency will include this approach in the implementation proposal for the South Texas region supplier park prototype.

- **RECOMMENDATION 7:** The GAO recommended that the Secretary of Defense direct the Secretaries of each of the Military Services and the Director of DLA to establish aggressive milestones for the initial phases of the test program to

Now on pp. 7 and 40.

achieve early results. (pp. 8-9, pp. 46-48/GAO Draft Report)

DoD RESPONSE: Concur. The Defense Logistics Agency has already established aggressive milestones in the four-month implementation phase for the South Texas region supplier park prototype that began May 3, 1995. Key milestones include the June 30 completion of the analysis of existing purchase systems; the July 17 status briefing with concept approval; and the August 31 submission of a final report and proposed statement of work by the contractor to the Defense Logistics Agency.

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