US DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL

Office of Audits and Evaluations

DEPARTMENT OF VETERANS AFFAIRS

Significant Deficiencies Found in VA's Denver Logistics Center Inventory Management Operations and Systems

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Executive Summary

VA's Denver Logistics Center (DLC) provides supply chain management and logistics services for VA. Specifically, the DLC obtains and distributes goods for the Veterans Health Administration (VHA) to improve medical care and quality of life for veterans and their families. Such goods include prosthetic and orthotic supplies, hearing aids and accessories, assistive devices, batteries, iPads and iPhones for virtual care, and sleep apnea care products. The DLC distributes supplies through its logistics division in Denver, Colorado, and its Healthcare Distribution Operation Section located within VA's Service and Distribution Center in Hines, Illinois.[1]

In 2022, the VA Office of Inspector General (OIG) reported on gaps identified in the DLC internal control structure based on the DLC's handling of iPads.[2] The review found there was a backlog of about 14,800 devices returned to the DLC that had not been refurbished and therefore not logged into inventory, and VHA purchased additional devices to cover demand. Based on the issues identified with the DLC's management of iPads, the OIG determined there was a risk that other goods managed by the DLC could also be affected by internal control weaknesses, such as inconsistent inventory and supply chain practices and inadequate program oversight within DLC operations. The OIG conducted this audit to determine whether the DLC maintained accurate inventories of VA-owned goods.

The DLC's primary purpose is to serve VHA and its veteran patients. The DLC orders, stores, and ships items for an agreed-upon fee to VA facilities for distribution to patients, or directly to patients.[3] In fiscal year (FY) 2022, VHA data show the DLC issued more than 101 million items costing about $758 million, including the fees the DLC charged for processing and distribution.

The DLC is aligned under VA's Office of Acquisition, Logistics, and Construction (OALC) through the Office of Procurement, Acquisition and Logistics (OPAL). OPAL oversees the National Acquisition Center (NAC), which is the first line of oversight for the DLC's operations. DLC logistics and warehouse staff are responsible for managing and accounting for all supplies purchased, stored, and shipped by the DLC to VA medical centers and veterans. Inventory

[1] The DLC headquarters and primary warehouse are located in Golden, Colorado, while the secondary warehouse is located in Lakewood, Colorado. Both sites are within the Denver metropolitan area and are referred to collectively in this report as Denver. Denver manages audiology, prosthetic, and telehealth supplies; the Healthcare Distribution Operation Section in Hines, Illinois, manages apnea care supplies and devices.

[2] VA OIG, *Digital Divide Consults and Devices for VA Video Connect Appointments*, Report No. 21-02668-182, August 4, 2022.

[3] The DLC is funded under statutory authority of the revolving supply fund and earns its revenue for operating expenses through fees and markups on its sales established by VA's supply fund. The Department of Defense also purchases from the DLC, but to a much lesser extent. Fee rates for the cost of services, equipment, and supplies provided by the DLC are determined by the VA Secretary based on estimated or actual direct costs. The OIG agrees with VA's technical comment that VA facilities should be included in this sentence.

management staff are responsible for conducting cyclic physical inventory counts of all supplies maintained at DLC locations and documenting their investigations when the resulting quantity counts do not match those recorded in the inventory management system. To receive and process orders and to manage its inventory, the DLC uses two internally developed applications: the Remote Order Entry System (ROES) and a customized version of the Veterans Health Information Systems and Technology Architecture (VistA) inventory system. The DLC's information resource management team maintains and develops the information systems that assist DLC operations and order fulfillment.

To determine whether inventories of VA-owned goods were accurately maintained, the audit team reviewed VA and DLC policies and procedures, analyzed DLC inventory transaction data from July 2021 through June 2022, and conducted an unannounced physical inventory count for a sample of 80 products at the DLC warehouses in Denver and Hines. The team also conducted site visits, observations, and interviews with officials from VA's OALC, OPAL, NAC, Office of Revolving Funds, and staff and leaders from the DLC.[4]

What the Audit Found

The OIG identified significant deficiencies in the DLC's inventory management operations and systems. Specifically, the DLC's inventory records did not align with on-hand supplies or include all goods, and the DLC lacked an effective internal controls system. Inaccurate inventories, weak internal controls, and losses undisclosed outside the DLC created the risk of misleading financial reporting and increased costs to VHA. Further, supplies and veteran information kept at DLC warehouses were not physically secured.

The audit also revealed that the DLC did not have appropriate information technology controls to protect inventory data. DLC's inventory management system software has access and security vulnerabilities and lacked transparency of inventory data. Like the VA-owned supplies on hand, the DLC system hardware was also vulnerable to physical access and security risks. Overall, the DLC's inventory ordering system is becoming unsustainable.[5]

The DLC reports to the NAC, but the OIG found the NAC's oversight was ineffective at ensuring the DLC followed VA policies and protected VA-owned goods. The DLC has largely operated under minimal oversight of and visibility into its inventory operations. The independent

[4] See appendix B for further details on the audit scope and methodology, and appendix C for further details on the statistical sampling methodology.

[5] VA provided a general comment that states the components used by the DLC in combination—namely, the VistA environment, in-house purpose-built components, and web application methods—"are not considered to be unsustainable." The OIG notes that the DLC uses two internally developed applications: the ROES ordering system and a DLC-customized version of the VistA inventory system software. The OIG reported in this finding that the ordering system the DLC uses is becoming unsustainable due to its age, and existing infrastructure difficulties with patches and software updates. According to information resource management's lead developer, updating to a new database platform could render the system inoperable.

nature of DLC operations, along with the deficiencies identified in this audit, impedes the DLC from effectively fulfilling its mission and creates a heightened risk of fraud, waste, and abuse.

The DLC Did Not Effectively Manage VA-Owned Goods to Maintain Accurate Inventories

The DLC is responsible for managing millions of dollars of supplies intended for VHA facilities and patients. According to VA policy, VA staff who use, supervise, or exercise control or custody of VA-owned goods are responsible for controlling and accounting for the goods from acquisition to disposition.[6] The OIG found significant inventory discrepancies between supply quantities on hand and those recorded in the inventory management system, demonstrated by the following three issues:

- The audit team performed a physical inspection of a sample of inventory products that revealed the DLC warehouses had variances both over and under what was recorded—an estimated 2.5 million fewer items and about 3.8 million more items on hand than what was recorded in the system. Apnea care products comprised the largest share of items whose physical count fell short of the quantity on record. Hearing aid and auditory accessories comprised a large portion of inventory that exceeded the quantities on record.
- The DLC had a substantial quantity of goods that were not recorded in the inventory management system as VA policy requires, including apnea care products, nebulizers, and iPhones. DLC supervisors established a contingency stock of apnea supplies in Denver but only recorded 40 of almost 400 products in the inventory management system.[7] The audit team determined that about 49,100 quantities of apnea care products with a total value of about $1.7 million were not recorded in the inventory management system, including some continuous positive airway pressure (CPAP) machines.[8]
- During the one-year period leading up to the audit team's inventory assessment, DLC staff made 8,649 manual adjustments to the quantity and value of items in its inventory system. The adjustments amounted to a net decrease of $16,550,687 in inventory value. The absolute value of the adjustments was $65,603,558. VA policy requires sufficient detailed descriptions of the circumstances requiring adjustments.[9] Further, DLC's procedures require logistics personnel to identify the reasons for adjustment transactions, when the error occurred, and the root cause for the error. Logistics staff are to enter the justification for the adjustment in a free-text field, using specific codes for categories to

[6] VA Directive 7002, *Logistics Management Policy,* January 8, 2020.

[7] Contingency refers to stock kept in case of unforeseen demand or need.

[8] Numbers are rounded to the nearest hundred or hundred thousand, respectively.

[9] VA Handbook 7002, *Logistics Management Policy,* January 8, 2020.

note how and why errors occurred.[10] The reasons for the discrepancies that led to these continuous adjustments were often not determined or documented by DLC staff in the inventory management system. About 54 percent of adjustments cited inconclusive or no findings at all, or there was simply no justification recorded for the change.

The DLC's Internal Controls over Inventory Management Were Insufficient

Several inadequacies at the DLC contributed to the deficiencies, including the significant lack of effective internal controls and oversight of its inventory management operations.

Effective inventory management requires qualified and trained staff with clear roles and responsibilities that are separated to mitigate risks of errors in processes or procedures, misuse of government funds or property, and fraud. According to the NAC's internal controls matrixes, a separation of duties is required for the receiving of goods and services, the processing of goods and services, and the inventorying of goods.

In 2020, the NAC issued a policy stating the ordering official who placed and signed an order to obtain goods cannot be the person delegated to receive the order.[11] However, the DLC failed to appropriately segregate duties to ensure the integrity of its inventory, and DLC leaders were not aware this lack of separation of duties was problematic. The audit team's assessment of DLC data revealed that four of five inventory managers appeared to engage in conflicting duties relating to the order, receipt, or disbursement of inventory. Further, 21 of 25 warehouse staff appeared to engage in conflicting duties relating to receipt and disbursement of inventory. The DLC also lacked an effective quality assurance function. Staff in that position stated they did not perform internal audits of the DLC's inventory management processes. Instead, the DLC quality assurance staff primarily focused on observing warehouse operations, such as receiving shipments and pulling items for orders to address issues and mistakes in the process.

The DLC lacked specific written procedures for managing and accounting for supplies and mitigating discrepancies. Although the DLC's master warehouse standard operating procedure and six inventory management user guides cover entering supplies into the inventory software, these documents do not include guidance on inventory management and accountability, responsible staff, or separation of duties necessary when carrying out operations like cycle counts, analyzing and forecasting demand, and reordering supplies. Instead, DLC logistics staff receive informal instructions for managing inventories. According to the acting associate executive director of the NAC, the DLC does not use barcode scanners to manage its inventory, as the inventory management system lacks the capability of using a barcode scanner and label

[10] VA chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum to the logistics staff, March 14, 2016. See appendix A for further details on this policy.

[11] NAC Policy Memorandum 003B6-33, "Receiving, Processing and Inventory," May 22, 2020.

system to track and manage inventory. The lack of automation at the DLC led to mostly manual input and a higher risk of errors.

Regarding training, the DLC chief of logistics said there is no formal program, and that staff learn on the job. According to its director, the DLC uses on-the-job instructions to train staff, and each DLC division is responsible for training its staff on their roles and duties. The DLC's associate director explained that the DLC's logistics division was currently updating its training plan due to high employee turnover.

The DLC director did not detect inventory issues at the Denver and Hines warehouses or communicate losses in inventory. According to the DLC director, he is the accountable officer for the DLC. However, the director did not require logistics staff to report the results of the physical inventories for his review and signature, even though VA policy states that adjustments to all perpetual inventory accounts must be signed by the accountable officer or designee.[12]

The DLC director did not report significant adjustments to value or quantities of inventory to the NAC. This included losses of nearly $1.2 million that DLC leaders documented in a report of survey at the end of FY 2022. In addition to the losses that the DLC identified, the audit team's assessment of DLC transaction register data identified 268 adjustments reflecting losses of more than $5,000 each (total value of over $39 million) from October 2021 to June 2022, that were not known outside of the DLC. Adjustments made in the inventory management system are not communicated in such a way that losses would be transparent in an income statement, as statements reflected $0 in inventory variances and adjustments. With the DLC not including the breakdown of known losses and inventory value adjustments in the income statements, VA's ability to provide proper financial oversight of the DLC was impeded.

The audit also revealed that physical security of supplies at the warehouses in Denver and Hines was not sufficient to ensure supplies or veteran information was protected from loss or theft. Warehouse entry points to all three DLC warehouse locations were not properly secured, security cameras were not operational until 2023, and anyone in the Denver warehouse could access the keys to the outdoor storage units containing inventory.

VA Did Not Effectively Oversee the DLC's Operations

The OIG found that the oversight of the DLC—by the NAC, OPAL, VA's Office of Revolving Funds, and external auditors—focused on the DLC's sales revenue, the rate of the associated fees charged for orders, fulfillment, and the timeliness from placement to delivery of supply orders, but did not ensure DLC compliance with VA policy in regard to inventory management. As a

[12] VA Directive 7002. Although the DLC director stated in interviews with the OIG that he was the accountable officer, OALC provided a general comment indicating that the standard practice of the DLC recognized the chief of logistics division as the accountable officer, and that a delegation memorandum for the accountable officer is in place. The audit team requested a delegation memorandum in February 2023, but it was not provided. Most of the approved inventory adjustments discussed in this report were made by the deputy chief of logistics division.

member of the VA supply fund, the DLC earns its revenue for operating expenses from the fees on its sales. However, adjustments made in the inventory management system were not transparent, and the oversight bodies had not requested such information. Starting in March 2023, at the request of the acting associate executive director of the NAC, the DLC began providing weekly data reports on inventory adjustments and values to the NAC.

The DLC manages millions of dollars of supplies intended for VHA facilities and their patients, and VA should move quickly to ensure the DLC's inventory operations can effectively account for those supplies. Deficiencies identified in this audit put the DLC at risk of not being able to fulfill its mission. Without proper management, VA cannot ensure the availability of supplies needed for patient care and risks wasting taxpayer money.

Weak Controls over the DLC's Inventory System Risk the Integrity of Its Data and Ability to Maintain Accurate Inventory

The OIG also observed weak information system controls related to access control, physical and environmental protection, audit and accountability, and contingency planning, which risk the integrity of inventory data and the ability to maintain accurate inventory. The Federal Information Security Management Act (FISMA) mandates that federal agencies secure information and systems that support their operations and assets. FISMA tasked the National Institute of Standards and Technology (NIST) to develop information security standards and guidelines, including minimum requirements for federal information systems. NIST security controls are designed to facilitate safeguarding of information systems and protecting the integrity of information in the systems.[13]

Weak controls over access to the DLC's custom version of VistA leave it vulnerable to unauthorized programming or data changes, which risk the integrity of supply inventory data. The audit team determined that user access to DLC systems is not always limited by role, responsibility, or need. Employees without a mission need for elevated access may end up with more privileges than necessary, and staff expressed concerns about the ability to make changes in the system data that are not tracked on the DLC's transaction register. The audit team identified 10 users outside of the information resource management team who had the ability to view and access tools and make changes without a business need that can affect the functions of the program. The audit team also identified 150 user accounts with the ability to alter other user profiles and change or reset VistA log-in information, as well as 319 VistA user accounts with access to review and edit patient information stored in the DLC inventory system.[14]

[13] NIST Special Publication 800-53, *Security and Privacy Controls for Federal Information Systems and Organizations*, Abstract, January 22, 2015.

[14] The number of accounts includes people no longer with the DLC whose accounts were not properly closed, as well as duplicative or renamed user accounts that also were not closed.

As with supplies on hand, the DLC information technology system hardware had physical security vulnerabilities, risking loss of programs and data. The DLC lacked an active off-site data storage backup of the inventory management system programs and data, and an active continuity of operations plan. In case of an unforeseen disaster at the Denver warehouse, DLC's information systems may not be able to continue or be reestablished without complete replacement.

The audit team also determined that DLC managers were not ensuring transparency and accountability in information systems in two primary ways. First, the DLC inventory data were not transmitted to VA's Corporate Data Warehouse like other VA inventory applications. The Corporate Data Warehouse is a collection of VA clinical, financial, and administration data from multiple systems and is used by VA for management, analysis, and oversight functions. It is a common practice within VA to maintain data in this central repository. By not transmitting its inventory data, the DLC's information system provides minimal direct oversight capability to VA leaders. Second, the DLC systems lacked an effective audit trail for changes to the information system. The one type of audit trail of DLC's inventory is its transaction register, but this was found to be vulnerable to edits and deletions, creating the possibility of changes made to the system without a record of who made them.

The DLC continues to use a homegrown, legacy system. According to staff, the system in place has old code that operates on a Windows 2012 server.[15] As of October 2023, Microsoft planned to no longer support the Windows 2012 server. According to the Office of Information and Technology (OIT) portfolio manager, the VA chief information officer has requested that each information system have a modernization plan, but DLC managers have been reluctant to develop a modernization plan.[16] According to the DLC director, a modernization plan has not been established because the inventory management system was meeting the needs expressed by medical facilities.

According to the portfolio manager, OIT's only control of DLC's information technology system for inventory is its authority-to-operate process, which is dependent on documentation provided by the DLC.[17] However, OIT's process evaluated the ROES ordering component of the DLC's

[15] Per VA's general comment, the code is not restricted to Windows 2012, as it also operates on the Windows 2019 operating system platform, and the operating system can be upgraded from Windows 2012 without detriment to the application itself.

[16] According to VA's general comment, there was no reluctance by the DLC director or managers to engage in modernization efforts. The OIG clarified this sentence to specify a reluctance to develop a modernization *plan*. The OIG was told by multiple sources, including the DLC director, that a modernization plan had not been established. The audit team requested modernization plans, timelines, and actions from the DLC director in January and February 2023 but did not receive a response.

[17] An authority to operate is the official management decision given by OIT to authorize operation of an information system and to explicitly accept the risk to agency operations, agency assets, individuals, or other organizations, based on the implementation of an agreed-upon set of security and privacy controls.

systems and did not appear to include an evaluation or verification of the underlying custom VistA inventory management system, or access controls within that system.

On November 2, 2022, the VA Office of Information Security Risk Review team notified the DLC that they recommended an overall risk score of "high" for the ROES component. DLC personnel said that they subsequently used contracted specialists to help them address the high-risk designation and submitted additional supporting documentation. On December 2, 2022, OIT approved an authority to operate the ROES component through December 2, 2023. According to VA Handbook 6500, if the system still requires operation with a level of risk of "very high" or "high" after one year, the authorizing official must again grant permission for continued operation of the system.[18]

The DLC's management of the information technology system for inventory has led to a system that lacked appropriate controls for access, an effective audit trail, and transparency of its data. It also was not physically secured. The system access weaknesses and lack of transparency risk data integrity and limit opportunities for needed oversight. Further, the ordering system is becoming unsustainable due to age and a lack of institutional knowledge to keep it updated. Information systems need to "provide for development and maintenance of minimum controls required to protect federal information and information systems," and the DLC's system appears unable to achieve that.[19] VA needs to ensure that DLC inventory systems are adequately secured, accountable, sustainable, and capable of meeting VA and NIST information security standards and guidelines.

What the OIG Recommended

The OIG made 19 recommendations to OALC—11 to improve the inventory management operations and oversight of the DLC and eight to address information system deficiencies in coordination with OIT.

The recommendations for improved inventory accuracy included ensuring all goods are accurately recorded in the inventory system, strengthening controls over inventory adjustments to ensure greater accountability and reduce inaccuracies in physical counts, establishing policies that clearly define roles and responsibilities for logistics and warehouse employees to avoid conflicts of interest and enhance quality assurance functions, and conducting formal training for DLC staff on inventory management policies and procedures. The OIG also recommended OALC address the physical security issues identified, as well as develop, implement, and provide initial and recurring training and guidance to DLC staff on proper physical security controls and procedures, including the proper disposal of personally identifiable information. The OIG further recommended the DLC routinely report inventory adjustments to the NAC and OALC, and that

[18] VA Handbook 6500, *Risk Management Framework for VA Information Systems,* February 24, 2021.
[19] 44 U.S.C. § 3551.

an independent, comprehensive, multiyear financial audit including inventory assessments of the DLC be conducted.

To address information system deficiencies, the OIG recommended that OALC transfer the stewardship and responsibility of DLC systems to OIT. The OIG also recommended OALC and OIT establish information system controls for user access, segregation of duties designations, and permission and privilege access; establish and perform routine review of the levels for users with direct access to the inventory management systems and limit access to those who have a defined business purpose; align the DLC's information technology system with information security standards; connect DLC inventory data to VA's Corporate Data Warehouse; ensure the information technology system application does not bypass internal control restrictions; develop and maintain documentation of the information system to support operations and train staff; and ensure security documents accurately support the proper controls.

VA Comments and OIG Response

The principal executive director and chief acquisition officer at OALC concurred with and provided action plans to address all 19 recommendations. OALC also provided several general comments and two technical comments, which the OIG addresses throughout the report where appropriate. The full text of VA's comments appears in appendix D.

OALC's planned actions are generally responsive to all 19 recommendations and address the issues identified in both findings. However, the OIG notes that some action plans lack specificity, and the OIG will continue to evaluate VA's future actions and supporting documentation to ensure compliance. As discussed in this report, weak system controls risk the integrity of inventory data and the DLC's ability to maintain accurate inventory, and the OIG concludes that VA needs to ensure the DLC inventory systems are adequately secured, accountable, sustainable, and capable of meeting information security standards and guidelines.

OALC did not request closure of any recommendations, and all remain open at the time of this report's publication. The OIG will close recommendations when VA provides sufficient evidence addressing the intent of the recommendations and the issues identified.

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Contents

Abbreviations

CPAP	continuous positive airway pressure
DLC	Denver Logistics Center
eMASS	Enterprise Mission Assurance Support Service
FY	fiscal year
FISMA	Federal Information Security Management Act
GAO	Government Accountability Office
HDOS	Healthcare Distribution Operation Section
NAC	National Acquisition Center
NIST	National Institute of Standards and Technology
OALC	Office of Acquisition, Logistics, and Construction
OIG	Office of Inspector General
OIT	Office of Information and Technology
OPAL	Office of Procurement, Acquisition and Logistics
ROES	Remote Order Entry System
VHA	Veterans Health Administration
VistA	Veterans Health Information Systems and Technology Architecture

Introduction

VA's Denver Logistics Center (DLC) obtains and distributes goods for Veterans Health Administration (VHA) medical facilities and their veteran patients from its logistics division in Denver, Colorado, and its Healthcare Distribution Operation Section (HDOS) in Hines, Illinois.[20] The DLC logistics division in Denver manages audiology, prosthetic, and telehealth supplies; the HDOS in Hines manages sleep apnea care supplies and devices, including continuous positive airway pressure (CPAP) machines.

In 2022, the VA Office of Inspector General (OIG) reported on gaps identified in the DLC's internal control structure, based on how the organization handled iPads purchased for distribution to veterans to facilitate video-based virtual care.[21] The review found there was a backlog of about 14,800 devices returned to the DLC that had not been refurbished and therefore not logged into inventory, and VHA purchased additional devices to cover demand.

Based on those issues, the OIG identified a risk that other goods managed by the DLC were also affected by internal control weaknesses, such as inconsistent inventory and supply chain practices and inadequate program oversight within DLC operations. The OIG conducted this audit to determine if the DLC maintained accurate inventories of VA-owned goods.

The DLC Obtains and Distributes Goods for VHA

The DLC orders, stores, and ships items for an agreed-upon fee, either to VA facilities for distribution to patients or directly to patients, as well as accepts returned items as applicable.[22] This reduces unnecessary trips for the patient and enhances efficiency for VA clinical staff. The supplies and services provided by the DLC are billed to the veteran's VA medical center of record and paid for by VHA. The DLC earns its revenue for operating expenses through fees and markups on its sales.

DLC logistics and warehouse staff are responsible for managing and accounting for all supplies purchased, stored, and shipped by the DLC to VA medical centers and veterans.

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[20] The DLC provides holistic supply chain management for the Office of Rehabilitation Services, Audiology and Speech Pathology Service, Prosthetic and Sensory Aids Service, Office of Connected Care (Home Telehealth and VA Video Connect), Orthotic Prosthetic and Pedorthic Clinical Services, Sleep Medicine, and Wheeled Mobility, and supports VA and other government agencies with professional logistical services. Golden, Colorado, is home to DLC headquarters and the primary Denver warehouse, while Lakewood, Colorado, is home to the secondary warehouse. The two warehouses are situated inside the Denver metropolitan area and are referred to in this report collectively as Denver. Acquisition staff from VA's Commodity and Services Acquisition Service develop contracts for the commodities and services managed by the DLC.

[21] VA OIG, *Digital Divide Consults and Devices for VA Video Connect Appointments*, Report No. 21-02668-182, August 4, 2022.

[22] The Department of Defense also purchases from the DLC, but to a much lesser extent. Fee rates for services, equipment, and supplies provided by the DLC are determined by VA based on estimated or actual direct costs.

Inventory management staff are responsible for conducting cyclic physical counts of all supplies maintained at DLC locations and for documenting their investigations when the resulting counts do not match those recorded in the inventory management system. The DLC has a perpetual inventory, a continuous accounting practice that records inventory changes in real time.

According to VHA data, in fiscal year (FY) 2022, the DLC issued more than 101 million items costing about $758 million, including fees for processing and distribution.

How the DLC Is Funded

The DLC is funded under a revolving supply fund established by Congress.[23] VA's supply fund was created to operate and maintain a system that procures supplies and provides services on a reimbursable basis. The DLC's primary purpose is to serve VHA, but it also fulfills some orders for the Department of Defense and the Indian Health Service.[24]

VA supply fund entities, including the DLC, recover operating expenses through fees and markups on different products and services. According to the chief financial officer of the Revolving Fund Board that oversees the supply fund, the board is authorized to charge customers for the cost of goods and services plus a markup fee determined by the VA secretary, and the fees collected are what make up the supply fund enterprise operating budget. He added that, historically, the fees charged by the DLC have not changed annually, as this provides stability for the customer. However, the fees are subject to change if the rates being charged are not equitable and appropriate for the various categories of goods sold.

In June 2022, VA Revolving Fund directors approved increasing the DLC rates for auditory implants from 3.5 percent to 4 percent, apnea devices from 7.5 percent to 10 percent, and telehealth devices from 7.5 percent to 10.25 percent. The previous fee change was in September 2015.

According to the director of supply fund fiscal operations, all operating expenses are set by the Revolving Fund Board, and all profits are reinvested into the fund. Further, if a supply fund entity shows profits in a particular year, the entity receives only the board-approved operating expense for the next year. Other VA supply fund participants, in addition to the DLC and its HDOS in Hines, include the Strategic Acquisition Center and the Technology Acquisition Center. The Revolving Fund Board governs fund activities and overall oversight and compliance, and the reporting responsibilities rest with VA's under secretaries and other key officials.[25]

[23] The statutory authority for the revolving supply fund is contained in 38 U.S.C. § 8121.

[24] The director of supply fund fiscal operations for the Office of Revolving Funds stated that 95 percent of all DLC orders come from VHA.

[25] VA Financial Policy, "Supply Fund" in vol. 2, *Appropriations, Funds, and Related Information* (July 2021), chap. 10A.

How the DLC Operates

The DLC has over 200 VA and contracted staff and is aligned under VA's Office of Acquisition, Logistics, and Construction (OALC) through the Office of Procurement, Acquisition and Logistics (OPAL). In relation to acquiring supplies, equipment, and services required to provide benefits and medical care to veterans, OPAL makes recommendations for policies, plans, and strategies for VA application regarding acquisition planning, procurement, and contract administration. OPAL oversees the National Acquisition Center (NAC), and the DLC reports to the NAC. The NAC is responsible for supporting healthcare requirements and awarding contracts and purchase agreements for acquisition and direct delivery of prosthetic and other supplies to the DLC.

The DLC's information resource management team maintains and develops the information systems that assist DLC operations and order fulfillment. The DLC Veteran Services Division manages customer service, the hearing aid repair lab, and program management support. Figure 1 shows the DLC's organizational structure.

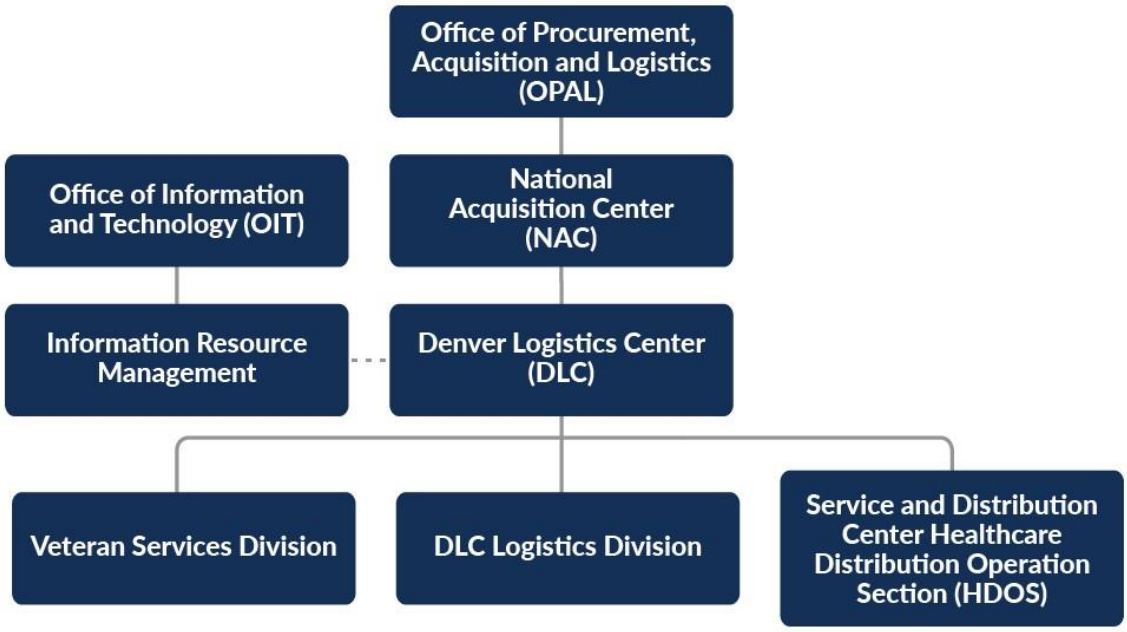


Figure 1. *DLC organizational structure.*
Source: OIG analysis of a DLC PowerPoint document from July 2021.

In 2021, the DLC became VA's sole distributor of apnea supplies, with Hines staff and the HDOS being operationally responsible. According to the Hines supervisory supply management officer, the DLC's initial plan was for Hines to roll out apnea shipments to VA medical facilities in five phases, from November 2020 through May 2021. However, due to contracting delays and information technology issues, the rollout period was delayed and decreased to only a few months, from June through September 2021. The supervisory officer said that after phase one,

the DLC determined that Hines would start shipping apnea orders nationwide, implementing phases two through five simultaneously. The following figure shows the DLC's functional management structure for logistics.

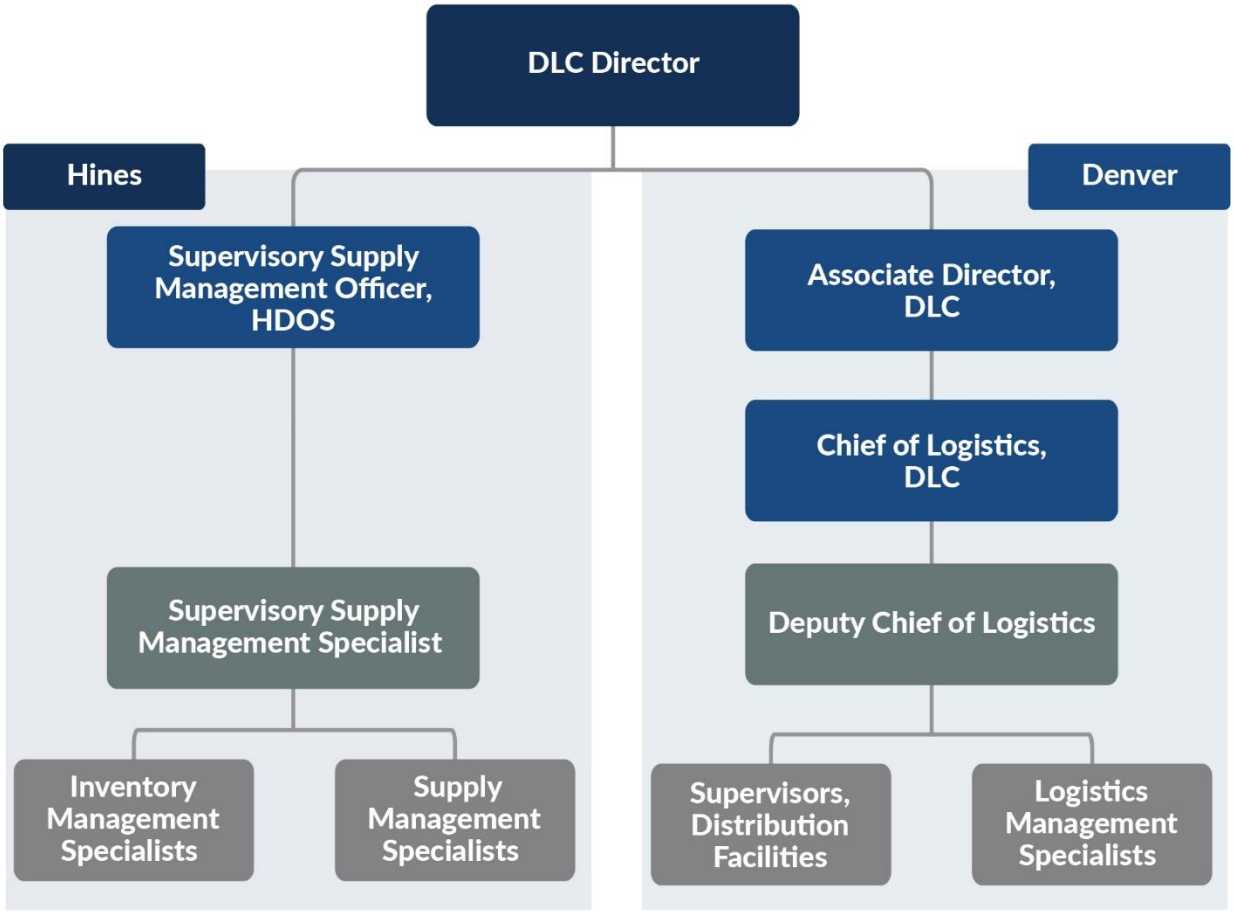


Figure 2. *DLC management structure for the logistics division in Denver and the HDOS in Hines.*
Source: OIG analysis of organization charts from OALC.

DLC Inventory Systems Overview

The DLC uses two internally developed applications to receive and process orders and manage inventory: the Remote Order Entry System (ROES) and a customized Veterans Health Information Systems and Technology Architecture (VistA) inventory system.

According to the director of the DLC, ROES is a web application that is integrated into VHA's Computerized Patient Record System. VHA clinicians can create orders using a ROES interface. Veterans may also request resupply items from the DLC through a web portal or can contact a

call center to order certain items from the DLC.[26] Once an order is placed, DLC staff ship the items either to the facility or directly to a veteran. The national program director for the Prosthetic and Sensory Aid Service stated the order information is transmitted to VHA's National Prosthetic Patient Database, which populates information into the patients' electronic health records.

The director of the DLC stated the DLC uses the customized VistA inventory system to guide warehouse operations by facilitating the ordering and reordering of items warehoused and distributed by the DLC. The two DLC applications operate on top of a single shared database called Caché, according to the DLC's information resource management director. The DLC director also stated inventory levels for items in stock at the DLC are decreased from the database at the time an order is processed, not at the time an item is pulled from the shelf or shipped. An OIG analysis of the DLC's Inventory User Management Guide indicates warehouse operations including receiving goods, making manual inventory adjustments, and changing item information also alter the database. The database is the only official record of current stock levels for the DLC. For the purposes of this report, ROES, VistA, and the underlying Caché database are referred to as the inventory management system.

The DLC director compared ROES to an internal web store for its customers, such as VHA staff. DLC staff indicated ROES shows the DLC's available quantities and supplies on hand and allows customers to place orders to the DLC. The available inventory data in ROES reflect the information listed in the inventory management system at the time of order according to the DLC director. DLC logistics staff review and print orders from VistA, and DLC warehouse staff pick, package, and ship items to the addresses associated with the order.

Supply fund officials stated the order shipment information is also passed to the Financial Management System for invoicing and to VHA's National Prosthetic Patient Database for patient order tracking. Figure 3 shows a basic overview of inventory systems at the DLC.

[26] VA provided a technical comment indicating that veterans may request resupply items from the DLC. The OIG clarified this sentence accordingly.

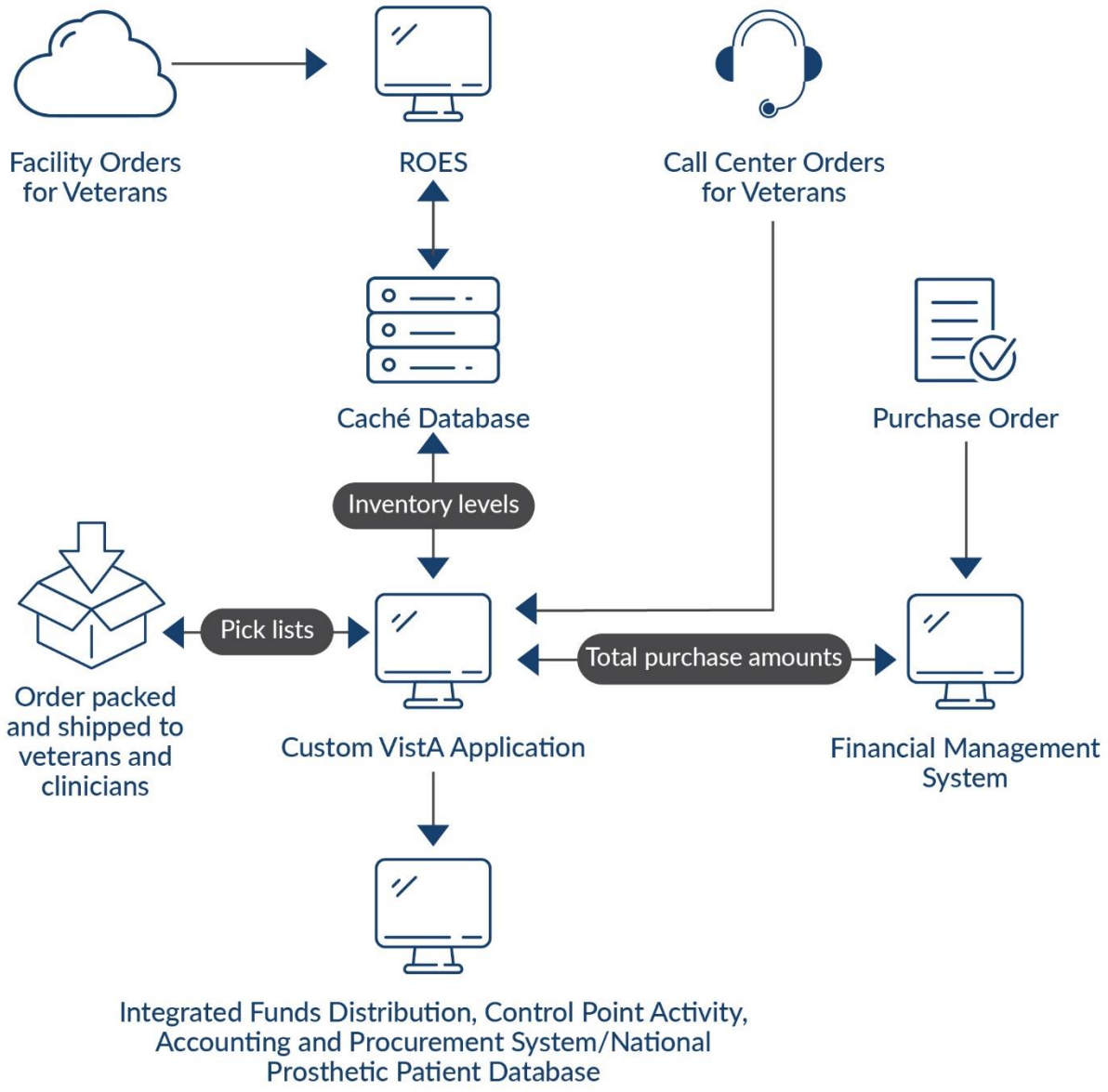


Figure 3. *DLC inventory systems overview.*

Source: OIG analysis and interviews with DLC staff.

Note: According to supply fund officials, the custom VistA application sends aggregated data to the Integrated Funds Distribution, Control Point Activity, Accounting and Procurement System and VHA's National Prosthetic Patient Database. The DLC used the Financial Management System during the scope of this audit but transitioned to the Integrated Financial and Acquisition Management System (iFAMS) in October 2022. Multidirectional arrows represent data going in and out.

DLC Warehouse Procedures

The DLC has its own unique set of warehouse protocols:[27]

- Receiving incoming deliveries, which includes inspecting, accepting, signing, and stocking into product locations, as well as maintaining documents
- Processing the purchase order by matching all contents received to the packing list and bill, verifying items and quantities, and marking items as received in the inventory management system
- Processing incoming orders from customers by pulling the orders into the correct workstations for shipment
- Automatically bagging items for shipment

Another internal DLC policy, "Inventory Adjustment Policy and Standard Operating Procedures," outlines steps DLC staff are required to follow to determine the root cause of errors that result in inventory adjustments.[28] The policy established a two-character alphanumeric code for categorizing inventory errors to identify the type of transaction when the error occurred and to assign an error classification. Lastly, the policy established thresholds for minimum research requirements for inventory adjustments.

VA Logistics Policies

The DLC is subject to VA logistics policies. VA Handbook 7002, *Logistics Management Policy*, requires that an accountable officer ensure the implementation and use of a VA-approved and -authorized inventory system for all inventory functions.[29] According to the handbook, the DLC director is the accountable officer for the DLC. The policy states the following:

- Adjustments to all perpetual inventory accounts must be signed by the accountable officer or designee.
- Adjustment vouchers will be used to process appropriate modifications to perpetual inventory and general ledger accounts and to correct erroneous posting data. An adjustment voucher recap report captured from the authorized automated inventory system will be reviewed, signed, and dated monthly by the accountable officer or designee.

[27] DLC, *Standard Operating Procedures (SOP)—Distribution Management Section*, January 27, 2022.

[28] DLC chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum to all DLC logistics section personnel, March 14, 2016. This memo is described in more detail in appendix A.

[29] VA Handbook 7002, *Logistics Management Policy,* January 8, 2020.

- If an adjustment voucher is required due to government property being lost, stolen, or damaged, a report of survey action must be completed.[30]
- All government property assigned to the facility is accounted for and entered into the proper automated system.
- A complete physical inventory of all stock is required annually, and the minimum acceptable accuracy rate is 95 percent. The DLC's chief of logistics said the DLC had used an inventory accuracy standard of 90 percent and changed the standard to 95 percent on October 1, 2022.
- The policy also states that to comply with the VA Acquisition Regulation, representatives of contracting officers must be designated to accept and receive supplies and equipment. The property purchased on the contracting officer's behalf must be certified by the signature of the contracting officer or designee.[31]

Government Internal Control Standards and Guides

The Government Accountability Office (GAO) has established internal control standards that all federal agencies must follow to provide reasonable assurance they can accomplish their mission through effective management and good stewardship of public resources.[32] GAO standards describe an internal control system as an integral part of management operations, in which organizations must establish a structure clearly defining and appropriately segregating roles and responsibilities for processes and procedures; conduct a risk assessment based on clearly defined organizational goals that considers the potential for fraud and obstacles to meeting the goals that have been set; design control activities that mitigate the risks identified and use quality information necessary to achieve organizational goals; and continually monitor the control activities to ensure control deficiencies are remediated in a timely manner.[33]

Further, a GAO executive guide describes the fundamental practices and procedures used in the private sector to achieve consistent and accurate physical counts.[34] While VA is not required to follow the guide, it describes leading practices that the federal government may be able to use and states that managing the acquisition, production, storage, and distribution of inventory is critical to controlling cost, operational efficiency, and mission readiness. Proper inventory

[30] According to VA Directive 7002, the report of survey is the required method used to obtain an explanation of the circumstances surrounding the loss, damage, or destruction of government property.

[31] VA Directive 7002.

[32] GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014. See appendix B for details on the GAO standards.

[33] GAO, *Standards for Internal Control in the Federal Government*.

[34] GAO, *Executive Guide: Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, GAO-02-447G, March 2002.

accountability requires that detailed records be maintained and properly reported. It goes on to state that detailed records are necessary to help provide accountability for physical inventory and efficiency and effectiveness of operations. Physical controls and accountability reduce the risk of

- undetected theft and loss,
- unexpected shortages of critical items, and
- unnecessary purchases of items already on hand.

These controls help ensure continuity of operations, increased productivity, and improved storage and control of excess or obsolete stock.[35]

[35] GAO, *Executive Guide: Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*.

Results and Recommendations

Finding 1: The DLC Did Not Effectively Manage, Safeguard, or Account for VA-Owned Goods

The OIG determined that the DLC did not accurately account for VA-owned goods, as its inventory records did not align with on-hand supplies. First, the audit team identified significant inventory discrepancies between supplies on hand and those recorded in the inventory management system. The sample inventory assessment revealed variances both over and under what was recorded in the system—an estimated 2.5 million fewer units physically on hand for some items including apnea care products, and 3.8 million more units on hand for other products. Second, the DLC had goods of significant quantity and value that were not recorded in the inventory management system as required, including apnea care products, nebulizers, and iPhones. Finally, during the one year leading up to the audit team's inventory assessment, DLC staff made 8,649 manual adjustments to the quantity and value of items in its inventory system amounting to a net decrease of $16,550,687 to its inventory. The reasons for the discrepancies that led to continuous adjustments were generally not determined or documented by DLC staff in the inventory management system, as required.[36] About 54 percent of adjustments cited no findings or inconclusive findings, or there was simply no justification recorded for the change.

The OIG found accountability for VA-owned goods was lost due to a significant lack of effective internal controls in the DLC and inadequate oversight of its inventory management operations. The DLC did not establish written procedures for managing and accounting for supplies and mitigating discrepancies, and roles and responsibilities were delegated or not clearly defined. The audit also revealed that physical security of supplies at the warehouses in Denver and Hines was not sufficient to ensure supplies or veteran information were protected from loss or theft.

The DLC has largely operated under minimal VA oversight of its inventory management. Adjustments to inventory or reports of survey for lost or damaged inventory were not transparent outside the DLC. The OIG found the NAC's oversight focused primarily on sales and was ineffective at ensuring the DLC followed VA policies and protected VA-owned goods.

The DLC must follow VA policy that says all employees who use, supervise, or have custody of VA-owned goods are responsible for those goods from acquisition to disposition.[37] Inaccurate inventory records increase the risk of inaccurate financial reporting, increased costs to VHA, and delayed distribution or overstock of products. By not adequately accounting for VA-owned

[36] VA Handbook 7002.

[37] VA Directive and Handbook 7002.

goods under its care in accordance with policy, the DLC risks loss or theft of goods, or waste of public funds.

The following elements support this finding:

- Inventory records did not align with supplies on hand.
- The DLC's internal controls over inventory management were insufficient.
- VA did not effectively oversee the DLC's operations to ensure policies were followed.
- The DLC risks being unable to fulfill its mission, along with the theft, loss, or waste of millions of dollars in VA-owned goods.

What the OIG Did

The audit team evaluated policy, procedures, and other guidance to understand how the DLC manages its inventory. The team analyzed DLC inventory transaction data from July 2021 through June 2022 and counted the on-hand inventory levels for a sample of 80 products during an unannounced site visit the week of July 11, 2022, at the DLC warehouses in Denver, Colorado, and Hines, Illinois. On July 11, 2022, the DLC's inventory management system held records of 2,329 audiology and prosthetic supply products, with quantities totaling about 14.8 million valued at around $61.3 million.[38] The audit team identified and counted the quantities on hand of the 80 sampled products and compared them with what was recorded in the DLC's inventory management system. The audit team then assessed inventory at other storage locations; met with warehouse leads and supervisors to discuss any discrepancies; and reviewed the transaction register to account for transactions, such as sales, returns, receipts, and adjustments.[39] The team again visited the DLC warehouses in Denver the week of October 24, 2022, and on May 3, 2023.[40]

The audit team interviewed DLC distribution and logistics managers, quality assurance staff, and warehouse staff and supervisors. The team also met with DLC program managers and members of the information resource management team, and interviewed OALC, OPAL, NAC, and VA supply fund leaders. Further, the audit team conducted a physical count of apnea care products in the contingency stock at the DLC warehouse and analyzed DLC data on back orders.[41]

[38] Numbers are rounded to the nearest hundred thousand.

[39] The audit team reviewed the DLC's inventory management system transaction register to account for any transactions that took place from July 11 through July 13, 2022, and discussed all discrepancies with DLC logistics staff.

[40] See appendix B for further details on the audit scope and methodology, and appendix C for further details on the statistical sampling methodology.

[41] Contingency refers to stock kept in case of unforeseen demand or need.

Inventory Records Did Not Align with Supplies on Hand

The OIG found DLC managers and staff did not maintain accurate inventory of VA-owned goods for distribution to VA medical facilities and veterans, demonstrated by the following three issues:

- First, the audit team performed a physical inspection of a sample of products and identified significant discrepancies between supply quantities on hand and those recorded in the DLC's inventory management system.
- Second, the team identified VA goods physically on hand that DLC staff had not recorded in the inventory system as VA policy requires, including a significant volume and value of apnea supplies, as well as nebulizers and iPhones.[42]
- Third, DLC staff made continuous manual adjustments to the quantity and value in the inventory system during the one-year period preceding this audit, and the OIG found that staff generally did not identify or document the reasons for the adjustments. Inventory adjustments are changes to the inventory balances and can be made at any time, such as after physical counts of items are compared to recorded data. VA policy requires sufficient detailed descriptions of the circumstances requiring the adjustments.[43]

The OIG Identified Discrepancies with Records in a Physical Inspection of DLC Inventory

The audit team conducted a sample inventory assessment on July 12 and 13, 2022. Using the same methodology as the DLC to count inventory, the team determined that quantities on hand for items at the three DLC warehouses differed from those recorded in the inventory management system. From the sample review, the audit team projected the results to about 14.8 million audiology and prosthetic supply items valued at around $61.3 million recorded in the inventory management system at that time.

Overall, the OIG found an estimated 1,000 of about 2,300 products had variances, both over and under what was recorded in the inventory system. Specifically, the audit team determined that the DLC warehouses had an estimated 2.5 million **fewer** items (valued at an estimated $28.9 million) in the physical count than the quantity recorded in the inventory management system.

Apnea care products comprised a large share of items whose physical count fell short of the quantity on record. Specifically, for apnea care products, the audit team determined there were an estimated 520,000 fewer units than on record. Apnea care products, which include CPAP

[42] VA Handbook 7002.
[43] VA Handbook 7002.

machines and masks and cushions for the machines, account for most of the DLC's inventory value (see table C.2 in appendix C for further details).

Example 1

The audit team conducted a physical inventory count for CPAP machine tubing. The inventory system reflected a recorded quantity of 66,954 items on the day of review. However, the audit team identified 59,713 items physically on hand that same day. Thus, there was a difference of 7,241. Upon review and discussion with a Hines employee, it was determined that 3,941 of these items reflected in the system had been moved from the warehouse to fulfill new orders. The remaining difference of 3,392 items (including 23 cancelled orders and 69 returns) remained unaccounted for after the audit team's analysis of the transaction register data and discussions with warehouse staff.

The Hines supervisory supply management officer expressed a lack of confidence in the accuracy of the apnea inventory because of the timeline with which the apnea program was rolled out between June and September 2021, the movement of apnea supplies between Denver and Hines, and the inability of the DLC's inventory management system to account for supplies stored in different locations.[44]

The audit team's sample inventory assessment also revealed that the DLC warehouses had an estimated 3.8 million **more** items (valued at an estimated $1.7 million) in the physical count than the quantity recorded in the system.[45]

Hearing aid and auditory accessories comprised a large portion of on-hand inventory over the quantities on record, representing a projected 2.4 million more items on hand than on record at the time the inventory count was conducted.

Example 2

The audit team conducted a physical inventory count of hearing aid dehumidifiers, identifying 426 dehumidifiers on hand. At that time, the quantity of dehumidifiers recorded in the inventory management system was 379, a difference of 47 more on hand. After an analysis of the transaction register, the audit team identified adjustments that further lowered the quantity in the system by 22 to 357, resulting in a total discrepancy of 69 dehumidifiers. Denver staff could not provide evidence to explain the error and suggested it may have been errors that

[44] The DLC's homegrown inventory management system was developed in the early 1990s, well before the DLC Hines warehouse started distribution of apnea care products in 2021.

[45] The sample for this audit included a variety of item types with a large range of values; therefore, the OIG anticipated higher margins of error for the projection of at least one attribute in this audit. This projected value was affected by this variance in item types and range of values.

occurred while pulling the items from the shelves or receiving the items when delivered to the DLC.

Inventory Identified in the Warehouses Was Not Recorded in the Inventory System

VA policy requires that the accountable officer or designee ensure all government property assigned to the facility is accounted for in the proper automated system.[46] This did not occur at the DLC. The audit team identified VA goods at the Denver locations that were not recorded in the inventory management system, including apnea care products, nebulizers, and iPhones.

Apnea Contingency Stock Missing from the System

The DLC generally distributes its apnea care products from its Hines location. According to the deputy chief of logistics, DLC managers in 2022 accumulated a contingency stock of apnea supplies in Denver after helping the Hines location fulfill orders. However, the DLC staff did not ensure all items were properly recorded in the inventory management system. Contingency stock represents supplies kept in case of unforeseen demand or need. Yet, they are still required to be recorded in the system.[47]

During the audit team's site visit the week of July 11, 2022, the deputy chief of logistics provided a list of 53 types of apnea care products that were stored in the secondary warehouse in Denver and considered contingency stock. On July 11, 2022, the audit team observed the apnea contingency stock shown in figure 4. The DLC inventory system data showed two employees entered these items into the inventory management system on July 13, 2022, under a new inventory system product group and modified the item names. The new product group comprised 40 apnea care products from the list provided and amounted to 87,639 items and a value of $2,372,507.

[46] VA Directive 7002.

[47] VA Directive 7002 does not exempt contingency stock from being accounted for in the system.

Figure 4. *Apnea contingency stock at the secondary DLC warehouse in Denver. DLC staff stated they wrapped the stock to indicate it was contingency stock.*

Source: VA OIG, July 11, 2022.

The DLC deputy chief of logistics said the apnea supplies that ended up as contingency stock in Denver were items previously purchased by Denver to help Hines fulfill about 250,000 back orders. The deputy chief said that while the apnea care products kept at Denver were not initially acquired for contingency stock purposes, he made the decision to keep some apnea care products in Denver, and the decision was supported by the DLC director and the chief of logistics. The deputy chief stated that this decision was based on the demand and back ordering of apnea supplies, and concerns with the management of the apnea program in Hines. He also acknowledged changing the item names to make the products visible only to staff with the appropriate access and to prevent orders of these products. The DLC director and logistics managers said the DLC had no plans to use the contingency inventory in Denver to fulfill orders, and that the items would be kept at the secondary warehouse in Denver indefinitely.

In September 2022, Denver staff completed a physical inventory of the contingency apnea care products. The results of the inventory were recorded on packing lists by pallet number. The lists noted each item number, the quantity of each item per pallet, and the name and signature of the employee who counted the item. During the audit team's visit to Denver's secondary warehouse in October 2022, two warehouse supervisors confirmed that staff had completed the inventory of the contingency products. One warehouse supervisor said the inventory was done to update and record the available quantities in the inventory management system. The supervisor stated he provided the logistics managers with the packing lists to update the system. However, as of April 2023, the system was not updated and the records continued to reflect about 40 products.

On October 27, 2022, the audit team completed a physical inspection of the items in contingency stock at Denver. Each pallet of supplies had a packing list attached. The audit team determined the packing lists included almost 400 unique item numbers across 69 pallets. The audit team independently inventoried the supplies and counted almost 400 types of apnea care products—nearly identical to what the Denver staff documented on their packing lists that amounted to about 137,000 individual items and a total value of about $4.1 million.[48]

The contingency stock at the secondary warehouse in Denver, partially depicted in figure 5, far exceeded the 40 types of apnea care products listed in the inventory management system. The audit team determined that about 49,100 individual items valued at about $1.7 million were not recorded in the inventory management system.

Figure 5. *Contingency stock of apnea supplies and machines at the secondary DLC warehouse in Denver. Source: VA OIG, October 25, 2022.*

Of the apnea care products, which account for a significant portion of the DLC's inventory value, CPAP machines are the most expensive and have been hard to acquire. During the audit team's site visit in July 2022, the DLC director asked the deputy chief of logistics if there were any CPAP machines in Denver. The deputy chief responded to the director that there were not, as they were all sent to Hines.

The DLC director and deputy chief of logistics told the audit team in August that the apnea contingency supplies did not contain items that could expire, and the chief of logistics again stated that the contingency stock did not contain CPAP machines. However, the audit team and Denver's packing lists identified three types of CPAP machines (105 total machines) in contingency stock, as well as 10 types of apnea care products with expiration dates. The DLC leaders were aware of the available apnea care products held in contingency stock because the logistics management specialist that emailed the audit team the packing lists in October 2022

[48] Numbers are rounded to the nearest thousand or hundred thousand, respectively.

also included the chief and deputy chief of logistics in the email correspondence. Figure 6 shows four of the CPAP machines identified in the inventory and the associated packing list sheet.

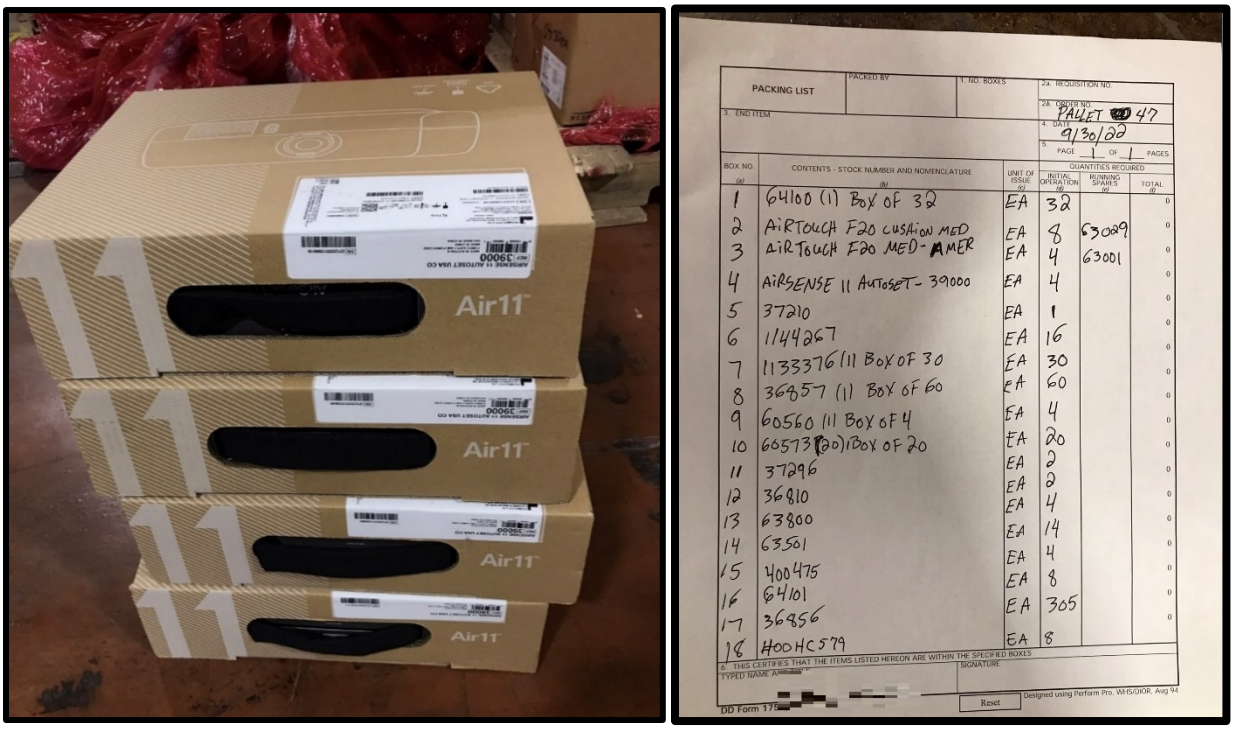


Figure 6. *AirSense 11 sleep apnea CPAP machines identified in the contingency stock at the secondary DLC warehouse (left) and the corresponding pallet packing list sheet (right; name blurred for privacy purposes). Source: VA OIG, October 27, 2022.*

On January 10, 2023, the deputy chief of logistics told the audit team, the OPAL executive director, and the NAC acting associate executive director that there were 40 items in contingency and they never had AirSense 11 CPAP machines at the Denver location, in contrast with the audit team's findings of nearly 400 items in contingency stock, including apnea machines.[49] The DLC director questioned whether the individuals who viewed the inventory knew if it was contingency stock, and the deputy chief suggested that they may have viewed nebulizers and misunderstood them to be CPAP machines. However, as noted earlier, both the audit team and the DLC staff on their packing lists identified 105 total machines, including the four shown in figure 6.[50] The DLC director and the deputy chief of logistics did not acknowledge that additional apnea care products and quantities were on hand at Denver and not recorded in the system.

As of April 2023, the inventory management system data still reflected records of only a fraction of the apnea care products identified by DLC staff in contingency stock in September 2022 and

[49] The AirSense 11 is one of the CPAP models managed at the Hines location.

[50] Nebulizers were also identified by the audit team in the same warehouse and are discussed in the next section.

again by the audit team in October 2022.[51] By understating the apnea care products in the inventory management system for nearly a year, the DLC risked the loss or theft of some of the remaining $1.7 million of stock without any knowledge or record of it.

In addition to the inaccurate recording of its contingency apnea inventory at Denver, the DLC also encountered issues accurately accounting for the movement of inventory from Denver to Hines. The Hines supervisory supply management officer, responsible for the apnea supplies, said the chief logistics officer in Denver informed him in April 2022 that apnea supplies were being shipped from Denver to Hines, but he did not receive specific information on what supplies and quantities were being sent.[52] On April 27, 2022, he received a summary bill of lading for the first of multiple shipments of supplies from the DLC chief of logistics in Denver. The summary bill noted 20 pallets of "Freight, All Kinds (apnea medical equipment)" with an estimated shipment value of $250,000. The Hines supervisor said that Hines and Denver staff coordinated the remaining shipments and, based on his understanding, the last shipment occurred in June 2022.

The DLC's inability to maintain accurate accounting of apnea supplies as required also affected VA medical facilities' orders for patients. The team obtained a list of patient and facility orders received by Hines between May and October 2022 that were on backlog and still pending fulfillment during the reported or future months. The items on backlog included 35 apnea care products, including three types of apnea machines, that were in contingency stock in Denver.[53] Example 3 illustrates backlogged apnea product that was available in contingency stock at the secondary warehouse but not recorded in the inventory management system.

Example 3

The backlog report for Hines identified 9,193 backlogged orders for VA medical facilities or veterans pending fulfillment for the Dream Station 2 Water Tank with Lid.[54] Most of the orders were made in October 2022 and the report indicated zero quantities on hand. This item was not recorded in the inventory system as contingency stock, but some quantities of this product were physically on hand in

[51] On May 3, 2023, the DLC associate director told the audit team that he made the decision the week of April 24, 2023, to ship the apnea stock to Hines. He said the DLC will take a strategic approach to identify items to maintain in contingency inventory. The deputy chief of logistics said the contingency stock would be included in regular inventory at Hines.

[52] In January 2023, the Hines supervisory supply management officer was promoted to chief of the Service and Distribution Center.

[53] DLC staff defined backlog as patient or facility orders that were not filled due to lack of inventory or that the warehouse could not fill the day the orders arrived.

[54] This item is a type of humidification solution. According to a product description, humidification solutions for CPAP therapy are critical to obtaining successful and comfortable treatment.

Denver, as identified by the DLC in September 2022 and by the audit team on October 25, 2022.

Hines staff were only aware of the 40 types of apnea care products recorded in the system. According to the supervisory supply management officer, the contingency stock supplies were to be available to Hines upon request, although he noted he did not want to get in a cycle of taking from the contingency stock. The supervisory supply management officer at Hines also understood there to be no hard-to-find apnea care products in contingency stock, such as apnea machines. If Hines staff had knowledge of these items in contingency stock, they could have used them to fulfill some backlogged orders.

Nebulizers Were Not Recorded in the System When Received

On July 14, 2022, the audit team observed and physically counted over 1,700 nebulizers on hand over the amount recorded in the inventory management system at that time. Products not recorded in the system would not be available for facilities or veterans to order. According to the deputy chief of logistics, nebulizers were a newly acquired commodity.

Figure 7. *Nebulizers in storage in the secondary DLC warehouse location in Denver. Source: VA OIG, July 11, 2022.*

The audit team determined that the discrepancy in what was physically on hand versus what was recorded in the system occurred because staff did not record nebulizers in the system when received. For example, the DLC staff in Denver physically received 1,589 nebulizers on June 9, 2022, and added them to the inventory system on June 23, 2022. Then they received another 1,542 nebulizers on June 24, 2022, but did not add them to the inventory system until

July 20, 2022—27 days later.[55] During that time, the logistics item manager responsible for ordering nebulizers ordered more nebulizers because the system showed fewer items on hand than were available.

iPhones Were Managed Outside the Inventory System

In July 2022, the audit team also observed and counted about 675 iPhones, worth about $572,000, in a storage unit behind the main Denver warehouse as depicted in figure 8. A logistics staff member told the audit team that these iPhones were not recorded in the inventory management system and said he did not know there were iPhones in the outdoor storage unit. The storage unit was also not recorded as an inventory location in the system. The deputy chief of logistics told the audit team that he moved the iPhones to the storage unit in October or November 2021 when the DLC was moving the location of its secondary warehouse in Denver.

Figure 8. *iPhones in a storage unit behind the main Denver warehouse location.*
Source: VA OIG, July 13, 2022.

The deputy chief further stated that the VHA telehealth program office manages the purchase of iPhones and the DLC logistics function is to hold them in storage and fulfill any orders at the request of the program office. Instead of ordering through ROES, he explained that VA medical

[55] The deputy chief of logistics said that the nebulizers were a new product that contracting bought through a purchase order before the contract for those products went into effect. He explained that since there was no contract tied to the purchase order, his team was unable to add the nebulizers into inventory. He also said that the affected purchase orders would be added to the contract after the product line went live and sales started.

facilities order the iPhones directly through the telehealth program office, and the program office sends orders to logistics on a spreadsheet. The deputy chief said that VHA program office personnel would email the DLC to place orders for iPhones to be distributed to facilities.

In August 2022, the deputy chief of logistics told the audit team all the iPhones in the storage unit had been distributed to facilities since the team was last on-site in July 2022. During a subsequent site visit on October 24, 2022, the audit team confirmed the unit was empty, and the lead distribution specialist told the team that the iPhones were shipped to VA medical facilities. On November 14, 2022, in response to a VHA program office request to the DLC to distribute the last of the iPhones, DLC staff stated that they discovered 644 more phones in their warehouse than previously reported. The program office staff indicated that was about 460 more than they were tracking and subsequently said they would submit more requests for distribution, noting the data plans for the phones were active through January and February.[56]

Later, on May 3, 2023, the audit team observed that the outdoor storage unit was no longer present, and the deputy chief said about 100 iPhones were left to distribute. However, there was no activity in the DLC's inventory management system data to verify the management of iPhones and whether they were all received and sent to the appropriate destination.

As a result of not recording all items and quantities in its inventory management system, specifically apnea care products, nebulizers, and iPhones, the DLC risks the loss or theft of unrecorded stock. Further, the lack of awareness of apnea contingency stock meant that Hines staff did not know what it could have used from that stock to fulfill some of its backlogged orders. The is also risk of certain products expiring while sitting in contingency stock.

Recommendation 1 addresses the need to implement oversight, monitoring, and quality assurance mechanisms that routinely ensure all VA goods received by the DLC are accurately and promptly recorded in the inventory management system at the time of receipt. Recommendation 2 calls on OALC to ensure the DLC properly records all its apnea stock in the inventory management system.

DLC Personnel Made Continuous Adjustments to the Inventory System Records and Generally Did Not Identify or Document Reasons for Discrepancies

DLC personnel told the audit team that warehouse distribution personnel and contractors, quality assurance staff, and logistics item managers and supervisors are involved in conducting cyclic

[56] VA OIG, *Purchases of Smartphones and Tablets for Veterans' Use during the COVID-19 Pandemic*, Report No. 21-02125-132, May 4, 2022. In 2022, the OIG reported that VHA incurred approximately $2.3 million ($1.8 million for iPhones and $571,000 for iPads) in wasted data plan costs while the devices remained in storage.

physical inventories monthly by item product groups, leading to a full inventory over a year.[57] The deputy chief of logistics explained that logistics and warehouse staff and managers also conduct an annual wall-to-wall count, in which the entire inventory is counted. DLC logistics managers said they make the needed adjustments to the inventory data in the system when discrepancies arise and adjust stock values for returns, errors, and other reasons.

Discrepancies requiring inventory adjustments can be gains (increases) or losses (decreases). The audit team's assessment of DLC transaction register data from July 2021 through June 2022 identified 8,649 inventory adjustments valued at $65,603,558. Table 1 shows the recorded value of adjustments by product group.

Table 1. Recorded Value of Adjustments per Product Group

	Increase	Decrease
Accessories	$1,614,947	−$4,225,733
Apnea care products	$16,156,836	−$31,073,535
Assistive devices	$342,634	−$107,165
Assistive listening devices	$16,288	−$26,047
Batteries	$11,606	−$35,971
Orthotic soft goods	$475,406	−$494,155
Prosthetic socks	$1,594	−$2,199
Telehealth	$5,907,125	−$5,112,318
TOTAL	**$24,526,436**	**−$41,077,122**

Source: OIG analysis of DLC's transaction register data from July 2021 through June 2022.
Note: Numbers in figure are rounded to the nearest dollar.

Of the 8,649 adjustments, 7,059 were made for the Denver warehouse and 1,590 were made for the Hines warehouse. Over the course of a year, these adjustments increased inventory quantities

[57] The DLC item product groups include accessories, assistive listening devices, batteries, orthotic soft goods, prosthetic socks, assistive devices, and apnea care products.

by about 1.6 million and decreased inventory quantities by about 3.4 million. Overall, the value of these manual adjustments was a net decrease of $16,550,687.

The audit team identified numerous conflicting, inconsistent, and poorly documented adjustments in the transaction data. Notably, in May 2022, staff posted 1,055 adjustments for 485,152 apnea care products. Hines staff classified the adjustments as "warehouse rejection" and failed to indicate the reasons for the adjustments as required.[58] According to an inventory management specialist and the quality assurance specialist, the warehouse rejection reason is used to warrant the disposal of damaged supplies found by DLC staff during item preparation for shipment. Hines staff told the audit team the reasons for these adjustments included typing errors, unavailability of items due to back order, or damaged items.

Example 4

On May 12, 2022, a quality assurance specialist decreased the recorded quantity of hypoallergenic filters from 57,181 (valued at $312,780) to zero using the reason "warehouse rejection" without further justification or documentation.

Then, on May 16, 2022, the inventory manager increased the quantity of the filters from zero to 57,175 (value of $312,747) using the reason "physical inventory discrepancy" and justifying the increase by noting it was to correct the adjustment erroneously executed on May 12, 2022, by the quality assurance specialist.

Also on May 16, 2022, using "warehouse rejection" as the reason, a supervisory supply management specialist adjusted the recorded quantity again, decreasing it from 56,657 filters (valued at $309,914) to zero without further justification to support the adjustment. None of the three adjustments were reviewed by an approving official.

Other adjustments were made after physical counts by DLC staff, including adjustments to sensitive or high-value items.[59] The DLC director told the audit team that he would report to the NAC director when adjustments are made to high-value and sensitive items. The DLC's transaction data showed there were 2,315 adjustments for sensitive supplies or items over $200 during the period. Example 5 illustrates a discrepancy identified by a financial manager during reconciliation for a high-value item, and the related adjustment activity in the inventory management system.

[58] DLC chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum. The policy requires DLC staff to use a set of codes to categorize how and why inventory errors occur.

[59] The deputy chief of logistics defined high-value items as those over $200.

Example 5

On July 19, 2022, the assistant financial manager at the DLC informed the deputy chief of logistics of a $637,559 discrepancy in apnea supplies, specifically a type of CPAP machine. The deputy chief conducted research and informed the financial manager that a shipment of apnea supplies, physically received on April 20, 2022, was never recorded in the inventory management system as received.

The audit team identified a receiving voucher dated April 26, 2022, for these CPAP machines, signed by warehouse staff, indicating 2,257 items valued at $1,844,127 were physically received. Another receiving voucher dated May 6, 2022, showed the DLC received an additional 34 machines valued at $27,780.

VA's Invoice Payment Processing System reflects that the DLC subsequently paid for these CPAP machines (2,291 in total, at a cost of $1,871,907). On July 14, 2022—nearly three months after receipt—staff manually adjusted the inventory system to add 2,291 of the machines at a value of $1,871,907.

The discrepancy of $637,559 identified by the financial manager after that activity was still not resolved, as no other adjustments for this CPAP machine in that amount were identified in the transaction register.

VA policy requires sufficient detailed descriptions of the circumstances requiring adjustments.[60] Further, DLC's procedures require logistics personnel to identify the reasons for adjustment transactions, when the error occurred, and the root cause for the error. The categories should be used for subsequent analysis, evaluation, and corrective action. Logistics staff are to enter the justification for the adjustment in a free-text field, using specific codes for categories to note how and why errors occurred.[61]

DLC leaders and logistics managers described to the audit team multiple reasons why physical quantities of supplies did not always reconcile with inventory system quantities on hand. The reasons included miscounting, stocking errors, and receiving errors.[62] The DLC director and

[60] VA Handbook 7002.

[61] DLC chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum. See appendix A for further details on this policy.

[62] Stocking errors can include placing items in the wrong storage location. A receiving error can occur when the wrong product is recorded as received in the inventory management system.

chief of logistics both opined that the most common reason for inventory discrepancies was miscounting and receiving errors.[63]

However, the reasons for the discrepancies that led to these continual adjustments to reconcile supply levels in the inventory management system were generally not determined or documented by DLC staff, as required. Of the 8,649 adjustments in the inventory system from July 2021 through June 2022, the audit team determined the following:

- About 54 percent cited inconclusive or no findings at all, or there was simply no justification recorded for the change.
- About 34 percent of the adjustments correctly used the required categories to describe the reasons for the errors. For example, the procedures require staff to enter "3D" for a discrepancy identified during a physical inventory (3) and due to a data entry error (D).[64]
- The remaining adjustments were populated with other free-text, nonstandard descriptions.

The DLC's inventory adjustment policy and procedures require logistics personnel to investigate whenever a potential or actual discrepancy occurs between a physical count and the recorded quantity to determine the correct balance and ascertain the cause of the discrepancy.[65] Logistics inventory management specialists told the audit team they were not aware of these adjustment policies and procedures. The audit team determined that logistics staff do not retain documentation to support the cause of the error, conduct subsequent analysis, or establish corrective action plans as required.

The undocumented adjustments of the DLC's inventory system represent forced reconciliations of the account and present a significant risk that the DLC is not able to account for the discrepancies. According to the Association of Certified Fraud Examiners, one of the simplest methods for concealing shrinkage, which is the unaccounted-for reduction in inventory that results from error or theft, is to change the perpetual inventory record so that it matches the physical inventory count.[66]

In addition to undocumented adjustments, nearly one-third of them were not approved. GAO recommends controls be put in place to manage and limit who has the authority to approve adjustments that affect on-hand inventory balances resulting from a physical count, and a best

[63] To address counting errors, the chief stated that the logistics division implemented a daily pull check in June 2022, where supervisors verify what is on the pulling cart before it moves to quality assurance staff for a spot check.

[64] DLC chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum.

[65] DLC chief of logistics, "Inventory Adjustment Policy and Standard Operating Procedures," memorandum.

[66] Association of Certified Fraud Examiners, "Asset Misappropriation: Inventory and Other Assets," sec. 1.511-1.519 in *Fraud Examiners Manual: Financial Transactions and Fraud Schemes*, 2019 US Edition.

practice is to assign approval limits to different levels of management.[67] Of the inventory adjustments during the period, 69 percent were approved (or disapproved) by individuals other than the DLC director, and the remaining 31 percent did not show evidence of an approval by anyone.[68] Most of the approvals were made by the deputy chief of logistics. Table 2 shows the rates of adjustments approved, not approved, or not decided.

Table 2. DLC Inventory Adjustments

Adjustment decision	Adjustment transactions	Percentage of adjustments	Time to decision
Approved	5,814	67%	25 days
Disaproved	153	2%	23 days
No decision	2,682	31%	N/A
Total	**8,649**		

Source: VA OIG analysis of inventory adjustment data from July 2021 through June 2022.

The deputy chief of logistics told the audit team he makes the final decision on whether any adjustment to the quantities on hand is warranted when inventory management specialists are unable to get to the root cause of a discrepancy.

According to GAO, best practices to achieve consistent and accurate physical inventory counts include senior executives establishing tolerances or criteria for selection of variances to research, such as quantity and dollar value, and characteristics of the items with the variance, such as sensitive items or items susceptible to fraud or theft.[69]

Recommendation 3 calls on VA to ensure DLC management routinely assess the appropriateness of manual adjustments to the inventory system and document the findings and causes, review

[67] GAO, *Executive Guide: Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*.

[68] The DLC director stated he was the accountable officer, but he did not provide the audit team an accountable officer designation letter or documentation that he delegated this role. The audit team found that the position descriptions of the DLC chief of logistics and deputy chief of logistics broadly covered responsibility for logistics inventory; oversight of VA-owned goods; and authority to monitor, adjust, and manage logistics operations and use judgment to act independently, apply policies, and delegate authority. VA provided a general comment indicating that the DLC's standard practice recognized the chief of logistics division as the accountable officer, and that a delegation memorandum for the accountable officer is in place. The audit team requested the delegation memorandum in February 2023, but it was not provided. Further, as stated above, most of the approved adjustments were made by the chief's deputy.

[69] GAO, *Executive Guide: Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*.

trends in error codes, and develop action plans to minimize inaccuracies in future physical counts.

Recommendation 4 is to strengthen controls over inventory adjustments to ensure the accountable officer or designee reviews and approves all supply variances above an established threshold.

The DLC's Internal Controls over Inventory Management Were Insufficient

The OIG found accountability for VA-owned goods was lost because of a significant lack of effective internal controls in the DLC's inventory management operations. GAO established internal control standards that all federal agencies must follow to provide reasonable assurance they can accomplish their mission through effective management and good stewardship of public resources.[70] An internal control system is an integral part of management operations. The OIG compared internal controls over the DLC's inventory management to the GAO standards and found them to be deficient in the following ways:

- The DLC did not have defined roles and responsibilities for inventory management and lacked separation of duties.
- The DLC did not have sufficient written policies, procedures, and tools.
- The DLC did not ensure staff had formal training on inventory management.
- DLC management did not detect or report issues with its inventory operations.
- Inadequate physical security did not ensure accountability for supplies or protection of veteran information.

The OIG found that DLC leaders have not conducted a risk assessment or clearly defined or established risk tolerances for inventory management operations. The director stated the DLC had not identified any operational or fraud risks related to inventory management, but was also unsure if any risk assessment had ever been conducted.

The DLC Did Not Have Defined Roles and Responsibilities for Inventory Management and Lacked Separation of Duties

The DLC's logistics division is responsible for inventory management, which includes ordering inventory, product management, and inventory management. While DLC managers provided

[70] GAO, *Standards for Internal Control in the Federal Government*. See appendix B for details on the GAO standards.

details on separating duties in the acquisition process, the DLC did not provide clear guidance on the separation of duties for the inventory management process.

Federal internal control standards call on management to establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.[71] According to the NAC internal controls matrixes, there is a required separation of duties for the receiving of goods and services, processing of goods and services, and inventorying of goods. Roles and responsibilities should be separated to mitigate risks of errors in processes or procedures, misuse of government funds or property, and fraud.

In 2020, the NAC issued a policy stating the ordering official who placed and signed an order to obtain goods cannot be the person delegated to receive the order, and the memorandum specified the DLC would adhere to locally established policy for these actions.[72] However, the DLC had no local policy that appropriately defines specific roles and responsibilities in purchasing, receiving, and inventory management practices and has not separated those duties according to federal internal control standards and industry best practices.[73]

The audit team's assessment of the DLC's transaction data revealed that four of the five inventory managers appeared to engage in conflicting duties relating to the purchase, receipt, or disbursement of inventory. Further, 21 of 25 warehouse staff appeared to engage in conflicting duties relating to receipt and disbursement of inventory as defined by GAO's best practices for inventory management.[74] This lack of separation of duties places the DLC at an increased risk of errors, theft, fraud, and abuse.

DLC leaders were not aware this lack of separation of duties was problematic. The DLC director explained that financial roles and responsibilities are separate but referred the OIG team to the logistics section of the DLC for any details on the separation of duties for inventory management. According to the deputy chief of logistics, item managers who are primarily responsible for ordering inventory are also verifying receipt and inventory levels of this same stock.

The DLC also lacked an effective quality assurance function. Staff in that position stated they do not perform internal audits of inventory management processes. Instead, the DLC quality assurance staff primarily focus on observing warehouse operations, such as the receiving of shipments and pulling of items for orders to address issues and mistakes in the process. Similarly, the quality assurance staff member in Hines primarily focused on processing returned

[71] GAO, *Standards for Internal Control in the Federal Government*.

[72] NAC Policy Memorandum 003B6-33, "Receiving, Processing and Inventory," May 22, 2020.

[73] GAO, *Standards for Internal Control in the Federal Government*.

[74] GAO, *Executive Guide: Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*.

items. One quality assurance specialist said the inventory specialists do physical inventories, and quality assurance is there for a third review to ensure inventories reconcile.

Recommendation 5 is to establish and implement policy that clearly defines roles and responsibilities for DLC logistics and warehouse employees, separates duties to avoid conflicts of interest, and enhances the quality assurance function.

The DLC Did Not Have Sufficient Written Policies, Procedures, and Tools

The audit team determined that DLC logistics staff did not have written policies or procedures for important inventory management functions. Federal internal control standards state management should implement control activities through policies.[75] According to DLC managers, they are required to follow VA's logistics management policy, but said the DLC's inventory management practices are unique and different from those applied at VA medical facilities. Both OPAL and NAC officials stated that DLC staff should follow the inventory management requirements established in VA's logistics management policy.

According to the deputy chief of logistics, cyclic physical inventories are conducted every four to six weeks by DLC warehouse distribution personnel and contract staff, quality assurance staff, and logistics item managers and supervisors. The DLC has a master warehouse standard operating procedure and six inventory management user guides that cover VistA inventory software, such as adding a new item into VistA and how to run various reports. However, the standard operating procedure and guides did not identify responsible staff or include procedures for staff to effectively manage and account for inventories. These policy documents also lack guidance on the separation of duties in ordering, receiving, and inventory management roles, which is important to ensure no one person or group has unchecked involvement in the inventory process.[76]

Furthermore, the division does not have written policies or procedures for inventory management that must be followed when carrying out operations like cycle counts, analyzing and forecasting demand, and reordering. Instead, DLC logistics staff receive informal instructions for managing inventories. The deputy chief of logistics said he has not created written processes or procedures but has informally communicated procedures to logistics employees based on experience. The deputy chief told the audit team that such processes are not in writing because he has not had time to document them. The deputy chief also said he has autonomy to make decisions for

[75] GAO, *Standards for Internal Control in the Federal Government*.

[76] VA Denver Logistics Center, *Standard Operating Procedures—Distribution Management Section*, January 27, 2022. This document provides the DLC warehousing quality control and supply chain diagram along with written instructions that provide the policies, processes, standards, and responsibilities within the distribution management section of the DLC. The content includes the procedures for receiving, pulling, auto-bagger, mail and auto return process, UPS and packing, and telehealth for all warehouse or contract staff.

purchasing, receiving, and inventory management procedures, and such decisions are logic-based but not formalized or documented.

When specific procedures existed, staff did not always follow them. DLC's inventory management system automatically updates the safety levels of supplies on the first day of every month.[77] However, the audit team found that DLC logistics staff judgmentally adjusted safety levels for inventory orders.[78] According to the DLC deputy chief of logistics, he aims to keep at least 30 to 45 days' worth of stock of any item in the warehouse, and said he manually adjusts the safety levels for supplies weekly because he likes to be more accurate than every 30 days. The manual adjustment of safety levels conflicts with regulations that state, "In establishing safety stock levels, consideration shall be given to demand and leadtime fluctuations, essentiality of items, and the additional costs required to achieve additional availability."[79]

According to a supply management specialist, the logistics personnel in Hines also manually update safety levels of apnea supplies. They said there was need for adjustments because the system could not account for back orders and recalls. Their goal was to keep 60 to 90 days' worth of stock on hand, to give vendors 30 days for shipments and account for supply chain issues. According to logistics managers, these forecasting practices were not documented.

It is also important to note that, according to the acting associate executive director of the NAC, the DLC does not use barcode scanners to manage its inventory, as the inventory management system lacks this capability. DLC staff told the audit team that the use of scanners could help the DLC operate more efficiently. The lack of automation at the DLC led to mostly manual input and higher risk of errors. Per VA Handbook 7002, inventory data collected on a barcode scanner, such as location information and last inventory date, will be automatically uploaded to the automated equipment inventory system.

Recommendation 6 calls on VA to establish and implement formal policies and procedures specific for the DLC's inventory management operations, including cycle counts, regular inventory audits, adjustments to and forecasting of demand and safety levels, reordering, and tools to allow for automated scanning.

[77] The inventory management system adjusts the safety level in VistA by calculating the standard deviation multiplied by the confidence factor. The standard deviation requires four months of usage history from the Inventory Product File. Item managers may set the confidence factor by considering projected sales trends and reviewing the criticality, fluctuation, and vendor reliability of the item.

[78] The DLC's *Inventory Management User Guide*, February 21, 2001, defines "safety level" as the stock to keep on hand to cover situations such as longer-than-normal shipping times or higher-than-normal sales within the usual variance for the item. This can be set for new line items only.

[79] 41 C.F.R. § 101-27.101 (1964).

The DLC Did Not Ensure Staff Had Formal Training on Inventory Management

Federal internal control standards state managers should demonstrate a commitment to recruit, develop, and retain competent individuals.[80] However, the DLC chief of logistics said there was no formal training program and that staff learn through on-the-job training. Instead of formal inventory management training, employees receive new employee orientation, followed by rotational on-the-job training every 45 days to three months through each area of the DLC's inventory and warehouse operations.

DLC warehouse supervisors, inventory managers, and material handlers interviewed at the Denver and Hines locations reported not receiving formal training for their respective roles. Instead, while some of the supervisors and staff said they received training through VA's Talent Management System courses, the majority said they received it through new hire training, on-the-job training, or observations.

According to the director, the DLC uses on-the-job instructions to train staff, and each DLC division is responsible for training its staff in the roles and duties within the respective divisions. The DLC's associate director explained that the DLC's logistics division was currently updating its training plan due to significant employee turnover.

Recommendation 7 is to develop and deliver formal training to logistics and warehouse staff on inventory management policies, procedures, and tools.

DLC Management Did Not Detect or Report Issues or Losses in Inventory

The DLC director stated he is the accountable officer for the DLC. However, the director did not ensure all goods were recorded in the inventory system as required, and did not require logistics staff to report the results of the physical inventories for review and signature, even though VA policy states that adjustments to all perpetual inventory accounts must be signed by the accountable officer or designee.[81] Although the director stated he was aware adjustments were being made to the inventory management system, he was not aware of the volume of adjustments being made daily by logistics staff and thought that each adjustment was documented. However, as described previously, they were not all documented, and losses in inventory were not transparent to the oversight bodies of the DLC. The DLC's income statements reflected $0 in inventory variances and adjustments. Yet, the audit team found that the DLC's internal data reflected 268 adjustments reflecting losses of more than $5,000 each—a total value of over $39 million—from October 2021 to June 2022.

[80] GAO, *Standards for Internal Control in the Federal Government*.

[81] VA Handbook 7002.

The DLC director did not report significant adjustments to value or quantities of inventory to the NAC, including losses identified on reports of survey. VA policy states that if an adjustment voucher is required due to government property being lost, stolen, or damaged, a report of survey must be completed.[82]

Following a year-end inventory conducted at the Hines warehouse in September 2022, the Hines supervisory supply management officer was instructed by the DLC's associate director to submit a report of survey (which included a form, memorandum, and associated spreadsheets) to the DLC director and to adjust the inventory accordingly. The report of survey memorandum, dated October 24, 2022, noted 59 items with a potential loss greater than $5,000 each. However, the report of survey form reflected $0 and referenced the memorandum. The inventory spreadsheet associated with the form and memorandum contained 54 items with a loss of more than $5,000 and a total loss of $1,176,744 for those items.

The report of survey memorandum noted that after about a year of not completing inventories, attempts were made to correct inventory quantities between July and September 2022, but inaccurate calculations led to false adjustments and compounding issues. The survey also found that maintaining more than two locations affected inventory and likely resulted in DLC warehouses shipping duplicate orders. The DLC director told the audit team that he did not communicate this report of survey to the NAC. He said he had a lack of confidence in the numbers indicated in the inventory counts, and that he considered the inventory as resetting the baseline of what the actual inventory was.[83]

In addition to the documented report of survey, prior inventories conducted during FY 2022 at the Hines and Denver warehouses also identified potential losses greater than $5,000 but reports of survey did not occur. According to the DLC director, such losses or adjustments in inventory had historically not been reported to or requested by the NAC. In July 2022, the DLC director told the audit team that he would report adjustments to high-value and sensitive items but said he has not been made aware of adjustments to these items by logistics management. However, the DLC's transaction data showed adjustments to such products during a one-year period.[84] Starting in March 2023, at the request of the acting associate executive director of the NAC who took over after the former NAC official retired, the DLC began providing weekly data reports on inventory adjustments and values to the NAC.

By not previously reporting known losses and adjustments to its inventory, the DLC impeded VA's ability to provide proper financial oversight of the DLC. Recommendation 8 is to implement routine reporting of all DLC inventory adjustments to the NAC and OALC.

[82] VA Handbook 7002.

[83] This inventory count was conducted in September 2022 by Hines staff and supervised by the DLC deputy director two months after the audit team's sample inventory assessment also identified significant discrepancies.

[84] Adjustments were made across 1,691 products, varying in value and quantity.

Recommendation 9 is for OALC to ensure the DLC completes reports of survey for adjustments to inventory, in accordance with VA logistics management policy, and communicates such information to the NAC.

Inadequate Physical Security Did Not Ensure Accountability for Supplies or Protection of Veteran Information

Physical security controls at the warehouses in Denver and Hines were not sufficient to ensure supplies were protected from loss or theft. Entry points at all three DLC warehouse locations were not properly secured, security cameras were not operational, valuable items were not secured, and veterans' personal information was left out in the open.[85]

Doors Were Propped Open

VA requires valid access cards to gain warehouse access.[86] The audit team observed doors that were intentionally propped open or door-locking mechanisms that were obstructed, allowing entry without the need to scan access cards. According to personnel in Hines, doors were propped open because not everyone working at the warehouse had an issued access card. A Hines supply management specialist said that contractors do not have access cards and have to use an intercom to get into the building. A supply management specialist supervisor told the audit team that contractors are authorized and provided an access card once they pass the certificate of investigation by the Office of Personnel Management. A Hines inventory management specialist said that some contractor staff have been waiting to obtain an access card for up to a year. Therefore, blocking the door's locking mechanism made it convenient for personnel to enter the warehouse. The audit team observed that this also made the buildings available for non-VA personnel to enter. Figure 9 shows one example of an unsecured door.

[85] The audit team informed DLC leaders and the acting associate executive director of the NAC of these physical security concerns early in the audit. According to the leaders, the DLC initiated actions to address physical security concerns prior to the release of this report.

[86] VA Handbook 0730/4, *Security and Law Enforcement*, March 29, 2013.

Figure 9. *Blocked door-locking mechanism in the Hines warehouse.*
Source: VA OIG, July 13, 2022.

Security Cameras Were Not Operational

The Denver main warehouse location had 18 security cameras. None of them were functional at the time of the audit team's July 2022 site visit nor at the follow-up visit in October 2022. The DLC managers verbally alerted the audit team of this issue during the week of July 11, 2022. According to the DLC associate director, the cameras were functional sometime in the past, and staff were actively working with a vendor to bring the cameras online. The information resource management director and the DLC associate director later informed the audit team that on July 15, 2022, they purchased a server to bring the cameras online but then found the cameras were not compatible with the newly acquired server. Subsequently, on October 31, 2022, the DLC purchased 18 compatible cameras and installed them by December 2022. In May 2023, the camera system was operational, but the DLC director said they do not have someone to actively monitor the video.

Valuable Items Were Not Secured

In July 2022, the audit team observed a storage unit as well as three cargo containers behind the main warehouse in Denver. The lead distribution specialist explained these were not listed as inventory locations in the inventory management system and were used to store boxes and supplies for refurbishing. The lead distribution specialist told the audit team the storage unit held old equipment and the cargo containers were empty.

However, the audit team found that the storage unit, which was locked, held pallets of new iPhones and weight scales. Of the three cargo containers, one was empty, one held a pallet of cardboard, and one had pallets of new power adapters. The keys to the locks on the storage unit and cargo containers were stored inside the warehouse, in plain view and accessible. Figure 10 shows the iPhones and power adapters found in these locations.

Figure 10. *iPhones and power adapters stored in a storage unit and cargo containers located in a parking lot behind the Denver main warehouse.*
Source: VA OIG, July 13, 2022.

In May 2023, the audit team observed that the storage unit was no longer in the parking lot behind the Denver main warehouse.

During the July and October 2022 site visits, the audit team also observed that some of the metal cages in the Denver main warehouse that held high-dollar items, such as iPads, were unlocked. The audit team physically observed that Denver's secondary warehouse was left unattended with unlocked metal cages holding pallets of iPhones, iPads, and nebulizers. Moreover, the 69 pallets of apnea supplies were stored outside the metal cages. This warehouse consisted of shared space with at least two other federal agencies and had over 10 loading docks and doors without cameras. According to the warehouse distribution specialist, there are always a warehouse

supervisor and a contractor employee at this location. However, given the size of the warehouse, the high-value items it held, and its shared space with other entities, DLC managers risked the security of the supplies.

Veterans' Personally Identifiable Information Was Not Secured

Concerning veteran's personal information, the audit team observed mail bins stored on DLC warehouse shelves containing information sheets that included veterans' names, dates of birth, social security numbers, and full addresses, as well as what items were shipped to veterans. This information was accessible to anyone in the warehouse.

VA policy mandates proper control of personally identifiable information, which is any information about an individual that is maintained by VA and can be linked to that individual—for example, medical records maintained by VA that can be linked to an individual through the individual's name, social security number, or date and place of birth.[87] The policy requires VA employees and contractors to ensure that all printed materials including sensitive VA information are physically secured while not in use (such as in a locked cabinet or behind a locked door).

In May 2023, the logistics chief told the audit team that the DLC in Denver implemented a new process to secure personally identifiable information, and the process started the week following the team's first site visit in July 2022. Recommendation 10 calls on VA to address the physical security issues identified and to develop, implement, and provide initial and recurring training and guidance to DLC logistics, distribution, and contract staff on proper physical security controls and procedures, including the proper disposal of veterans' personally identifiable information.

VA Did Not Effectively Oversee the DLC's Operations

The OIG found that the oversight of the DLC—by the NAC, OPAL, VA's Office of Revolving Funds, and external auditors—focused on the DLC's sales revenue, the rate of the associated fees charged for orders, fulfillment, and the timeliness from placement to delivery of supply orders, but did not ensure accuracy of inventory data or control of inventory as required by VA policy. As a member of the VA supply fund, the DLC earns its revenue for operating expenses through the fees on its sales. OPAL and NAC oversight offices reported conducting monitoring in the form of monthly status reports of gross sales and total inventory on hand. However, adjustments made in the inventory management system were not communicated in such a way that losses would be transparent in an income statement or other data reports. Without the DLC including the breakdown of known losses and inventory value adjustments in the income statements, VA's ability to provide proper financial oversight was impeded.

[87] VA Directive 6502, *VA Enterprise Privacy Program*, May 5, 2008.

The former associate executive director of the NAC stated he was kept informed of DLC operations through weekly meetings with the DLC program director and was not aware of any issues.[88] He said the NAC routinely received sales reports from the DLC that accounted for inventory quantity on hand versus sales, and the reports were used by the NAC to track sales, income, and financial reporting and to validate growth. Yet, the documentation sent to the NAC did not provide enough information to create a full picture of DLC operations. Rather, the reports provided a summary of net sales, item and order quantities, order fulfillment rates, and timeliness indicators by DLC commodities and services. While this provides trends in sales and fulfillment rate, it does not contain the details to determine the accuracy of inventory and does not identify significant adjustments to the value or quantities of inventory.

The former NAC official said there have been no audits that evaluated inventory management at the DLC, and the NAC has not conducted a risk assessment on the DLC. He said the DLC is evaluated as part of the NAC's broad financial audits by third-party auditors that review the supply fund. As part of these external audits, inspection of inventory is only conducted at one facility of a different entity, and inventory of other entities including the DLC has never been conducted. According to the external auditor, the NAC defined this scope of the audit and it was based on materiality. Because external audits did not include inspection of inventory at other facilities, the NAC has no independent assurance of inventory accuracy at the DLC.

Further, the former NAC official stated that the NAC provides attestation statements as part of its annual fiscal certification reporting. These attestations for elements within the NAC included annual certification of financial obligations, annual certification of sufficient financial controls, annual certification of year-end inventories, and annual certification of undelivered orders. According to a supply fund official, the annual certifications were performed by local fiscal management, but in 2022 the practice was discontinued.

According to the executive director of OPAL, his office reviews the DLC sales numbers to ensure DLC is meeting the requirements established in VHA service-level agreements, and the timelines for orders from receipt to delivery. The executive director recognized the importance of the fees charged to VA medical facilities and patients—specifically whether the fees charged to their customers were not too high but also adequate for the organization to take care of improvements, staff, and operations.

In February 2023, the acting associate executive director of the NAC, who took over after the former NAC official retired, told the audit team that he requested routine reporting from the DLC director. Specifically, he asked the DLC to provide data on inventory adjustments and values over time, and the range and depth of that activity. The acting associate executive director stated

[88] According to OALC leaders, the associate executive director of the NAC interviewed at the beginning of this audit retired in October 2022.

he did not understand why this was not done before. The DLC started providing this information to the NAC in March 2023.

To ensure OALC and the NAC have an accurate and complete accounting of DLC operations, recommendation 11 calls on VA to conduct an independent, comprehensive, and multiyear financial audit that includes wall-to-wall inventory assessments of the DLC.

The DLC Risks the Loss, Theft, or Waste of Millions of Dollars in VA-Owned Goods and the Ability to Fulfill Its Mission

As previously stated, poor inventory management, internal control deficiencies, and ineffective oversight heighten the risk of inaccurate financial reporting, increased costs to VHA, and understock or overstock of products. Without proper management of VA-owned goods under the DLC's care, there is also an increased risk of loss, theft, or waste of taxpayer funds and delays in providing VA medical facilities and veterans needed supplies.

According to the chief financial officer of the Revolving Fund Board, the DLC's inventory management system updated the Financial Management System with summary transactional data every month. According to supply fund income statements, the DLC operations in Denver had a profit of about $2.2 million, and Hines operated at a loss of about $4.5 million, for a combined net loss of about $2.3 million during FY 2022.[89] Supply fund personnel attributed the loss primarily to shipping costs and the apnea program.

The DLC's inventory management system data were also relied on in calculating the fees the DLC charges its customers for orders. In August 2022, the Revolving Fund Board approved an increase in the fees the DLC charges. VA increased the DLC rates for auditory implants from 3.5 percent to 4.0 percent, apnea devices from 7.5 percent to 10 percent, and telehealth devices from 7.5 percent to 10.25 percent. According to the chief financial officer of the Revolving Fund Board, these fee increases were largely based on the increases in shipping fees, and the DLC was operating at a loss. The chief financial officer also stated the DLC system is not sophisticated enough to conduct full cost accounting or determine the actual shipping cost of any individual item in the DLC inventory. VA financial policy and federal financial accounting standards require federal entities to directly trace costs wherever possible.[90] The system limitations, combined with the inaccuracies found by the team in the inventory system, could result in inaccurate financial data being used to justify the fees approved by the Revolving Fund Board that the DLC charges VHA. The chief financial officer stated the fee rates were increased only so

[89] The VA supply fund Summary Income Statement separates the DLC Denver and Hines financials. The Hines value also represents the Service and Distribution Center, which includes flags and printed materials that are not under the purview of the DLC.

[90] VA Financial Policy, "Cost Accounting," in vol. 13, *Managerial Cost Accounting Standards and Concepts* (December 2019), chap. 3.

the DLC would be marginally profitable and would not significantly affect VHA costs. If the inventory management deficiencies identified by OIG continue, the DLC will continue operating at a loss, threatening its ability to fulfill its mission.

Finding 1 Conclusion

The DLC manages millions of dollars of supplies intended for VHA facilities and their patients, and VA should move quickly to ensure the DLC's inventory operations can effectively account for those supplies. Deficiencies identified in this audit put the DLC at risk of not being able to fulfill its mission, and the OIG referred cases of potential ethical lapses for further investigation. VA needs to ensure the DLC has an effective process for accounting for the goods it receives and manages and for maintaining the integrity of supplies under its control. Without those important internal controls, there is a risk of not using taxpayer funds most effectively.

Recommendations 1–11

The OIG recommended that OALC take the following actions:

1. Implement oversight, monitoring, and quality assurance mechanisms that routinely ensure all goods received by the Denver Logistics Center are accurately and promptly recorded in the inventory management system at the time of receipt.
2. Properly record all apnea stock in the inventory management system.
3. Ensure Denver Logistics Center management routinely assess the appropriateness of manual adjustments to the inventory system and document the findings and causes, review trends in error codes, and develop action plans to minimize inaccuracies in future physical counts.
4. Strengthen controls over inventory adjustments to ensure the accountable officer or designee reviews and approves supply variances above an established threshold.
5. Establish and implement policy that clearly defines roles and responsibilities for Denver Logistics Center logistics and warehouse employees, separates duties to avoid conflicts of interest, and enhances the quality assurance function.
6. Establish and implement formal policies and procedures specific for inventory management operations at the Denver Logistics Center, to include cycle counts, regular inventory audits, adjustments and forecasting demand, safety levels, reordering, and tools to allow for automated scanning.
7. Develop and deliver formal training to logistics and warehouse staff on inventory management policies, procedures, and tools.

8. Implement routine reporting of all Denver Logistics Center inventory adjustments to the National Acquisition Center and the Office of Acquisition, Logistics, and Construction.
9. Ensure the Denver Logistics Center staff complete reports of survey for adjustments to inventory in accordance with VA logistics management policy, and communicate such information to the National Acquisition Center.
10. Address the physical security issues identified and develop, implement, and provide initial and recurring training and guidance to Denver Logistics Center's logistics, distribution, and contract staff on proper physical security controls and procedures, including the proper disposal of personally identifiable information.
11. Conduct an independent, comprehensive, and multiyear financial audit that includes wall-to-wall inventory assessments of the Denver Logistics Center.

VA Management Comments

The principal executive director and chief acquisition officer at OALC concurred with recommendations 1 through 11 and submitted action plans for each recommendation. Appendix D includes the full text of his comments, which are summarized below.

In response to recommendation 1, the principal executive director and chief acquisition officer stated that the DLC updated its standard operating procedures to include site-specific information to ensure supplies are promptly recorded in the inventory management system. He also stated that, pending approval, new quality assurance positions will be added to provide full coverage of oversight processes.

According to OALC, all apnea supplies have been transferred to the Hines facility, and an inventory was completed in July 2023 to ensure proper recordkeeping. Furthermore, a wall-to-wall inventory had been planned for September 2023 to verify continued proper recording in the inventory management system, in response to recommendation 2.

For recommendation 3, the principal executive director stated that since June 2023, manual adjustments have been reported weekly and reviewed for trends and appropriateness. He said these procedural changes have been implemented in DLC standard operating procedures to ensure adjustments include findings, causes based on research, and action plans for minimizing inaccuracies.

The principal executive director, in response to recommendation 4, stated the accountable officer will examine adjustment variances greater than $500 and report details for causes and reasons to the director and associate director for operations. He further stated that quality assurance positions will be added to support DLC's enforcement of controls on adjustments.

Regarding recommendation 5, the principal executive director stated that the DLC updated its inventory management system to prevent logistics management specialists from performing receiving actions on purchase orders, and staff have been trained on separation of duties to avoid performing tasks that would be subject to conflicts of interest. Separation of duties principles will also be incorporated into the revised standard operating procedures.

To satisfy recommendations 6 and 7, the principal executive director stated that the DLC modified its procedures for inventory management operations, which will be reviewed every six months, and developed training on inventory management policies, procedures, and tools that will be delivered twice annually. The principal executive director also stated that the DLC, in response to recommendations 8 and 9, began providing weekly inventory adjustments, including a trending graph of inventory validity, to the NAC and OALC.

For recommendation 10, the principal executive director stated that the Federal Protective Service completed a facility security assessment on February 9, 2023, and the NAC conducted an additional inspection on May 18, 2023. He stated that action items from the assessments are expected to be completed by October 31, 2023. Further, the DLC increased the number of secure bins for proper disposal of veteran information, reinforced procedures and training for handling veteran information, and posted signage in key areas.

Finally, for recommendation 11, the principal executive director stated that a contract is to be awarded by December 31, 2023, for an annual independent audit, to include an inventory system assessment.

OIG Response

OALC's planned actions are generally responsive to recommendations 1 through 11 and address the issues identified in the report. In its action plan for recommendation 6, OALC did not specifically address one part of the recommendation: to establish and implement tools to allow for automated scanning. As discussed, the OIG found that the lack of automation at the DLC led to mostly manual input and a higher risk of errors. VA policy requires inventory data collected on a barcode scanner to be automatically uploaded to the automated equipment inventory system.[91]

All recommendations remain open at this time. The OIG will continue to evaluate VA's actions and close all recommendations when VA provides complete documentation and sufficient evidence addressing the intent of the recommendations and the issues identified.

[91] VA Handbook 7002.

Finding 2: Weak Controls over the DLC's Inventory System Risk the Integrity of Its Data and Ability to Maintain Accurate Inventory

In addition to the issues described in finding 1, the OIG observed weak information system controls related to access control, physical and environmental protection, audit and accountability, and contingency planning. The National Institute of Standards and Technology (NIST) is responsible for developing information security standards and guidelines, including minimum requirements for federal information systems.[92] Security controls are the safeguards prescribed for information systems that are designed to protect the integrity of information in the systems. NIST lays out clear standards for system requirements, some of which the DLC systems were not meeting.[93]

The OIG determined that the DLC's weak controls of the inventory system risk the integrity of inventory data and its ability to maintain accurate inventory. Specifically, the DLC's management has led to an inventory system that lacks appropriate controls for access, making it vulnerable to improper changes; is not physically secured; and lacks transparency of its data and an effective audit trail. Further, the ordering system the DLC uses is becoming unsustainable due to its age and the lack of institutional knowledge to keep it updated.[94] These deficiencies occurred in part due to poor system controls, oversight, and documentation of the legacy operations for the DLC's customized information system.

Weak controls over access to the DLC's custom version of VistA leave it vulnerable to unauthorized programming or data changes, which risk the integrity of supply inventory data. Without fully implemented plans for disaster recovery, incident response, or configuration and contingency management, DLC systems and operations are at significant risk following an incident and may not be able to continue or be reestablished without complete replacement. The OIG found the DLC's information systems hinder its ability to fulfill its responsibilities and effectively provide supplies to veterans and VA facilities.

[92] VA is required to comply with the Federal Information Security Management Act (FISMA), which mandates that federal agencies secure information and systems that support their operations and assets. FISMA tasked NIST to develop information security standards and guidelines, including minimum requirements for federal information systems.

[93] NIST Special Publication 800-53, *Security and Privacy Controls for Federal Information Systems and Organizations*, Abstract, January 22, 2015.

[94] VA provided a general comment that states the components used by the DLC in combination—namely, the VistA environment, in-house purpose-built components, and web application methods—"are not considered to be unsustainable." The OIG notes that the DLC uses two internally developed applications: the ROES ordering system, and a DLC-customized version of the VistA inventory system software. The OIG reported in this finding that the ordering system the DLC uses is becoming unsustainable due to its age, and existing infrastructure difficulties with patches and software updates. According to information resource management's lead developer, updating to a new database platform could render the system inoperable.

The following elements support this finding:

- The DLC inventory system software is vulnerable to improper access and changes to data.
- System hardware has physical security vulnerabilities, risking loss of programs and data.
- DLC managers are not ensuring transparency and accountability in information systems.
- The DLC is using a homegrown, outdated remote ordering system despite persistent risks.

What the OIG Did

The audit team analyzed DLC transaction data within the inventory management system from July 2021 through June 2022. The team interviewed the DLC director, end users, and information resource management staff responsible for maintaining and developing the information system.[95] Additionally, the audit team physically observed the information systems located at the DLC that operate the inventory management system. The audit team also reviewed security documentation obtained from the Enterprise Mission Assurance Support Service (eMASS). Such documentation is required by NIST and used to obtain the authority to operate for ROES.[96] Last, the audit team reviewed the disaster recovery plan, incident response plan, configuration management plan, and contingency plan.[97]

The DLC Inventory System Software Is Vulnerable to Improper Access and Changes to Data

Access permissions are how applications control what a user can and cannot do. Access controls provide reasonable assurance that systems are restricted to authorized individuals. Specifically, NIST requires agencies to employ the principle of least privilege, which only allows users access that is necessary to accomplish tasks.[98] The audit team determined that user access to DLC systems was not always limited by role, responsibility, or need. Some DLC employees had the ability to edit programming, and many employees had the ability to edit veteran information.

New employee accounts are created following a supervisor's access request, and the audit team found that new employees' accounts mirror existing employee profiles within their divisions. However, according to DLC staff, new and existing employee access permissions were not

[95] The information resource management director and staff are VA Office of Information and Technology (OIT) employees insourced to DLC on a service-level agreement through the supply fund.

[96] An authority to operate is the official management decision given by OIT to authorize operation of an information system and to explicitly accept the risk to agency operations, agency assets, individuals, or other organizations, based on the implementation of an agreed-upon set of security and privacy controls.

[97] NIST Special Publication 800-53, app. F-CP/CM.

[98] NIST Special Publication 800-53, app. F-AC.

evaluated to assess whether the mirrored account has access beyond what is necessary for the role. Therefore, the employee may end up with more access than necessary.

In addition, the audit team found that several users outside the information resource management team have programmer-level access.[99] According to the VistA technical documentation, programmer access entails use of developer tools within VistA that allow for the creation, modification, and deletion of code affecting the functions of the program. Based on system information obtained from information resource management staff and on interviews with those staff and the DLC director, the audit team found that 40 user accounts—not including current information resource management employees—had programmer access keys assigned, and 10 of the users had the ability to view and use the associated developer menus. Inadequate controls for system access make it vulnerable to improper changes or deletions by users without a business need for such activity. The following example depicts errors introduced by unauthorized actions in the information system by an individual who did not have programming responsibilities.

Example 6

In June 2022, information resource management staff discovered unauthorized programming changes to prosthetic supplies information in the inventory management system. According to these staff, the changes caused system errors and had to be removed. Because the role of the individual who made the changes did not include development or programming responsibilities, information resource management staff said they limited the person's access level accordingly. Later, in January 2023, information resource management staff stated they discovered the employee was granted programmer-level access from an account that had not been logged into since 2016. Information resource management staff subsequently removed the individual's access again, and stated they did not understand how or why this level of access was reestablished, or by whom. In February 2023, information resource management staff stated they discovered a third instance where an account with programmer access was used by the employee to introduce code into the system without information resource management's knowledge or approval.

Based on system records, the audit team identified 150 VistA user accounts with the ability to alter other users' profiles and change or reset VistA log-in information. This included changes to inactive VistA user accounts. Of these accounts, 72 could be logged into VistA concurrently from different workstations.

The audit team also identified 319 VistA user accounts with the ability to review and edit patient information for the 27 million records stored in DLC inventory systems, as reported by

[99] At the time of this audit, information resource management had 10 staff.

information resource management staff. The number of accounts includes people no longer with the DLC and whose accounts were not properly closed, as well as duplicative user accounts that also were not closed. User accounts with such access should be limited, as they present a risk of inappropriately altering patient records and shipping addresses for orders. The documentation also indicated 368 user accounts with the ability to execute transactions including sales, receiving, refusals, returns, cancellations, and basic inventory adjustments. The number represents both active and inactive user accounts without a termination date, and there is a risk that the accounts can be reactivated and used by other staff.

These access control deficiencies occurred because VA has not implemented effective reviews to monitor for instances of unauthorized system access or excessive permissions. According to information resource management staff, user access and specific system permissions have been assessed by the DLC monthly. However, the system steward was unable to produce supporting information as evidence of past reviews, and the information resource management director said documentation for user access permissions for the inventory management system does not exist.

Recommendations 12 and 13 call on OALC, first, to transfer the stewardship and responsibility of the DLC's system to the Office of Information and Technology (OIT), and then for the two offices to work together to establish information system controls for users' access, permissions, privileges, and separation of duties for the DLC's inventory management systems and data.

Recommendation 14 addresses the need to establish and perform routine reviews of the access levels for users with direct access to the inventory management systems and ensure that access is limited to those who have a defined business purpose.

System Hardware Has Physical Security Vulnerabilities, Risking Loss of Programs and Data

Like the VA-owned supplies on hand, the DLC system hardware had physical security vulnerabilities. Information resource management is responsible for establishing and managing a coordinated security assessment process in accordance with NIST for VA's information systems and should assist in providing physical and environment protection and managing corrective measures as the result of discovery of a vulnerability.[100]

NIST requires organizations to employ physical access controls, including physical security for areas within facilities where there is a concentration of information system components, such as server rooms, media storage areas, and data and communication centers.[101] The server room at the DLC had restricted physical access through an electronic door lock. In addition, a camera was inside the server room but, according to information resource management staff, was not

[100] VA Handbook 6500, *Risk Management Framework for VA Information Systems*, February 24, 2021.
[101] NIST Special Publication 800-53, app. F-PE.

functional. Further, the audit team learned from information resource management and DLC staff that contracted cleaning staff could access the server room without escort. One of the three utility closets containing the network switches was left unlocked and accessible to anyone inside of the DLC. An additional server rack with network switches was located on the warehouse floor and vulnerable to improper access, as seen in figure 11.

Figure 11. *Open server rack with network switches on the DLC warehouse floor.*

Source: VA OIG, October 25, 2022.

Additionally, NIST requires organizations to develop, document, and disseminate contingency planning policy and procedures to ensure organizations build a resilient information system that can sustain their mission.[102] Examples of contingency planning covered by NIST are disaster recovery plans, incident response plans, and configuration management plans. These plans are filed by the DLC with OIT in the eMASS system.

The audit team identified and reviewed the disaster recovery plan in eMASS. However, the information resource management director explained that several disaster recovery plan elements were not accurately described, including the following:

- An off-site data storage backup of the inventory management system programs and data did not exist.

[102] NIST Special Publication 800-53, app. F-CP.

- Disaster recovery calls were not occurring.
- Disaster recovery plan notification and activation procedures were not tested.

A DLC system administrator informed the audit team that both the inventory management system and its system backups were colocated on the server racks in the main server room in Denver. In January 2023, the DLC director told the audit team that, although an off-site server exists in Hines, the mechanisms to transfer the data had not been implemented due to issues with OIT. This setup creates a risk of losing system programs and data. In case of an unforeseen disaster at the Denver warehouse, the DLC's information systems may not be able to continue or be reestablished without complete replacement. As of May 2023, the DLC director confirmed an off-site server was still not fully functional.

Lastly, the configuration management plan requires that the source code be backed up in case the system needed to be reinstated. The audit team was informed by managers at the DLC that an external copy of the source code was not backed up. The lead developer stated that all changes are done directly to the live production environment without testing because the test environment is out-of-date and does not reflect the current production environment.[103]

Recommendation 15 calls on VA to ensure DLC information management systems meet NIST and VA physical access, security, and contingency planning requirements.

DLC Managers Are Not Ensuring Transparency and Accountability in Information Systems

DLC data are not transmitted outside of the DLC. The DLC's inventory data have been kept internal, limiting data exposure to valuable oversight. Unlike other VA inventory applications, the inventory management system does not send data to VA's Corporate Data Warehouse. The Corporate Data Warehouse is a collection of VA clinical, financial, and administration data from multiple systems and is used by VA for management, analysis, and oversight functions. It is a common practice within VA to maintain data in this central repository. By not transmitting its inventory data, the DLC's information system provides minimal direct oversight capability to VA leaders. Without routine accountability, OPAL and the NAC may not be able to recognize discrepancies with inventory data and ensure funds allocated for supplies sold to VHA are properly accounted for. Furthermore, the DLC director stated that while DLC has the capacity to export data for upload to the Corporate Data Warehouse, a request has never been made to do so.

[103] VA provided a general comment stating that, with limited exceptions, nothing prevents the test environment from being a source code replica of the production environment. The OIG notes, however, that information resource management staff informed the OIG that an external copy of the source code was not backed up, and according to the DLC director, the DLC's applications within the test environment were not updated within the past three years.

In addition, the DLC systems lacked an effective audit trail for changes to the information system. NIST requires information systems to record significant events that are relevant to the security of the system and the environment in which those systems operate in order to meet specific and ongoing audit needs.[104]

The one type of audit trail of the DLC's inventory is its transaction register. The audit team determined, however, that the transaction register is vulnerable to edits and deletions, creating the possibility of changes made to the system without a record of who made them. Unit costs, quantities, and item names can be altered in the system without identifying the user who made the change or when it was made.

The audit team identified 73 adjustments recorded on the transaction register that were not attributed to a specific user. These adjustments occurred several times per month in the audit team's period of review.

Example 7

Seven transactions were adjusted, with no associated user, related to an attempt to correct a $1.5 billion data entry error. DLC staff were unable to explain why there was no username recorded for these transactions. This error occurred on February 5, 2022, when a warehouse contractor mistakenly increased the recorded quantity of a microphone and receiver for hearing aids by 21.4 million instead of the three returned to the warehouse. The deputy chief of logistics informed the audit team that this mistake occurred when the warehouse contractor input an item part number instead of the quantity to be returned. He further stated that logistics staff made seven more counter adjustments in an attempt to correct the error and the quantity. The audit team identified that after all adjustments were made on February 7, 2022, with no associated username, the quantity on record was correct. However, the total value of inventory for this item was about $700 million more than the total value of inventory on hand.

More than a month later, on March 15, 2022, a logistics management specialist noticed a problem with the inventory value of this item and raised the issue to the chief of logistics and information resource management staff. They determined the amount could not be effectively corrected with counter adjustments. The DLC director then suggested that it could be corrected by changing the transaction register entry for the item to adjust the dollar value field. The director stated that this would eliminate the need to enter hundreds of counter adjustments. He told staff that editing the transaction register this way is a highly restricted action, but

[104] NIST Special Publication 800-53, app. F-AU.

he could do it or supervise information resource management staff to enter the value.

On March 23, 2022, the DLC director notified information resource management staff that he discovered that the current value had already been addressed through some "creative" adjustments made by the logistics division using the available transaction register functions. First, logistics staff reset the inventory value to $0. Then, they adjusted the inventory by increasing the recorded quantity to 10 and the inventory value to the correct amount.

The DLC director then asked information resource management staff to retroactively correct the February and March transaction register entries. On March 24, 2022, the staff made the retroactive corrections. However, the deputy chief of logistics informed information resource management staff that the transaction register was still showing an incorrect dollar amount and inventory value. Finally, on March 25, 2022, an information resource management staff member notified the DLC director and logistics management that additional corrections were made to the dollar amount and inventory value fields to resolve the error.

Furthermore, the audit team analyzed the transaction registers obtained on different days (July 18, 2022, and August 19, 2022) and discovered three inventory items that no longer appeared in the register. Information resource management staff confirmed that there was no record or documentation of the removal. Staff described concerns about the ability to make changes in the system data that are not tracked on the DLC's transaction register, including the following example.

Example 8

Information resource management staff became aware of duplicate apnea products under a different product name, and adjustment justification notes of "Contingency" created on July 13, 2022, by the DLC logistics team. According to information resource management, this was discovered when an item was erroneously ordered for a veteran. Information resource management staff stated that the DLC logistics staff added and configured these items in a way that they could not be ordered or combined with inventory stored for the apnea program in Hines.

The information resource management director then sent an email to logistics staff to reiterate the importance of notifying the information resource management team for such changes. The DLC associate director responded directly to the information resource management director, apologizing.

NIST guidelines require the information system to generate audit records containing information that establishes what type of event occurred, when the event occurred, where the event occurred, the source of the event, the outcome of the event, and the identity of any individuals or subjects associated with the event.[105] The DLC director stated that the transaction register is the audit record used to track transactions; however, the register only contains single-sided transactions to account for changes in inventory, and there was no connection to any other transactions on the register. This means that an adjustment transaction that shows an "error" as the justification for the transaction is not linked to the original transaction that was in error. Due to this, the information system lacks the ability to provide supervisors with the audit information needed to effectively validate and verify a change.

The OIG's recommendation 16 addresses the need for VA to routinely send DLC inventory data to VA's Corporate Data Warehouse to ensure the data are visible. Recommendation 17 addresses the need for OALC to work with OIT to ensure the DLC's information technology system is capable of meeting NIST information security standards, so the application does not bypass internal control restrictions, has a complete audit trail, and does not introduce errors.

DLC Is Using a Homegrown, Outdated Remote Ordering System

The DLC's information resource management staff develop and maintain applications in the DLC's order fulfillment model. The director of the DLC was the prior information resource management chief and held that position until April 2021. The DLC director possesses authoritative knowledge of the programming language used to create the system.[106] The director of information resource management for the DLC stated that ROES, the component used for ordering, was originally implemented in 1993.[107] According to staff, the system in place has old code that operates on a Windows 2012 server.[108] Microsoft planned to no longer support the Windows 2012 server as of October 2023.

According to the OIT portfolio manager, the VA chief information officer has requested that each information system have a modernization plan. Other systems under the portfolio manager's purview generally have a road map for modernization. However, according to the portfolio manager, the DLC's inventory management system upgrades must be approved by the DLC because the system is not funded through OIT. Instead, DLC's general operation expenses

[105] NIST Special Publication 800-53, app. F-AU.

[106] The OIG clarified this sentence per VA's general comment regarding the DLC director's background.

[107] VA provided a general comment indicating that while ROES has existed since 1993, the current ROES application—which uses web application architecture, database logic, and systems interfaces and bears little resemblance to the original version—was implemented in 2003, with further technology updates added since that time.

[108] Per VA's general comment, the code is not restricted to Windows 2012, as it also operates on the Windows 2019 operating system platform, and the operating system can be upgraded from Windows 2012 without detriment to the application itself.

are funded through VA's supply fund. Thus, either OIT must fund the upgrades or the DLC and the fund must agree and allocate funding for modernization.[109] According to the information resource management director and the OIT portfolio manager, DLC managers were reluctant to develop a modernization plan.[110]

According to the DLC director, a modernization plan was not established because the inventory management system is meeting the needs expressed by medical facilities. The director stated in October 2022 that the DLC plans to update the Caché database platform. This upgrade, due by December 31, 2023, is a requirement for the DLC's plan of action and milestones report required by the authority to operate for ROES, which was approved through December 2, 2023. The information resource management lead developer stated that the current infrastructure has difficulties with patches and software updates, and updating to a new database platform could potentially render the system inoperable.

The DLC's legacy ROES system is, according to information resource management staff, down multiple times a week and requires a system reboot that can cause data errors. The DLC relies on staff knowledge and experience to maintain its systems, and information resource management staff lack the expertise and experience to do so effectively. The lead developer stated that only on-the-job training is provided, or what is available in VA's Training Management System. The director of information resource management indicated that she was not proficient in the programming language used but was to be trained by the DLC director. Also, the lead developer indicated that several staff with years of experience with the systems had recently retired. As a result, if the application broke down, information resource management staff would not be able to fix it.

To ensure the information technology system is capable of meeting NIST standards, recommendation 18 is for the DLC to develop and maintain comprehensive documentation of the information system to support operations and train information resource management staff.

OIT Issued an Authority to Operate Despite Persistent Risks

An authority to operate is the official management decision given by OIT to authorize operation of an information system and to explicitly accept the risk to agency operations and assets, individuals, or other organizations, based on the implementation of an agreed-upon set of security and privacy controls. According to the OIT portfolio manager, the authority to operate is the only tool OIT has to ensure DLC systems meet standards, and it relies on documentation

[109] Per VA's general comment, the supply fund statute covers the DLC's information technology expenses.

[110] According to VA's general comment, there was no reluctance by the DLC director or managers to engage in modernization efforts. The OIG clarified this sentence to specify a reluctance to develop a modernization *plan*. The OIG was told by multiple sources, including the DLC director, that a modernization plan had not been established. The audit team requested modernization plans, timelines, and actions from the DLC director in January and February 2023 but did not receive a response.

provided by the DLC. OIT's process evaluates the ROES ordering component of the DLC's systems but does not appear to include an evaluation or verification of the underlying customized VistA inventory management system or access controls within the system.

At the time of the audit, the DLC had a six-month authority to operate ROES that started on June 10, 2022, and expired on December 7, 2022. A short-term authority to operate generally indicates noncompliant security controls with a risk level of high or very high that cannot be corrected or mitigated. However, the system is considered mission critical and will therefore receive an authority to operate with conditions. The plan of actions and milestones used to support the authority to operate must document identified vulnerabilities and specify corrective actions to be completed.[111]

Based on documentation for the authority to operate that started in June 2022 and interviews with information resource management staff, the audit team determined the documentation that information resource management staff used to obtain that six-month authority to operate was a misrepresentation of the actual security posture of ROES. The audit team concluded ROES was not compliant with NIST for the following reasons:[112]

- For the disaster recovery plan, documentation stated a tabletop test is conducted to ensure the disaster recovery efforts will be successful. The tabletop test is an exercise to role-play a simulated emergency, such as a natural disaster, structural failure, or hostile cyberattack, to gauge the participants' response, including establishing alternate storage sites and communication. The goal of the tabletop test is to identify problem areas that should be remediated while the issues are theoretical. However, according to the director of information resource management, there have not been tests for every control. Furthermore, the disaster recovery plan states that training must be conducted for the key roles to ensure responsibilities would be carried out; however, the information resource management director stated that no such training was ever provided.
- The disaster recovery plan discusses backing up the system software and data at an off-site location in the event the system needs to be reinstated. Information resource management senior staff indicated that despite being charged with developing and maintaining the source code, they do not have control over the source code in the main server room and are unaware of any off-site code or data backup.

The audit team determined that the information documented in eMASS was not reliable. For example, the audit team found that the control test results were written narratives that were transferred from the prior security platform, RiskVision. The information resource management system steward stated the narratives were copied and pasted from previous applications and

[111] VA Handbook 6500.

[112] NIST Special Publication 800-53, app. F-CP.

time-stamped as reviewed every six months to obtain a new authority to operate. Additionally, the related test results lacked support, such as evidence that tests were conducted and the results of such tests. This means that the DLC information resource management staff have reported that the controls are in place and compliant, while eMASS lacked the documentation to support that they are compliant.

The audit team requested that the system steward demonstrate an example of the segregation of duties control test uploaded and signed in eMass for the assessment procedure test results report. The system steward was unable to successfully reperform the control test and was not able to explain what was done to test this control. Regarding the required review of access roles and verification of role permissions every six months by the supervisor, the steward was unable to produce evidence this occurred.

On November 2, 2022, the VA Office of Information Security Risk Review team notified the DLC that the team recommended an overall risk score of "high" for ROES. The director of information resource management stated that the DLC subsequently used contracted specialists to help address the high-risk designation and submitted additional supporting documents. On December 2, 2022, OIT's Information Security Risk Review team approved an authority to operate through December 2, 2023. This notification included a plan of action and milestones report requiring the server be updated by December 31, 2023.

According to VA Handbook 6500, if the system still requires operation with a level of risk of "very high" or "high" after one year, the authorizing official must again grant permission for continued operation of the system. The policy states that this authority cannot be delegated below the VA authorizing official, and the authorizing official must concur in writing or through certified electronic signature that the security risk for continued system operation is acceptable because it is performing a critical mission.[113]

Recommendation 19 addresses the need for VA to ensure security documentation accurately supports that the proper controls are implemented, tested, and representative of system security.

Finding 2 Conclusion

The DLC's management of the information technology system for inventory has made it vulnerable to improper changes because it lacks appropriate controls for access, physical security, and an effective audit trail and transparency of its data. The system access weaknesses and lack of transparency risk data integrity and limit opportunities for needed oversight. Further,

[113] VA Handbook 6500. The authorizing official provides a copy of the concurrence and authorization decision document with supporting rationale to the VA Quality, Privacy, and Risk Board and the VA Chief Information Security Officer. This authorization decision closely manages risk while allowing system operation.

the ordering system is becoming unsustainable due to age and a lack of institutional knowledge to keep it updated.

Weak controls over system changes risk the integrity of supply inventory data. Information systems need to "provide for development and maintenance of minimum controls required to protect federal information and information systems," and the DLC's system appears unable to achieve that.[114] VA needs to ensure that DLC inventory systems are adequately secured, accountable, sustainable, and capable of meeting VA and NIST information security standards and guidelines.

Recommendations 12–19

The OIG recommended that OALC take the following actions:

12. Transfer the stewardship and responsibility for Denver Logistics Center systems to the Office of Information and Technology.
13. In collaboration with the Office of Information and Technology, establish information system controls for user access, segregation of duties designations, permission access, and privilege access for the inventory management systems and data.
14. Establish and perform routine reviews of the access levels for users with direct access to the inventory management systems and ensure that access is limited to those who have a defined business purpose.
15. In collaboration with the Office of Information and Technology, ensure the Denver Logistics Center meets physical access, security, and contingency planning requirements for its information management systems.
16. Establish a connection for Denver Logistics Center inventory data to VA's Corporate Data Warehouse.
17. In collaboration with the Office of Information and Technology, ensure the information technology system application does not bypass internal control restrictions, has a complete audit trail, and does not introduce errors in the information system.
18. Ensure the Denver Logistics Center develops and maintains comprehensive documentation of the information system to support operations and train information resource management staff.
19. Ensure security documentation accurately supports the proper controls are implemented, tested, and representative of the system security.

[114] 44 U.S.C. § 3551.

VA Management Comments

The principal executive director and chief acquisition officer at OALC concurred with recommendations 12 through 19 and submitted action plans for each recommendation. Appendix D includes the full text of his comments, which are summarized below.[115]

In his comments regarding recommendation 12, the principal executive director proposed a "collaborative operational structure" that gives OIT technical—rather than full—stewardship of the DLC's systems while the NAC retains business functionality requirements. Also in collaboration with OIT, the DLC will establish information system controls for user access, segregation of duties, and permissions and privileges; ensure physical access, security, and contingency planning requirements are met; and establish measures to ensure internal control restrictions are not bypassed, audit trails are maintained, and errors are not introduced. These actions are responsive to recommendations 13, 15, and 17.

To address recommendation 14, OALC reported that the DLC has preliminarily reviewed access levels and will implement requirements for biannual reviews of all users' access. For recommendation 16, the principal executive director stated that a mechanism will be implemented to connect DLC inventory data to the Corporate Data Warehouse.

Regarding recommendation 18, the principal executive director stated documentation and training materials will be developed over the course of the fiscal year, but also commented that while "other training" has been made available, on-the-job training is a "key component of building [information resource management] expertise, since DLC systems functionality is unique to the organization and best experienced when working within the DLC operational environment."

Finally, in response to recommendation 19, OALC reported that a review would take place to determine if the documentation is representative of system security and suitable to support implementation and testing of controls.

OIG Response

OALC's planned actions are generally responsive to recommendations 12 through 19 and address the issues identified in the report; however, the OIG notes that some action plans lack specificity. Specifically, in its actions to address recommendation 12 through a new agreement, OALC should ensure that DLC inventory systems are adequately secured, accountable, and

[115] VA included eight general comments in its responses to three recommendations: one comment for recommendation 12, one for recommendation 15, and six for recommendation 18. However, most of these general comments—specifically, the one for recommendation 15 and five of the six for recommendation 18—could not be directly applied to the recommendations as written, but rather address specific points within the report. Due to the nature of these comments, which are best understood in context, the OIG responded to them throughout the report where appropriate. The OIG took the same approach with VA's two technical comments and one other general comment on finding 2.

sustainable. As discussed in this finding, the DLC's weak controls over the system risk the integrity of inventory data and the DLC's ability to maintain accurate inventory, and the OIG concluded that VA needs to ensure that DLC inventory systems are capable of meeting information security standards and guidelines.

All recommendations remain open at this time. The OIG will continue to evaluate VA's actions and supporting documentation to ensure compliance with VA and NIST information security standards and guidelines. The OIG will close all recommendations when VA provides sufficient evidence addressing the intent of the recommendations and the issues identified.

Appendix A: DLC Inventory Adjustment Policy

The Denver Logistics Center's (DLC) logistics personnel must classify how and why inventory errors happen by using the codes shown in tables A.1 and A.2. These codes offer a methodical way to identify the root causes for errors that lead to inventory adjustment transactions, and will be used for subsequent analysis, assessment, and remedial action. DLC logistics personnel must also categorize all adjustment justifications using a two-character value. The first character value will indicate the type of transaction at the time the error occurred and will be selected from the list shown in table A.1.

Table A.1. Type of Transaction Where the Error Occurred

Value	Definition
1	Receiving
2	Issue
3	Physical inventory
4	Cataloging changes
5	Logistics reassignments (item manager initiated)
6	Warehousing/rewarehousing
7	Other

Source: DLC chief of logistics memorandum, "Inventory Adjustment Policy and Standard Operating Procedures," March 14, 2016.

Table A.2 includes the second character value DLC logistics personnel must use to identify the error root cause. The two-character value and any pertinent details that support the entry will be entered by DLC logistics personnel responsible for entering changes in the inventory system.

Table A.2. Error Classification Codes

Code	Error cause	Description of error root cause
A	System/program error	Accountable/custodial record was not correctly updated by a valid transaction because system failed, or program contained a logic error.
B	Document not posted	Physical processing was completed but transaction update of the accountable/custodial record was not affected.
C	Source document error	Error in the source document National Stock Number, quantity, unit of issue, condition, type of pack, lot number, ownership/purpose, or location (routing identifier code) caused erroneous update of accountable/custodial record.
D	Data entry error	Input transaction did not match source document part number, quantity, unit of issue, condition, type of pack, lot number, owner ship/purpose, or location (routing identifier code) and caused erroneous update of the accountable/custodial record.
E	Rejected document not posted	Transaction was rejected during processing and was not re-input to update the accountable/custodial record.
F	Duplicate document posted	Same transaction updated the accountable/custodial record more than once.
G	Reversal document not processed	Accountable/custodial record was updated by a transaction posted to completion and a required transaction reversal was not processed.
H	Erroneous reversal posted	Prior action to reverse a transaction which updated the accountable/custodial record was taken in error.
I	Misidentified/mixed materiel	Assets in storage location were identified by incorrect/multiple stock number, unit of issue, supply condition, shelf life, type of pack, lot number, or ownership/purpose.
J	Duplicate physical processing	Transaction updated the accountable/custodial record once but materiel physically processed more than once.
K	Wrong materiel selected	Materiel selected did not match transaction which updated the accountable/custodial record (i.e., wrong stock number, quantity, unit of issue, condition, type of pack, lot, ownership/purpose, or location was physically selected).
L	Materiel selected from wrong location	Storage location from which materiel was selected did not match storage location cited in the transaction.
M	Physical processing not complete	Transaction updated the accountable/custodial record but physical processing of materiel was not completed.
N	Erroneous refusal	Refusal processed in error. Materiel found after refusal was submitted.
O	Materiel not stored correctly	Materiel was not stored in a finite location or placed in an incorrect location when processing the storage transaction.
P	In-float document control	Erroneous data posted to the accountable/custodial record error because in-float documents were not considered or were not available.

Code	Error cause	Description of error root cause
Q	Erroneous count	Materiel incorrectly counted.
R	Erroneous adjustment	Prior action to adjust the accountable/custodial record was posted taken in error.
S	Catalog change not posted	Transaction resulted in erroneous update of the accountable/custodial record because accountable/custodial record was not updated by cataloging data change transaction.
T	Erroneous cataloging	Erroneous data posted to accountable/custodial record due to change posted error in catalog change transaction (e.g., wrong unit of issue to or from, etc.).
U	Bin tag/locator label error	Bin tag/locator label missing, incomplete, or reflected erroneous data for assets in storage location.
V	Theft	Inventory adjustment attributed to probable theft.
W	No conclusive findings	Cause for the inventory discrepancy could not be determined.

Source: DLC chief of logistics memorandum, "Inventory Adjustment Policy and Standard Operating Procedures," March 14, 2016.

Appendix B: Scope and Methodology

Scope

The audit team conducted its work from July 2022 through August 2023. The audit focused on supply items managed and shipped by the DLC and its warehouse operations in Denver, Colorado and Hines, Illinois. The team's physical inventory assessment of 80 sampled prosthetics and audiology supply items was conducted on July 12 and 13, 2022, and derived from a universe of 2,329 unique items and 14,810,392 total quantities on hand, valued at $61,320,753. The audit team analyzed DLC's transaction register data for the period of July 1, 2021, to June 30, 2022.

Methodology

To address the audit objective, the team identified and reviewed applicable laws, regulations, policies, procedures, and guidelines related to VA and DLC inventory management processes.

The audit team conducted unannounced site visits and observations to the DLC's Denver and Hines warehouses during the week of July 11, 2022, and performed subsequent site visits to the Denver warehouses the week of October 24, 2022, and May 3, 2023.

Physical Inventory

On July 12 and 13, 2022, the audit team reviewed a statistical sample of prosthetic and audiology items on hand in the DLC's inventory system as of July 11, 2022, at the Denver and Hines locations. To assess the accuracy of the quantities recorded in the inventory management system for these 80 sampled items, the audit team took the following actions:

- Identified the physical locations for each of the products and obtained assistance from supply distribution personnel to identify inventory overflow locations.
- Conducted, in teams of two, physical counts of the quantities on hand for each sample item and compared inventory counts. When there was a disparity in the counts between the two auditors, the physical counts were repeated until all counts agreed.
- Photographed the sampled items.
- Documented the physical counts of each sampled item in a data collection instrument to compare to the quantities recorded in the inventory management system.

When the audit team identified discrepancies, it took these actions:

- Discussed all discrepancies with DLC logistics staff. When researching the discrepancies, Denver and Hines personnel used the VistA inventory management system to account for recent sales, returns, receipts and adjustments.
- Reviewed the DLC's inventory management system transaction register to account for any transactions that took place from July 11 through July 13, 2022. These transactions included sales, returns, receipts, and adjustments.

During the audit, the team shared the sampled items and those with discrepancies with the DLC director.

Apnea Contingency Inventory Count

On October 27, 2022, the audit team conducted an independent physical count of apnea care products identified by DLC staff as contingency, located in one of the DLC warehouses in Denver. To conduct the physical count, five audit team members

- counted 69 pallets holding apnea care products and photographed the supplies and packing lists that were attached to each pallet;
- removed the pink wrap from all 69 pallets; and
- documented the item numbers and counted the boxes stored on each pallet and documented expiration dates, where applicable.

To assess a broader range of transactions, the team analyzed the DLC's transaction register data, to include adjustments, for the period of July 2021 through June 2022.

Additionally, the audit team analyzed DLC data of apnea care products on back order. The team also conducted a physical count of nebulizer products and iPhones identified during observations that were not recorded in the inventory management system.

The team interviewed DLC leaders, supply and logistics managers and supervisors, quality assurance staff, and warehouse staff. The team also met with DLC program managers, the information resource management team, and finance staff who support the DLC's information technology and fiscal processes. Additionally, the team reviewed VA email records of key DLC management and staff.

To understand oversight and monitoring activities of the DLC operations, the team interviewed leaders from OALC, OPAL, the NAC, and the Office of Revolving Funds. The team also met with leaders from the Prosthetic and Sensory Aids Service to understand DLC customers' experiences, and the Commodities and Services Acquisition Service to understand the ordering and contracting process.

In order to further assess the DLC's system itself, the audit team physically observed the information systems located at the DLC that operates the inventory management system and accessed the Enterprise Mission Assurance Support Service (eMASS) and reviewed security documentation required by NIST used to obtain approval for the authority to operate granted to the Remote Order Entry System (ROES). Further, the audit team reviewed the disaster recovery plan, incident response plan, configuration management plan, and contingency plan.

Internal Controls

The audit team assessed the internal controls of the DLC significant to the audit objective. This included an assessment of the five internal control components to include control environment, risk assessment, control activities, information and communication, and monitoring.[116] In addition, the team reviewed the principles of internal controls as associated with the objective. The team identified the following five components and 15 principles as significant to the objective.[117] The team identified internal control weaknesses during this audit and proposed recommendations to address deficiencies in the following controls:

- Component 1: Control Environment
    - Principle 2–Exercise Oversight Responsibility
    - Principle 3–Establish Structure, Responsibility, and Authority
    - Principle 4–Demonstrate Commitment to Competence
    - Principle 5–Enforce Accountability
- Component 2: Risk Assessment
    - Principle 6–Define Objectives and Risk Tolerance
    - Principle 7–Identify, Analyze, and Respond to Risk
    - Principle 8–Assess Fraud Risk
- Component 3: Control Activities
    - Principle 10–Design Control Activities
    - Principle 11–Design Activities for the Information System
    - Principle 12–Implement Control Activities

[116] GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014.

[117] Since the audit was limited to the internal control components and underlying principles identified, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

- Component 4: Information and Communication
    - Principle 13–Use Quality Information
    - Principle 14–Communicate Internally
    - Principle 15–Communicated Externally
- Component 5: Monitoring
    - Principle 16–Perform Monitoring Activities
    - Principle 17–Remediate Deficiencies

Fraud Assessment

The audit team assessed the risk of fraud and noncompliance with provisions of laws, regulations, contracts, and grant agreements, significant in the context of the audit objectives, could occur during this audit. The team exercised due diligence in staying alert to any fraud indicators by identifying laws, regulations, and procedures related to the audit subject matter to help detect noncompliance or misconduct; completing the Fraud Indicators and Assessment Checklist; and reviewing relevant OIG Hotline complaints for reports of fraud in the area under review.

The audit team learned that prior to the audit, in April 2022, a DLC contractor was arrested for traffic and safety violations in the parking lot of the DLC main warehouse in Denver. A search of his vehicle revealed stolen VA property valued at about $3,000. The contractor involved in this incident no longer works at the DLC.

The audit team discussed issues identified during the audit with OIG investigators and attorneys. The audit team did not identify specific instances of fraud during this audit. The audit team identified a potential ethics issue and referred the matter for further review. The audit team also became aware of other potential improper activity, and that issue was referred for further review.

Data Reliability

The OIG used computer-processed data from DLC's database called Caché. The Caché database is the official record of inventory levels for the DLC. For the purposes of this report, the Caché database is referred to as the inventory management system. To test for reliability, the audit team determined whether any data were missing from key fields, included any calculation errors, or were outside the time frame requested. The audit team also assessed whether the data contained obvious duplication of records, alphabetic or numeric characters in incorrect fields, or illogical relationships among data elements. To assess the reliability of system data of items on hand, the audit team compared a statistical sample of 80 prosthetics and audiology item names and locations reported in the DLC's inventory management system on July 11, 2022, to the items physically available in inventory at three DLC warehouse locations. Additionally, the team

traced a judgmental selection of 10 items from what was physically on hand back to the system data. To test the reliability of the transaction register data in the inventory management system, the audit team traced 30 items from the transaction register and the quantities adjusted in the system, to the source documents the DLC staff used to conduct and record their physical inventory results and final adjustment findings. The team determined the data used in this audit were reliable for the purposes of assessing inventory discrepancies and adjustment activities.

Government Standards

The OIG conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that the OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on audit objectives. The OIG believes the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objectives.

Appendix C: Statistical Sampling Methodology

Approach

The audit team reviewed a statistical sample of items on record on July 11, 2022, at Denver, Colorado, and Hines, Illinois. The team used statistical sampling to quantify the extent of discrepancies in recorded inventory quantities on hand.

Population

The audit team obtained a universe of total items and quantities on hand on July 11, 2022. From the universe, the audit team then excluded telehealth items, items noted as inactive, and items that showed zero quantities on hand. Following those exclusions, the universe consisted of 2,329 items and 14,810,392 total quantities on hand, valued at $61,320,753.

Sampling Design

The audit team selected a statistical sample from the universe using the strata in table C.1. The team selected 80 unique items, stratified by location, cost, and quantity. Of the 80 sampled items, 60 samples were selected from the Denver location and 20 samples were selected from the Hines location.

Table C.1. Sample Totals by Stratum

Stratum	Definition	Number of items	Quantity on hand	Total value	Number of sampled items
1	Cost >= $1k & quantity 100+	2	308	$664,950	2
2	Cost >= $1k & quantity less than 100	0	0	$0	0
3	Cost from $100 to <= $1k & quantity 100+	44	93,662	$14,754,795	13
4	Cost from $100 to <= $1k & quantity less than 100	103	1,929	$578,460	12
5	Cost from $1 to <= $100 & quantity 100+	790	1,630,199	$42,283,432	16
6	Cost from $1 to <= $100 & quantity less than 100	869	29,185	$723,455	17
7	Cost <= $1 & quantity 100+	327	13,046,827	$2,313,097	10
8	Cost <=$1k & quantity less than 100	194	8,282	$2,562	10
Total		**2,329**	**14,810,392**	**$61,320,753**	**80**

Source: VA OIG statistician's stratified population. Data were obtained from the DLC's inventory system on July 11, 2022.

Table C.2 shows the total quantities on hand and the value of the universe, by product group.

Table C.2. Universe Totals by Item Type

Product group	Quantities on hand	Total value
Accessories	3,777,301	$5,648,968
Apnea care products	1,484,360	$53,416,727
Assistive devices	361,765	$445,408
Assistive listening devices	8,347	$500,371
Batteries	9,127,722	$628,665
Orthotic goods	49,842	$672,469
Prosthetic socks	1,055	$8,146
Total	**14,810,392**	**$61,320,753**

Source: VA OIG statistician's stratified population by item type. Data were obtained from DLC's inventory system.
Note: The numbers are rounded to the nearest dollar, and the total does not equal the sum of the values per group due to rounding.

Weights

Samples were weighted to represent the population from which they were drawn, and the weights were used in the estimate calculations. For example, the team calculated the error rate estimates by first summing the sampling weights for all sample records that contained the given error, then dividing that value by the sum of the weights for all sample records.

Projections and Margins of Error

The projection is an estimate of the population value based on the sample. The associated margin of error and confidence interval show the precision of the estimate. If the OIG repeated this audit with multiple sets of samples, the confidence intervals would differ for each sample but would include the true population value 90 percent of the time.

The OIG statistician employed statistical analysis software to calculate estimates, margins of error, and confidence intervals that account for the complexity of the sample design.

The sample size was determined after reviewing the expected precision of the projections based on the sample size, potential error rate, and logistical concerns of the sample review. While precision improves with larger samples, the rate of improvement decreases significantly as more records are added to the sample review.

Figure C.1 shows the effect of progressively larger sample sizes on the margin of error.

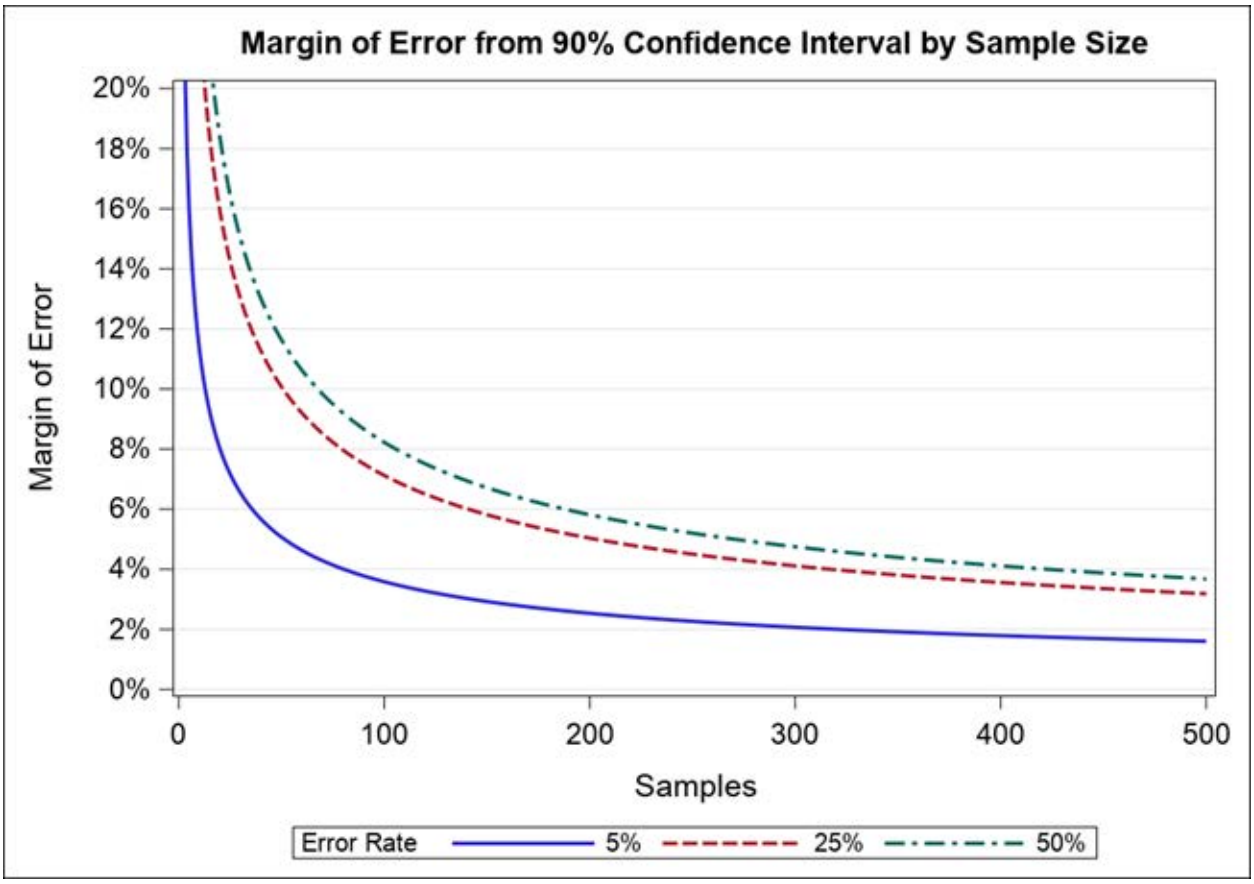


Figure C.1. *Effect of sample size on margin of error.*
Source: VA OIG statistician's analysis

Projections

The audit team identified and counted the actual physical quantities on hand and compared them with what was recorded in the DLC's inventory management system for the 80 sample items. This included reviewing inventory overflow locations, meeting with warehouse leads and supervisors to discuss any discrepancies, and reviewing the transaction register to account for transactions that took place during the time of the review, such as sales, returns, receipts, and adjustments. The audit team projected the sample results to the universe of about 14.8 million items, as shown in table C.3.

Table C.3. Statistical Projections Summary

Description	Estimate	90 percent confidence interval			Number of samples
		Margin of error	Lower limit	Upper limit	
Number of item types in which the physical count **did not match** the quantity on hand recorded in the inventory management system	1,000	260	750	1,300	37
Estimated quantities of items in which the physical count was **less than** the quantity recorded in the inventory management system	2,500,000	1,100,000	1,400,000	3,600,000	16
Estimated value of items in which the physical count was **less than** the quantity recorded in the inventory management system	$28,900,000	$15,600,000	$13,300,000	$44,500,000	16
Of the items in which the physical count was **less than** the system –Apnea care products (quantities)	520,000	257,000	263,000	776,000	7
Estimated quantities of items in which the physical count was **more than** the quantity recorded in the inventory management system	3,800,000	1,200,000	2,600,000	4,900,000	21
Estimated value of items in which the physical count was **more than** the quantity recorded in the inventory management system*	$1,700,000	$1,700,000	$73,900	$3,400,000	21
Of the items in which the physical count was **more than** the system – Accessories products (quantities)	2,400,000	997,000	1,400,000	3,400,000	11

Source: VA OIG sample results, projected to the universe using special software and procedures to compute the sampling estimates.

**The sample for this audit included a variety of item types with a large range of values. Therefore, the OIG anticipated higher margins of error for the projection of at least one attribute in this audit. For this estimate, the lower limit is adjusted to reflect actual results rather than a negative estimate.*

Appendix D: VA Management Comments

Department of Veterans Affairs Memorandum

Date: September 25, 2023

From: Principal Executive Director, Office of Acquisition, Logistics, and Construction and Chief Acquisition Officer (003)

Subj: Office of Inspector General (OIG) Draft Report: Denver Logistics Center Inventory Management, (Project No. 2022-02739-AE-0114) (VIEWS #10705375)

To: Director, Office of Audits and Evaluations, (52A03)

1. The Office of Acquisition, Logistics, and Construction (OALC) reviewed the subject OIG Draft Report. OALC concurred with all findings and recommendations and will take the actions referenced in the implementation plan.

The OIG removed point of contact information prior to publication.

(Original signed by)

Michael D. Parrish

Attachment

Attachment

VA Comments on OIG Draft Report

Denver Logistics Center Inventory Management

(2022-02739-AE-0114)

September 2023

Preface

The National Acquisition Center (NAC) appreciates the thorough and deliberate audit provided by the Office of the Inspector General (OIG) of the NAC's Denver Logistics Center (DLC). The overall audit spanned an entire year, during which time OIG had the opportunity to observe the initial condition of operations, ongoing operational challenges and robust efforts to address many of the concerns raised by the OIG during the course of the audit. OIG noted that this is the first audit of the DLC in 14 years, during which time operations, physical locations, and organizational structure have vastly changed as has much of the guidance used by OIG to inform their audit.

DLC proudly serves our Veterans through direct-to-medical-center and direct-to-Veteran programs that ensure the timely and accurate processing and shipment of clinically driven requirements across the country. DLC processes tens of thousands of orders every month in support of prosthetics programs that include hearing aids, Positive Airflow Devices (CPAPs), and home telehealth items along with the associated consumable items Veterans need on a continuing basis for their extended healthcare needs. This essential mission has continued uninterrupted through COVID-19 as well as during major recall of 500,000 CPAP devices last year. The capabilities and efficiencies of the DLC model have been cited by independent sources as 'best-of-breed' solutions for VA. DLC provides unparalleled services to our Veterans and has achieved remarkable customer approval ratings every year from both Veterans and the thousands of clinicians who utilize DLC's unique ordering system, Remote Ordering Entry System (ROES), to process orders directly from their desktops.

The NAC does not take specific issue with any of the findings and recommendations presented in this draft report. In the interest of facilitating as accurate representation of DLC operating considerations as possible, selective clarifications are offered on key points of importance. Clarifications notwithstanding, the NAC acknowledges that the recommendations presented by OIG would certainly improve financial accounting practices to match the already superb level of VA clinician and Veteran customer support already being provided. Attached is our corrective action plan addressing the two findings and the 19 recommendations.

The NAC looks forward to demonstrating the myriad improvements already implemented that address many of the findings and recommendations presented in the draft report.

Finding #1: The DLC did not effectively manage, safeguard, or account for VA-owned goods.

VA Response: Concur.

Recommendation #1: Implement oversight, monitoring, and quality assurance mechanisms that routinely ensure all goods received by the Denver Logistics Center are accurately and promptly recorded in the inventory management system at the time of receipt.

VA Response: Concur.

Implementation Plan: Standard Operating Procedures (SOPs) for Inventory and Receiving were updated as of June 28, 2023 to ensure items are promptly recorded in the inventory management system. While the SOPs are applicable across the multiple locations of the DLC organization, they also include site-specific information particular to the Denver and Hines locations. Staff have been made aware of how/where to access SOPs. The SOPs and procedural documents are stored on shared drive/SharePoint resources accessible by all Logistics and warehouse staff, and printed copies are posted prominently in warehouse locations. Updated SOPs have adopted new QA checklists to ensure appropriate oversight and monitoring for goods received and accurate recording in the inventory management system. Pending OALC approval of organizational chart changes, additional QA positions will be added (anticipated by December 31, 2023) to provide full coverage of oversight processes, and SOP's will be updated accordingly to reflect the QA oversight functions.

Target Completion Date: December 31, 2023

Recommendation #2: Properly record all apnea stock in the inventory management system.

VA Response: Concur.

Implementation Plan: With transfer of apnea contingency stock to the Hines facility, all apnea stock has been recorded in the inventory management system under the APNEA CARE Product Group. A mid-cycle wall-to-wall inventory conducted by Hines staff on July 15, 2023 confirmed that all apnea stock is recorded. A new wall-to-wall inventory to be conducted at Hines in September 2023 per the normal annual DLC inventory cycle will be used to verify continued proper recording in the inventory management system.

Target Completion Date: September 30, 2023

Recommendation #3: Ensure DLC management routinely assess the appropriateness of manual adjustments to the inventory system and document the findings and causes, review trends in error codes, and develop action plans to minimize inaccuracies in future physical counts.

VA Response: Concur.

Implementation Plan: Beginning June 13, 2023, manual adjustments are reported weekly, and reviewed for trends, anomalies, or other factors of appropriateness. Procedural changes have been implemented and are documented in SOP's to ensure adjustments include findings and causes based on research of each adjustment. Action plans for minimizing inaccuracies in physical counts are included in Standard Operating Procedures.

Target Completion Date: September 30, 2023

Recommendation #4: Strengthen controls over inventory adjustments to ensure the accountable officer or designee reviews and approves supply variances above an established threshold.

VA Response: Concur, with comments.

Comment (Page -26-body and footnote 62; Page 31):

Per DLC standard practice, the Chief, Logistics Division is the recognized Accountable Officer. A delegation memorandum for Accountable Officer is in place.

Implementation Plan: Procedural controls have been implemented (as of March 1, 2023) in which inventory adjustments are reviewed on a weekly basis by the Accountable Officer. Variances above $500 are examined by the Accountable Officer in more detail for causes and reasons, and reported in further detail to the Associate Director for Operations and to the Director. The $500 threshold for identifying variances subject to detailed research and reporting is more rigorous than the VA standard threshold of $5,000 specified in VA Handbook 7002. Pending OALC approval of organizational chart changes, additional QxA positions will be added (anticipated by December 31, 2023) to support supervisors and leads in enforcing controls on adjustments, and SOP's will be updated accordingly to reflect the QA oversight functions. Requirements for completing Reports of Survey for discrepancies exceeding $4,999 were established on May 17, 2023. Requirements are being updated to ensure proper procedures are followed applicable to both the Denver and Hines locations.

Target Completion Date: December 31, 2023

Recommendation #5: Establish and implement policy that clearly defines roles and responsibilities for Denver Logistics Center logistics and warehouse employees, separates duties to avoid conflicts of interest, and enhances the quality assurance function.

VA Response: Concur.

Implementation Plan: Inventory management system menu options have been modified to prevent Logistics Management Specialists from performing receiving actions on Purchase Orders. In association, staff were trained on procedures to maintain separation of duties and avoid performing tasks that would be subject to conflicts of interest. Role delineations based on separation of duties principles will be added to Standard Operating Procedures by December 31, 2023.

Target Completion Date: December 31, 2023

Recommendation #6: Establish and implement formal policies and procedures specific for inventory management operations at the Denver Logistics Center, to include cycle counts, regular inventory audits, adjustments and forecasting demand, safety levels, reordering, and tools to allow for automated scanning.

VA Response: Concur.

Implementation Plan: Standard Operating Procedures were initially modified as of January 1, 2023 to include the specific inventory management operations mentioned, and were further reviewed and approved on June 28, 2023. SOP's will be reviewed with all Logistics and Inventory staff biannually (every 6 months), generally in January and July each year. SOP updates will also be included at the time of the biannual reviews.

Target Completion Date: October 31, 2023

Recommendation #7: Develop and deliver formal training to logistics and warehouse staff on inventory management policies, procedures, and tools.

VA Response: Concur.

Implementation Plan: Development of training materials covering inventory management policies, procedures, and tools was completed March 4, 2023. Training was conducted upon completion of the

training materials, and will be delivered twice each year on a continuing basis. New staff being onboarded receive training in a specific functional area before entering into assigned duties to that functional area on a rotational basis. Following implementation, monitoring of training will continue through March 2024 while training is institutionalized for the organization. Training material content will be reviewed biannually.

Target Completion Date: March 31, 2024

Recommendation #8: Implement routine reporting of all Denver Logistics Center inventory adjustments to the National Acquisition Center and the Office of Acquisition, Logistics, and Construction.

VA Response: Concur.

Implementation Plan: As of March 20, 2023, inventory adjustments are reported weekly to the National Acquisition Center and the Office of Acquisition, Logistics, and Construction. Beginning August 25, 2023, a trending graph of inventory validity will also be reported weekly.

Target Completion Date: October 31, 2023

Recommendation #9: Ensure the Denver Logistics Center staff complete reports of survey for adjustments to inventory in accordance with VA logistics management policy, and communicate such information to the National Acquisition Center.

VA Response: Concur.

Implementation Plan: Report of Survey procedures for adjustments to inventory are being documented to include communication of the information to the National Acquisition Center.

Target Completion Date: October 31, 2023

Recommendation #10: Address the physical security issues identified and develop, implement, and provide initial and recurring training and guidance to Denver Logistics Center's logistics, distribution, and contract staff on proper physical security controls and procedures, including the proper disposal of personally identifiable information.

VA Response: Concur.

Implementation Plan: A Facility Security Assessment was completed by Federal Protective Service on February 9, 2023, and an additional Facility Security Inspection was conducted by the National Acquisition Center on May 18, 2023. Action items identified from the assessments will be completed by October 31, 2023. To ensure proper disposal of printed material containing PII, the DLC has increased the quantity of secured bins where these materials are to be placed, has placed the bins in key locations near where the materials are used, and has reinforced procedures and training for staff to follow in handling of materials containing PII. Signage has also been added in key areas to inform staff of proper handling of PII. Regarding physical security of inventory, the DLC has worked with GSA to complete installation of a caged perimeter for inventory located at the secondary distribution facility in Denver. In addition to mandatory VA Talent Management System training on Privacy and Security Awareness, Security Awareness training is conducted during weekly Logistics Division staff meetings. (Photos at the end of this document are in reference to various security measures taken.)

Target Completion Date: October 31, 2023

Recommendation #11: Conduct an independent, comprehensive, and multiyear financial audit that includes wall-to-wall inventory assessments of the Denver Logistics Center.

VA Response: Concur.

Implementation Plan: A contract will be awarded by December 31, 2023 for an annual independent audit to include inventory system assessment.

Target Completion Date: December 31, 2023

Finding #2: Weak Controls over the DLC's Inventory System risk the integrity of its data and ability to maintain accurate inventory

VA Response: Concur, with Comments.

Comment (Pages 41 and 52):

Regarding DLC's use of a combination of components of the VA VistA environment, in-house purpose-built components, and web application methods, use of the term 'unsustainable' in reference to these systems is questionable. From all accounts, these components are not considered to be unsustainable. As an example, the OIT Executive Director, Software Product Management has stated in recent public comments that the VistA application architecture and programming language will be maintained across the VA enterprise and competent VistA developer staff will be engaged for at least the next ten years. While the DLC acknowledges and actively pursues a path of modernization in its systems, a sweeping statement that the system is unsustainable is not substantiated.

Recommendation #12: Transfer stewardship and responsibility of Denver Logistics Center systems to the Office of Information and Technology.

VA Response: Concur, with comments.

Comment: Rather than transferring full stewardship of systems, OALC proposes a collaborative operational structure between the NAC/DLC and OIT. OIT would have technical stewardship of the systems while NAC would retain ownership for all core business functionality requirements and priority of functional business system capabilities as well as providing the requisite funding resources to ensure OIT receives adequate funding to support all jointly derived system and functional requirements. OIT deliverables would conform to existing and future DLC business processes and customer interfaces.

Implementation Plan

Implement a new Interagency agreement between OALC and OIT that enables and promotes this new working business model for the two organizations.

Target Completion Date: January 2024

Recommendation #13: In collaboration with the Office of Information and Technology, establish information system controls for user access, segregation of duties designations, permission access, and privilege access for the inventory management systems and data.

VA Response: Concur.

Implementation Plan: Information system controls for user access, segregation of duties, and permissions/privileges will be established collaboratively between OIT and DLC by December 31, 2023.

Target Completion Date: December 31, 2023

Recommendation #14: Establish and perform routine reviews of the access levels for users with direct access to the inventory management systems and ensure that access is limited to those who have a defined business purpose.

VA Response: Concur.

Implementation Plan: A schedule and procedures for performing initial reviews of access levels has been established. Procedures include measures to ensure access is linked to job functions/business purpose. Menu options assigned to DLC users have been initially reviewed and options not needed for individuals' business need and performance of job duties have been removed. Menu options requested/approved for users based on needs of the position are documented on VA Form 9957. An SOP will be developed by September 30, 2023 for biannual review of menu options assigned to all users.

Target Completion Date: September 30, 2023

Recommendation #15: In collaboration with the Office of Information and Technology, ensure the Denver Logistics Center meets physical access, security, and contingency planning requirements for its information management systems.

VA Response: **Concur**, with comments.

Comment (Page 46):

With limited exceptions, nothing prevents the test environment from being a source code replica of the production environment. The environment may be perceived to be 'out of date' because of a paucity of simulation data itself, not because of source code. Since normal production activities are not performed on a daily basis in the test environment, the environment does not contain a full breadth of transactional data matching the production environment. However, the test environment is available and is used for testing activities, including recent examples of use by Cerner testers for validating ROES functionality with the Cerner eHR system.

Implementation Plan: OIT and the DLC will work together to ensure physical access, security, and contingency planning requirements are met by December 2, 2023. The system used for managing card access to the facility and to card-controlled doors within the facility was confirmed as of August 17, 2023 to be accurate and up to date with proper access controls assigned to individual cards.

Target Completion Date: December 2, 2023

Recommendation #16: Establish a connection for Denver Logistics Center inventory data to VA's Corporate Data Warehouse.

VA Response: Concur.

Implementation Plan: A mechanism for connecting DLC inventory data to the CDW will be established by March 31, 2024.

Target Completion Date: March 31, 2024

Recommendation #17: In collaboration with the Office of Information and Technology, ensure the information technology system application does not bypass internal control restrictions, has a complete audit trail, and does not introduce errors in the information system.

VA Response: Concur.

Implementation Plan: OIT and the DLC will establish measures to ensure internal control restrictions are not bypassed, audit trails are maintained, and errors are not introduced by March 31, 2024.

Target Completion Date March 31, 2024

Recommendation #18: Ensure the Denver Logistics Center develops and maintains comprehensive documentation of the information system to support operations and train information resource management staff.

VA Response: Concur, with Comments

Comments:

(Page 49)

While the DLC Director, because of his prior experience, is proficient in use of the programming language used to create the system, it is an exaggeration to say he is 'the' subject matter expert in the language. Some IRM developers are exceedingly proficient in use of the programming language. Where the Director possesses authoritative knowledge that could be leveraged by IRM staff is in business logic and business functionality enabled by software written using the programming language.

(Page 49)

A product called 'ROES' has existed since its initial inception in 1993. However, the original version of ROES based on the technologies available at that time bore little resemblance to the current ROES in application structure, programming techniques, access methods and user interface, etc. The ROES application in its current form using web application architecture, database logic, and systems interfaces was implemented in 2003, with further technology updates being added since that time.

(Page 49)

The statement implies that the code will operate only on Windows 2012 servers, which is not the case. The code is not restricted to only Windows 2012, and also operates on the current Windows 2019 operating system platform. The operating system can be upgraded from Windows 2012 without detrimental impact to the application itself.

(Page 49)

As a Supply Fund organization, funding of systems for DLC operations by the VA Supply Fund falls under the Supply Fund statute and is clarified by Office of General Counsel memorandum VAOPGCADV 6-2015, which concludes that "the Supply Fund should continue to fund all expenses necessary for the operation and maintenance of the supply system, including all necessary IT expenses."

(Page 49)

There is no reluctance on the part of the DLC Director or DLC managers to engage in modernization efforts. With respect to inventory systems, DLC management has rigorously assessed alternative inventory systems as they have been introduced for VA consideration. These include VA Generic Inventory Package (GIP), Maximo, and Defense Medical Logistics Standard Support (DMLSS) systems. In each case, the conclusion of the DLC and external entities has been that the functionality provided by these systems is insufficient when compared to the purpose-built capabilities used by the DLC for its operations. DLC Management also expressed a desire to engage further with a prominent commercial supply chain organization renowned for its efficiencies, to explore additional proven modernization using automation and technologies. Further action on this was deferred pending additional progress of the enterprise Supply Chain Modernization initiative. Under the Director's leadership, the DLC has also been an exemplary partner in migrating systems and accomplishing modernization objectives of the VA electronic Health Record Modernization (eHRM) and Financial Management Business Transformation (FMBT) projects. It should also be noted that in gathering requirements and determining capabilities expected under the aforementioned Supply Chain Modernization initiative, existing and mature DLC capabilities have been identified by its customer/partner healthcare programs and by Supply Chain Modernization officials themselves as a model for some of the desired outcomes of the Modernization initiative.

(Pages 49-50)

On-the-job training is a key component of building IRM expertise, since DLC systems functionality is unique to the organization and best experienced when working within the DLC operational environment. However, other training has been made available. At least two IRM developers requested and were approved to participate in OIT-sponsored training on core VistA Fundamentals and advanced programming techniques, with the curriculum being very applicable to the DLC environment. IRM perception of lack of expertise and experience to maintain DLC systems is somewhat self-imposed. The DLC Director consistently showed willingness and desire to train and share insight with the former IRM Program Director and staff, but was rebuffed. A sufficient knowledge base exists within the DLC to maintain systems and fix problems that might arise.

Implementation Plan: Documentation and training materials will be developed over the course of fiscal year 2024, with completion by June 30, 2024.

Target Completion Date: June 30, 2024

Recommendation #19: Ensure security documentation accurately supports the proper controls are implemented, tested, and representative of the system security.

VA Response: Concur.

Implementation Plan: Documentation will be reviewed to be representative of system security and are suitable to support implementation and testing of the controls by December 2, 2024.

Target Completion Date: December 2, 2024

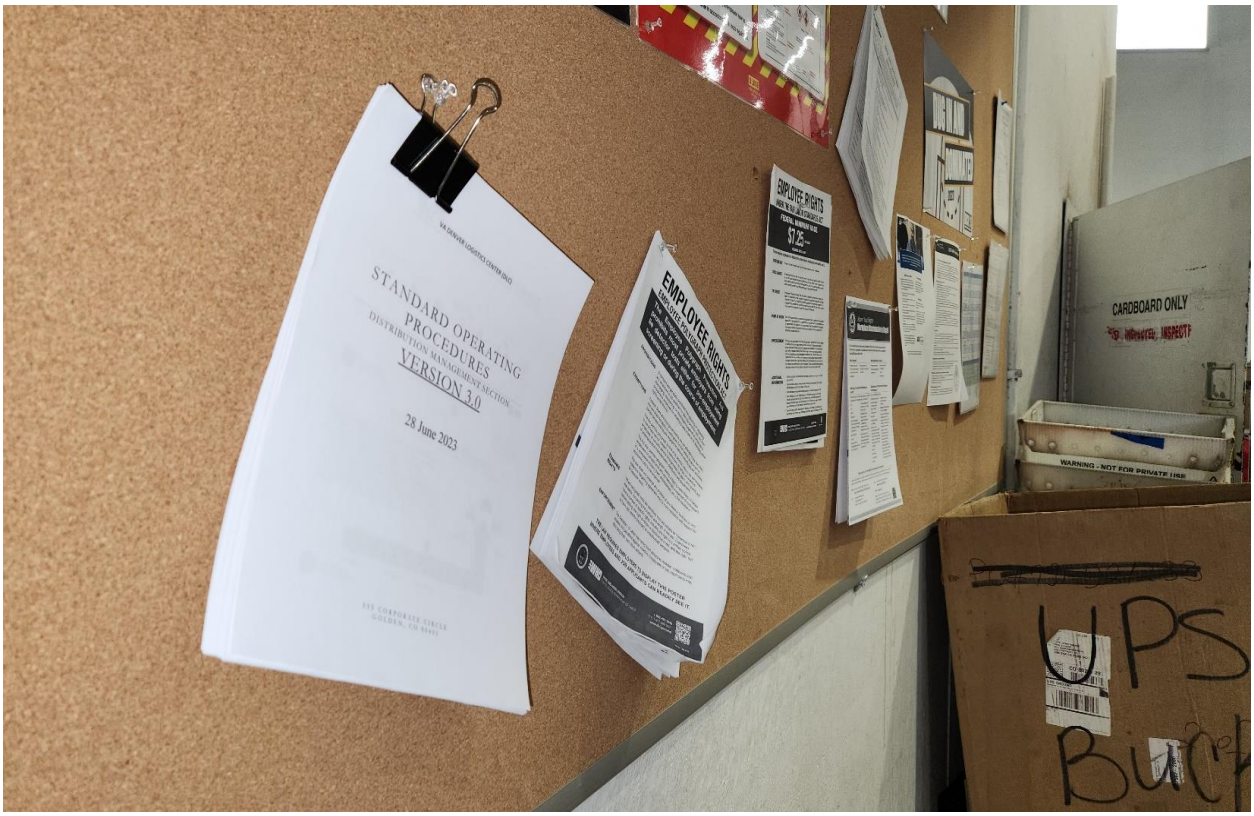
VA Technical Comments

(Page i, third paragraph) From the context, it appears the statement should correctly read: "…for distribution to *facilities* or directly to patients."

(Page 5, second paragraph) ROES is available only to clinical staff and Veterans do not use ROES to enter requests. Suggest correction to: "Veterans may also request resupply items from the DLC through a web portal or can contact a call center to order certain items from the DLC. Once an order is placed in the DLC system, DLC staff ship the items…"

Physical Security: Caged perimeter at secondary DLC distribution facility

Standard Operating Procedures posted



Secured Bin for Disposal of PII Printed Material

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