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Pharmacy Automated Dispensing Cabinets Need Improved Monitoring for Accountability over High-Risk Medications

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Executive Summary

VA medical facilities use automated dispensing cabinets to help manage medication inventory and to allow clinical personnel to dispense medications to patients near the point of care in both inpatient and outpatient settings. These computerized storage machines can help improve the availability of medications, increase efficiency, reduce errors in dispensing medications, facilitate accurate medication tracking, and support inventory recordkeeping.

VA medical facilities mainly have cabinets from two brands (referred to as cabinets A and B in this report), and the cabinets can be programmed to one of two settings: profiled or nonprofiled.[1] Facilities typically operate profiled cabinets in inpatient settings and these cabinets may be populated with a patient's identifying information and active medications. Medications are considered active and placed in the patient's profile after a VA pharmacist has reviewed and approved their appropriateness. This report focuses on nonprofiled cabinets, which allow users greater flexibility in accessing and removing medications.

Nonprofiled cabinets are typically used in VA outpatient settings, such as dermatology, mental health, and orthopedics. Nonprofiled cabinets allow for expedited access to medications by removing the need for a pharmacist to verify a medication before it is administered to a patient, giving providers the flexibility to care for the needs of patients in a particular clinic. For example, an orthopedic provider may remove a medication from a nonprofiled cabinet to administer an injection for a patient presenting with joint pain, bypassing pharmacy verification and enabling timely, in-clinic treatment. Because nonprofiled cabinets do not require users to input patient information in any certain format and because the information is not validated against a list of patients, users can input generic information—such as a fictitious name or cabinet location or a generic code such as "Floor Charge" or "Floor Stock"—to remove medications.[2]

The VA Office of Inspector General (OIG) received a hotline allegation in October 2023 that a facility lost accountability for over 160,000 doses of prescription medications per year because personnel removed medications from cabinets using generic codes rather than associating the removal with a specific patient.[3] The OIG conducted this national review of nonprofiled cabinets to evaluate whether controls at Veterans Health Administration (VHA) medical facilities ensure accountability over high-risk medications—those at increased risk for diversion, waste, or

[1] To not imply bias or preference for one cabinet manufacturer over another, the OIG team did not identify the names of the cabinets throughout the report.

[2] For the purposes of this report, "generic information" refers to generic codes and nonpatient information. Access to automated dispensing cabinets is based on an employee's role.

[3] In response to this anonymous hotline complaint, the OIG team met with staff at the facility, determined that the complaint had merit, and expanded the scope of this review to a national review to include all medical facilities that operated cabinets in FY 2024.

abuse—when clinical personnel remove them from automated dispensing cabinets using generic information.[4]

What the Review Found

The OIG determined that, for cabinet A, when clinical personnel use generic information to remove high-risk, noncontrolled substances, medical facilities could not always trace those medications to a specific patient.[5] The OIG estimates that in fiscal year 2024, VA medical facilities could not fully account for an estimated 10,900 (46 percent) of 23,500 cabinet transactions for medications removed with generic information.[6] Facilities had the most issues tracing propofol (a noncontrolled medication used to sedate patients during medical procedures) to a specific patient. Cabinet B transactions could not be projected, but these transactions may also be at risk of not being traceable to a patient.

VHA policy requires medical facilities to develop standard operating procedures on the use of dispensing cabinets; some facilities have gone further and developed formal local policies or guidance. The OIG found that 121 of 137 local policies, guidance documents, or standard operating procedures (collectively referred to as local guidance) did not include a process to monitor the removal of medications from cabinets using generic information. Facility personnel also reported that it was more efficient or convenient to remove medications using generic information.

Furthermore, the OIG reviewed 40 transactions in which personnel removed controlled substances using generic information and found one instance of a facility not being able to trace a controlled substance to a specific patient. VHA policy does not prohibit facilities from using cabinets to store controlled substances, but it does require them to maintain full accountability over all controlled substances through an electronic record that tracks the removal of a medication from a cabinet to its final dispensation.[7] Removing medications without using a patient's name increases the risk of drug diversion—that is, the illegal distribution or abuse of drugs or their use for purposes not intended by the prescriber.[8] Therefore, this practice should be closely monitored.

[4] For the purposes of this report, high-risk medications include controlled substances, a list of medications for inventory monitoring as identified by VHA's Pharmacy Benefits Management Services, and a list of medications that need additional monitoring based on potential for abuse or high costs associated with the medication as identified by OIG clinical team members. Appendix A lists the medications the OIG considers high-risk.

[5] See appendix B for the OIG team's full scope and methodology.

[6] Appendix C provides details of the OIG's statistical analysis.

[7] VHA Directive 1108.01(1), *Controlled Substances Management*, May 1, 2019, amended December 2, 2019.

[8] Centers for Medicare & Medicaid Services, "What Is a Prescriber's Role in Preventing the Diversion of Prescription Drugs?" accessed April 16, 2025, https://www.cms.gov/files/document/prescriber-role-drugdiversion-033115pdf.

What the OIG Recommended

The OIG made three recommendations to the under secretary for health to (1) confirm that medical facility directors develop and ensure compliance with local guidance on the use of automated dispensing cabinets in accordance with VHA policy; (2) require Pharmacy Benefits Management Services to revise VHA policy to include routine monitoring for the use of generic information as a requirement in facility-level guidance for these cabinets; and (3) ensure, in coordination with the controlled substance coordinator and the Veterans Integrated Service Networks, that reports detailing cabinet transactions for controlled substances removed using generic information are reviewed as part of required controlled substance inspections.[9]

VA Management Comments and OIG Response

The acting under secretary for health concurred with all three recommendations. VHA's proposed corrective measures are responsive. The OIG will close these recommendations when VHA provides sufficient evidence showing completion of the planned actions. The target completion date for all three recommendations is December 2025. Appendix D provides the full text of the acting under secretary's comments.

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[9] The recommendations addressed to the under secretary for health are directed to anyone in an acting status or performing the delegable duties of the position.

Contents

Abbreviations

FY	fiscal year
OIG	Office of Inspector General
PBM	Pharmacy Benefits Management Services
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network

Introduction

VA medical facilities use automated dispensing cabinets to manage medication inventory in both inpatient and outpatient settings. These computerized storage machines allow medications to be dispensed outside the pharmacy near the point of care, and access to the cabinets is controlled by authorized pharmacy personnel. The cabinets can help improve availability of medications at the point of care, increase efficiency among clinical and pharmacy personnel, reduce errors in dispensing medication, facilitate accurate medication tracking, and support inventory recordkeeping.

The VA Office of Inspector General (OIG) received an anonymous hotline allegation in October 2023 that a facility lost accountability for more than 160,000 doses of prescription medications per year because personnel removed medications from cabinets by inputting generic information rather than associating the removal with a specific patient.[10] The OIG team met with staff at the facility, determined that the complaint had merit, and initiated a national review to include all medical facilities that operated cabinets in fiscal year (FY) 2024. This review focused on cabinets with settings that allow medication to be removed before a medication order is reviewed and verified by a pharmacist, known as nonprofiled cabinets. The OIG sought to assess risk across the VA healthcare system and evaluate whether controls at VA medical facilities ensure accountability over high-risk medications—those at increased risk for diversion, waste, or abuse—when clinical personnel removed them from automated dispensing cabinets using generic information.[11]

Automated Dispensing Cabinets

VA medical facilities use automated dispensing cabinets to store medications and make them available for distribution in specialty and outpatient clinics, operating rooms, inpatient settings, and long-term care settings such as community living centers. Pharmacy personnel load the cabinets with medications that are required to treat patients and perform procedures in different locations throughout a facility and periodically restock the cabinets to maintain set inventory levels. The pharmacy controls access to the cabinets, and doctors, nurses, medical technicians, and other personnel are granted access based on their respective roles.

[10] This report refers to generic codes and nonpatient information collectively as generic information.

[11] For the purposes of this report, high-risk medications include (1) controlled substances, which are medications regulated by the US Drug Enforcement Administration because of their potential for abuse or addiction; (2) VHA's Pharmacy Benefits Management Services' (PBM) inventory monitoring list; and (3) medications that need additional monitoring as determined by OIG clinical team members based on potential for abuse or high costs associated with the medication. See appendix A for further details on high-risk medications the OIG identified.

VA medical facilities most often use cabinets manufactured by two health technology companies; for this report, these cabinets are identified as cabinet A and cabinet B.[12] Seventy-five facilities reported using cabinet A, 65 facilities reported using cabinet B, and two facilities reported using both cabinets. Figure 1 shows examples of cabinets used at VA facilities.

Figure 1. *Examples of cabinets used at VA medical facilities.*
Source: OIG photographs from visits to VA medical facilities on August 21 and July 30, 2024.

The cabinets have two operational settings: profiled and nonprofiled. The setting determines what information a user must enter before being able to access medications in the cabinet. At medical facilities, pharmacy personnel typically determine the setting for each cabinet. Whether a cabinet is profiled or nonprofiled often reflects the unique needs of the clinical setting in which the cabinet operates. Figure 2 details key differences between profiled and nonprofiled operational settings.

[12] To not imply bias or preference for one cabinet manufacturer over another, the OIG team did not identify the names of the cabinets throughout the report.

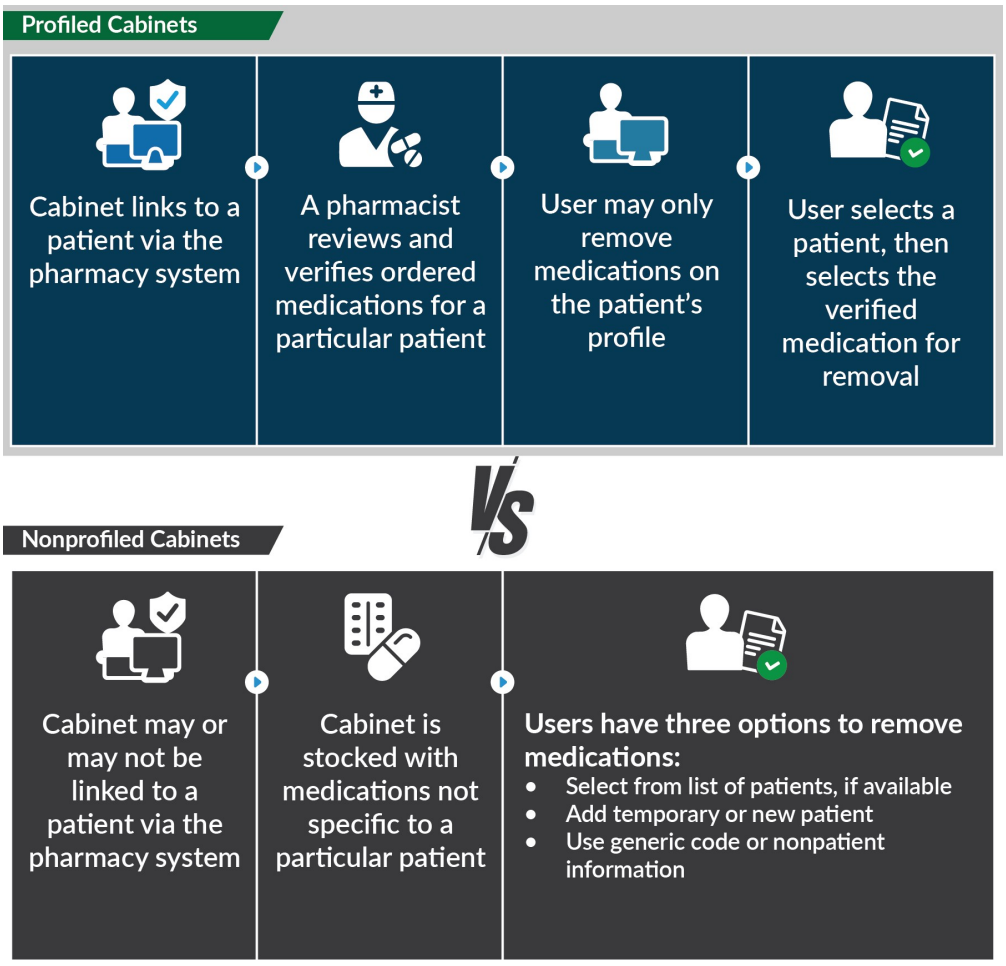

Figure 2. *Key differences in the medication removal process for profiled and nonprofiled cabinets.*
Source: OIG analysis of cabinet A and B operational settings.

Profiled Cabinets

VA medical facilities typically use profiled cabinets in inpatient settings. Profiled cabinets may be populated with a patient's identifying information and active medications. Medications are considered active and placed in the patient's profile after a VA pharmacist has verified a medication order by reviewing and approving its appropriateness. The pharmacist's review is intended to make sure there are no contraindications, drug interactions, unsafe dosing, allergies, or other medication-related concerns before the medication is administered to the patient. Once an order is processed and verified by a pharmacist, it becomes active in the patient's profile. Authorized users of a profiled cabinet must select a patient to remove a medication that is on that patient's profile, and the cabinet then records the removal under the patient's profile. In an emergency, an override allows users to quickly remove certain medications from the cabinet that have not yet been added to a patient's profile.

Nonprofiled Cabinets

Nonprofiled cabinets are typically used in VA outpatient settings, such as dermatology, mental health, and orthopedics. Nonprofiled cabinets allow for expedited access to medications by removing the need for a pharmacist to verify a medication before it is administered to a patient, giving providers the flexibility to care for the needs of patients in a particular clinic. For example, an orthopedic provider may remove a medication from a nonprofiled cabinet to administer an injection for a patient presenting with joint pain, bypassing pharmacy verification and enabling timely, in-clinic treatment. In outpatient settings, patient names may be populated in the nonprofiled cabinet when the patient checks in for their appointment or users can enter the patient's name manually. After selecting the patient's name (if it is available), users select the correct medication ordered by the provider.

Nonprofiled cabinets allow greater flexibility in dispensing medications because they are not restricted to the medication listed on a patient's profile and because users can input generic information to access medications. When cabinet A is not linked to a patient list or patient profile, users can remove a medication under a generic code or add a new patient under a temporary profile. Typically, the generic codes used are "Floor Charge" or "Floor Stock." For cabinet B, users can input nonpatient information—that is, information cabinet users enter when creating a temporary profile. This may contain only the clinic name or cabinet location, such as OR 1 (for operating room 1), or it may be a fictitious name such as "John Doe." Cabinet B has no option for a generic code. For both cabinet types, the display prompts the user to enter a patient's information (such as first name, last name, and a full or partial social security number) before allowing medication to be removed. However, neither cabinet requires the user to enter information in any specific format, nor does it validate the entries against a list of actual patients. When medications are administered to a patient, that is required to be documented in the patient's electronic health record.[13] Because medications in nonprofiled cabinets are not specifically linked to a patient, these medications may be more susceptible to diversion, waste, or abuse when they are removed using generic information.

The OIG acknowledges that in some situations, such as when delays in administering a medication would cause patient harm, clinical personnel must be able to quickly remove medications from cabinets using generic information; however, controls and procedures should be in place to maintain accountability for high-risk medications and to limit and monitor the use of these codes. When medications are administered to patients, information such as the medication name, date, and dosage must be documented in the patient's electronic health

[13] Hospital Standard RC.02.01.01, "Chapter: Record of Care, Treatment, and Services," Joint Commission, August 1, 2024; VHA Directive 1082(1), *Patient Care Data Capture and Closeout*, March 9, 2023, amended December 11, 2023; VHA Health Information Management, *Health Record Documentation Program Guide*, ver. 1.2, September 29, 2023.

record.[14] Ideally, when medications are removed from a cabinet, facilities should be able to account for them through the time the medications are either administered to a patient, returned to the cabinet, or disposed of—particularly when they involve controlled substances.

When authorized users remove medications using generic information, facilities may not be able to account for them. This increases the risk of

- drug diversion and waste;[15]
- the security and stability of the medication being compromised if it is stored in unauthorized storage areas or under conditions that may affect the medication's effectiveness; and
- facility personnel not being able to track a medication back to a specific patient.

High-Risk Medications

Medications are considered high-risk if there is potential for diversion, waste, or abuse. This includes controlled substances, which are regulated by the US Drug Enforcement Administration because of their potential for abuse or addiction. The Controlled Substances Act defines them as medications or other substances regulated under federal law and categorized based on medical use, potential for abuse, and dependency.[16] Such substances include ketamine (a dissociative anesthetic) and opioids like morphine.

Pharmacy Benefits Management Services (PBM) is the Veterans Health Administration (VHA) program office responsible for developing standards for providing patient-centered pharmacy services at VA medical facilities.[17] PBM maintains an inventory monitoring list, updated annually, of high-risk noncontrolled substances, which are characterized as high risk because they are expensive or maintained in a high volume by a medical facility.[18] Facility pharmacy chiefs are required to monitor inventories of listed medications at least quarterly.

[14] Hospital Standard RC.02.01.01; VHA Directive 1082(1); VHA Health Information Management, *Health Record Documentation Program Guide*.

[15] Centers for Medicare & Medicaid Services, "What Is a Prescriber's Role in Preventing the Diversion of Prescription Drugs?" accessed April 16, 2025, https://www.cms.gov/files/document/prescriber-role-drugdiversion-033115pdf. This publication defines drug diversion as illegal distribution or abuse of drugs or their use for purposes not intended by the prescriber. The increased risk for diversion is due to the medication not being traceable once it is removed using generic information.

[16] Controlled Substances Act of 1970, Pub. L. No. 91-513, 84 Stat. 1242; 21 U.S.C. §§ 801 and 802.

[17] VHA Directive 1108.07(1), *General Pharmacy Service Requirements*, November 28, 2022, amended October 4, 2023.

[18] A list of noncontrolled drugs for inventory monitoring was provided by the PBM deputy chief consultant.

Applicable Guidance

VHA policy requires facilities to develop a standard operating procedure for automated pharmacy systems—which includes automated dispensing cabinets—to make sure the cabinets are used safely and effectively. The standard operating procedure should

- include guidelines for routine review through a monitoring and quality assurance program and
- address discrepancies in controlled substances.[19]

VHA policies also require medical facilities to closely track controlled substances regardless of where the medication is stored or dispensed.[20] Specifically, VHA's directive on controlled substances management requires medical facilities to "maintain accountability of all controlled substances and compliance with the Controlled Substance Act and US Drug Enforcement Administration regulations to minimize the risk for loss and diversion and enhance patient safety."[21] "Chain of custody" is the term clinical personnel use to describe the process of tracking a controlled substance to its final use or disposal. Chain of custody for controlled substances is regulated by national and local policy. For example, national guidance requires that a controlled substance should be administered within two hours after being removed from stock and requires that every facility should have a controlled substance inspection program with a dedicated coordinator.[22] Both the administration and disposal (for example, wasting an unused portion of a prepackaged dose) of a controlled substance must be documented locally in accordance with national policy.[23]

In addition to VHA policy, nongovernmental organizations offer guidelines on best practices. For example, the American Society of Health-System Pharmacists provides guidance that includes monitoring cabinet transactions.[24]

[19] VHA Directive 1108.21, *Pharmacy Clinical Informatics*, June 22, 2023.

[20] VHA Directive 1108.01(1), *Controlled Substances Management*, May 1, 2019, amended December 2, 2019, and VHA Directive 1108.02(2), *Inspection of Controlled Substances*, November 28, 2016, amended April 18, 2022. Though not applicable during the scope of this review, VHA Directive 1108.02(2) was amended June 24, 2024, to VHA Directive 1108.02(3).

[21] VHA Directive 1108.01(1).

[22] VHA Directive 1108.01(1) and Directive 1108.02(2).

[23] VHA Directive 1108.01(1) and Directive 1108.02(2). VHA Directive 1108.01(1) requires that when medical facilities elect to use cabinets for controlled substances, the equipment is to interface, when possible, with Veterans Health Information Systems and Technology Architecture (an integrated system of software applications that directly supports patient care at VHA facilities) so that medications can be withdrawn only based on an existing order or, in other words, medications can be withdrawn only from cabinets set to "profiled" mode.

[24] American Society of Health-System Pharmacists, "Guidelines on the Safe Use of Automatic Dispensing Devices," *American Journal of Health-System Pharmacists* 67, (2010): 483–490.

Roles and Responsibilities

Effective July 2023, the assistant under secretary for health for patient care services reports directly to the under secretary for health. The assistant under secretary is responsible for supporting the implementation and oversight of certain VHA directives. Each Veterans Integrated Service Network (VISN) director is responsible for making sure all medical facilities in their network comply with these directives.[25] VISN directors report to the under secretary for health through the chief operating officer and the deputy under secretary for health. Medical facility directors are responsible for ensuring their facilities follow the directives and take corrective action when noncompliance is identified.

Each facility's pharmacy chief is responsible for developing a standard operating procedure for cabinets as required by VHA policy.[26] VHA policies related to managing and monitoring controlled substances require the facility pharmacy chief to reconcile a sample of controlled substance transactions from cabinets and to participate in the monthly controlled substance inspection.[27] A VHA directive states that the PBM chief consultant is responsible for defining policy and providing guidance regarding pharmacy services to VISNs and medical facilities.[28]

[25] VHA divides the United States into 18 VISNs, which are regional systems that work together to meet local healthcare needs and provide greater access to care.

[26] VHA Directive 1108.21.

[27] VHA Directive 1108.01(1) and Directive 1108.02(2).

[28] VHA Directive 1108.07(1).

Results and Recommendations

Finding 1: Strengthening Controls over Automated Dispensing Cabinets Could Improve Accountability over High-Risk Medications Removed Using Generic Information

The OIG found that VHA lacks controls to trace medications to a specific patient when clinical personnel remove the medications from cabinets without using a patient's name. Though VHA requires facilities to have local guidance for automated dispensing cabinets, requirements for the content of that guidance are minimal. The OIG team found that most medical facilities had local cabinet guidance as required, but the content and scope of the guidance varied widely. Although not required, local guidance did not always specifically address when generic information could be used to remove medications from cabinets. Some guidance required some type of information to be entered into the cabinet when medications were removed, such as the patient's first and last name as well as at least part of their social security number. Importantly, almost all local guidance did not include oversight responsibilities for monitoring the use of generic information to access medications in the cabinets.

VHA needs to strengthen oversight and controls over removing high-risk medication from automated dispensing cabinets using generic information. Without corrective action, facilities risk not being able to trace high-risk medications stored in cabinets back to specific patients. The finding is based on the following determinations:

- VHA medical facilities could not always trace high-risk medications to specific patients.
- Most local guidance and processes did not specify oversight requirements for using generic information.

What the OIG Did

The OIG team obtained medication transaction data from VA facilities that used cabinet A to remove medications using generic information during a six-month period in FY 2024 (December 1, 2023, through May 31, 2024). The data for each transaction included the medication name, the dose, and the time and date the medication was removed. The team excluded from its cabinet A dataset about 623,000 transactions for medications that were not high risk (such as acetaminophen and flu vaccines) and other medical-related items including medical supplies such as bandages and syringes. The remaining approximately 23,500 transactions in the dataset were for high-risk medications and high-risk medical-related items—such as keys to kits/boxes that contained medications and paper prescription pads that should be used only by authorized clinicians to prescribe medications. For the purposes of this report, high-risk medications include controlled substances, drugs on PBM's inventory

monitoring list, and medications and medical-related items that need additional monitoring as determined by members of the OIG's clinical team (see appendix A). Appendix B provides more detail on the scope and methodology of this review.

From the 23,500 transactions, the team statistically sampled 148 that represented medications removed from cabinet A using generic information at 39 facilities in FY 2024. These 148 transactions included 108 from the "needs additional monitoring" category and 40 from the controlled substances category. For each sampled transaction, the team contacted the facility and requested a walk-through of the process used to trace the medication to the patient who received it. The team also requested documentation and information such as transaction reports and patient health records for all sampled transactions to verify how the facility determined whether the medication was traced to a patient. If the facility reported the medication was wasted in its entirety or was not administered to a patient, the team asked the facility to provide documentation verifying that outcome. OIG clinical team members assessed the documentation and interviewed pharmacy and clinical personnel as needed. Appendix C provides more information on the statistical sampling methodology used for this review.

For cabinet B, the team conducted a limited review of the transaction data. Facilities using cabinet B were limited in their ability to provide recent and comparable data; therefore, the review period for cabinet B transactions differed from the review period for cabinet A. Facility pharmacy personnel reported that data were generally stored on local servers only for 90 days, though some facilities could obtain data that were older than 90 days. Overall, the data that the OIG received from pharmacy personnel had dates that ranged from August 2023 through March 2024. The data included about 239,000 transactions. The team took a conservative approach and removed transactions from the cabinet B dataset that appeared to be performed under an actual patient's name. After removing likely patient names, about 2,500 transactions remained. The team did not statistically review the data and could not make projections based on cabinet B transactions because of data limitations that included the inability to determine whether transactions were from profiled or nonprofiled cabinets. Instead, the team reviewed general cabinet B transaction data for ambiguous nonpatient information, interviewed pharmacy personnel, and requested documentation as needed because using generic information still poses a risk when facilities cannot fully account for removed medications. For cabinet A and cabinet B, the team judgmentally selected medical facilities to visit in person to assess cabinet controls and observe processes and procedures for removing medications from cabinets.

VHA Medical Facilities Could Not Always Trace High-Risk Medications to Specific Patients

The OIG team determined that, during the six-month review period, medical facilities could not trace medications back to specific patients for an estimated 10,900 (46 percent) of 23,500 medication removal transactions for cabinet A. Facility personnel told the OIG team that

some situations warrant using generic information to remove medications from cabinets. For example, they noted it is useful when the computer system is slow in displaying the patient's information on a cabinet's screen at the time the medication is needed or during emergency situations when medication is needed immediately. The OIG recognizes that clinical practice must be flexible to meet individual patient needs.

Notably, though, the team found that facilities could not show full accountability over propofol—a common sedative—because they could not trace the medication to a specific patient when it was removed using generic information from cabinet A. Of the estimated 10,900 transactions that were not fully accounted for, about 8,700 (80 percent) were for propofol. Figure 3 shows a breakdown of total transactions and propofol removals.

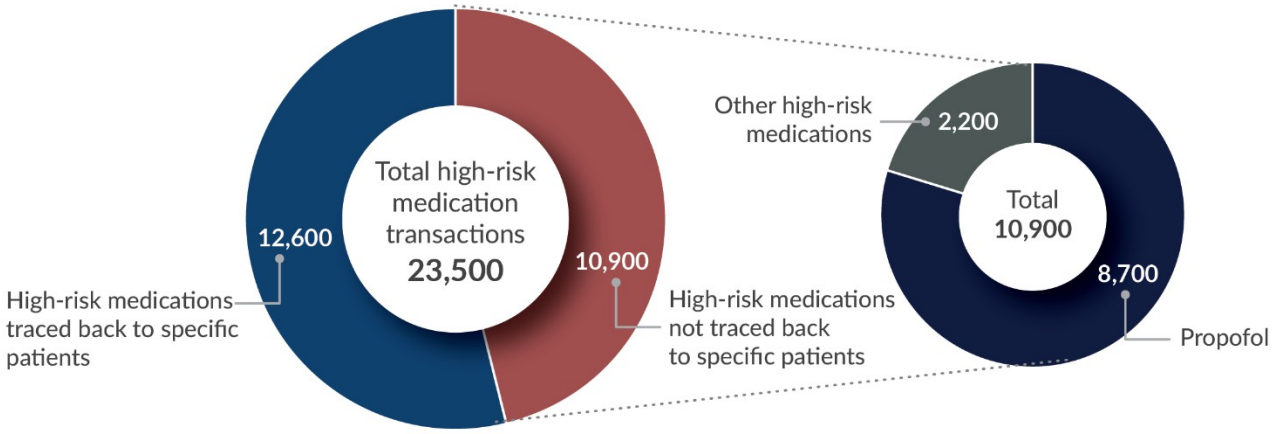

Figure 3. *Medications removed from cabinet A that could not be traced to specific patients.*
Source: OIG analysis of high-risk transactions.

The OIG team reviewed transaction data from cabinet B and identified an estimated 700 transactions at 15 facilities where propofol was removed using generic information. The team could not project these findings to the total transactions; however, as was the case with cabinet A, these transactions may have an increased risk of not being traceable to a patient.[29]

The team learned that local practices compromised facilities' ability to trace propofol to individual patients. For example, nurses removed propofol in bulk using the "Floor Charge" code to prepare for the day's surgeries or relocated the medication to carts in areas where patient care was provided. As a result, some facilities reported that they could not trace the propofol back to the patients who received it. Other facilities identified all patients who received propofol on the day of the transaction but could not specifically identify which patient received a particular dose of propofol. Additionally, when some facilities attempted to identify specific patients, the OIG team noted inconsistencies in the documentation; for example, in some cases, the document

[29] See appendix B for more details on why the team could not project findings related to cabinet B.

provided showed a dose of propofol administered to the patient before it was removed from the cabinet.

Most Local Guidance and Processes Did Not Specify Oversight Requirements for Using Generic Information

Because removing medications from cabinets carries risk, VHA policy requires each facility's pharmacy chief to create a standard operating procedure for automated pharmacy systems, which includes dispensing cabinets, to ensure they are used safely and effectively.[30] VHA policy requires that the standard operating procedure should include "minimum guidelines for routine assessment through an established monitoring and quality assurance program," but the policy does not specify monitoring requirements and therefore does not address how facilities should monitor the use of generic information to remove medications from cabinets.[31]

In addition to the standard procedure, some facilities also develop specific policies or guidance for automated dispensing cabinets. The OIG team analyzed 137 local policies, guidance documents, or standard operating procedures (collectively referred to as local guidance) from 138 facilities that reported using automated dispensing cabinets. Local guidance was issued under varying authorities including the medical facility director, the chief of staff, or the pharmacy chief. Some guidance did not detail under whose authority it was issued. One facility had no local guidance even though the requirement has been in place since June 2023. This facility's pharmacy supervisor reported that the facility was following national policy but did not respond when the OIG team asked which national policy the facility's personnel followed. Of the 137 facilities with guidance, eight created the guidance only after the OIG team requested it in June 2024.

Almost All Local Guidance Lacked Oversight Requirements to Monitor the Removal of Medications Using Generic Information

VHA policy requires local guidance to address the use of dispensing cabinets, but only 16 facilities' local guidance included monitoring procedures. This means that 121 (88 percent) of 137 facilities' local guidance did not include oversight responsibilities to monitor medication removal transactions where a patient's name was not used. Not having monitoring requirements increases vulnerability because transactions that do not use a patient's name are limited in how they can be traced. Sufficient monitoring procedures would allow facilities to identify trends for such transactions, such as an increase in the use of generic information by individual users or clinics.

[30] VHA Directive 1108.21.

[31] VHA Directive 1108.21.

In some facilities that had no written monitoring requirements, pharmacy personnel established their own monitoring processes to review medication removals from the cabinets. For example, some facilities reviewed temporary patient transaction reports, which list the patient names that were manually entered into the system—potentially including generic information such as fake names. Pharmacy personnel can use these reports to reconcile the names to an actual patient record. A pharmacy supervisor reported trying to monitor these transactions by identifying generic information; however, he said it can be a time-consuming process of trying to differentiate between nonpatient names and patient names and sometimes he can only spot-check these reports because the pharmacy is short-staffed. He sometimes reviews reports to identify concerning trends and then will collaborate with the clinic nurses to further investigate and provide training if needed. At another facility, pharmacy personnel said they monitor generic information transactions and try to reconcile them to actual patients.

Pharmacy personnel said that, because they do not always have direct authority over all cabinet users such as nurses and physicians, it is sometimes difficult to enforce local guidance on pharmacy cabinets. For example, one facility's pharmacy chief reported trying to get cabinet users to stop removing medications using generic information, but because the pharmacist does not have authority over the users, the practice continued. The pharmacy chief escalated this issue to the facility's executive leadership team, which includes the facility director and the deputy chief of staff. Thereafter, the facility took steps to connect all nonprofiled cabinets with its pharmacy system. As a result, when a patient checks in for care, their name is now automatically captured in a local patient list on the cabinet's display. Furthermore, the facility created a list of medications that are allowed to be removed using generic information, and the facility also increased monitoring of those removals. The pharmacy chief reported that these measures reduced this practice from 30 percent of transactions using generic information down to 4 percent.

Local Guidance Is Not Always Enforced

Other pharmacy chiefs reported not having the authority to enforce local guidance on nonpharmacy users such as nurses, even though VHA policy requires the chiefs to create this local guidance.[32] For the 16 facilities with local guidance that required monitoring of medication removal transactions where patient names were not used, the OIG team found that only one facility complied with its own monitoring requirements. That pharmacy chief provided a screenshot to show that the facility was current in its reconciliations of temporary patient transactions. Eleven facilities provided some evidence of monitoring, but the team could not conclude that monitoring occurred consistently based on the information provided. For the remaining four facilities, monitoring was questionable:

[32] VHA Directive 1108.21.

- One pharmacy chief said that the OIG's request for evidence helped him discover that no one had been monitoring temporary patient transactions.
- Another pharmacy chief said reviews were completed online but could not provide evidence of monitoring.
- A third pharmacy chief reported that generic information was not used so they removed the option from the cabinet settings, and thus there was no need to monitor its use.
- One facility did not respond to the team's request for evidence.

Though local guidance existed at some facilities, the OIG is concerned that mechanisms were not in place to make sure all personnel follow it.

Clinical Personnel at Some Facilities Removed Medications from Cabinets for Efficiency or Convenience

Because of each medical facility's unique needs and level of complexity, facilities may use generic information to remove medications for various reasons, including efficiency or convenience. Three facilities reported practices that included removing medications in bulk in preparation for the day's surgeries and other reasons for efficiency.

- At one facility, at the beginning of each shift, nurse anesthetists remove medications, such as propofol, and put them into individual bags labeled with each patient's name.
- At another facility, personnel with the outpatient mental health clinic remove medications for injections in bulk in anticipation of scheduled appointments because the cabinet is on a different floor. They informed us that it is more efficient to gather the medications in bulk rather than remove them one at a time when a patient checks in to the clinic.
- At the last facility, pharmacy personnel removed medications from a cabinet to restock other cabinets as needed after hours because the pharmacy was closed.

Users also removed medications from the cabinets using generic information for convenience. At one of the three facilities discussed above, the team observed that the first option available to use for medication removal is "Floor Stock" or "Floor Charge," and nurses at that facility said they often choose that option because it is the top choice even though patient names are listed below it. Because no one at the facility monitors the use of this generic option to remove noncontrolled substances, the practice continues. Another facility stated that they moved this option from the top of the list to the bottom, which helped reduce the use of generic information.

The OIG recognizes that in certain situations, it is appropriate to remove medications using generic information. However, the use of generic information to remove medications should be monitored because it can present a risk to the facility.

Conclusion 1

Flexibility in clinical practice may require removing noncontrolled substances from cabinets using generic information, including as a substitute for entering patient information manually during system delays or when medications need to be dispensed quickly in an emergency. However, VHA incurs risk whenever personnel remove medications using generic information because doing so increases the likelihood that facilities cannot trace high-risk medications to specific patients. For example, the OIG team estimated that VHA could not fully account for about 46 percent of medication removals that used generic information, most of which were for propofol. While most of VA's medical facilities had local guidance to govern the operation of automated dispensing cabinets at a facility, many did not address when personnel could remove medications using generic information or how these removal transactions should be monitored; VHA's national policy also does not require this information to be in local guidance.

Recommendations 1–2

The OIG made the following recommendations to the under secretary for health:[33]

1. Confirm that medical facility directors develop local guidance on using automated dispensing cabinets in accordance with VHA Directive 1108.21 (and any revisions to this directive) and that facilities comply with that local guidance.
2. Require Pharmacy Benefits Management Services to revise VHA Directive 1108.21 to include routine monitoring for the use of generic information as a requirement in facility-level guidance for automated dispensing cabinets.

VA Management Comments

The acting under secretary for health concurred with both recommendations and provided an action plan for each. Appendix D provides the acting under secretary's full comments.

In response to recommendation 1, the action plan states that the Office of the Chief Operating Officer, in collaboration with Pharmacy Benefits Management Services, will direct Veterans Integrated Service Networks to confirm that medical facility directors develop and comply with local guidance on using automated dispensing cabinets.

[33] The recommendations addressed to the under secretary for health are directed to anyone in an acting status or performing the delegable duties of the position.

For recommendation 2, the action plan states that Pharmacy Benefits Management Services is amending the section of VHA Directive 1108.21 on automated dispensing cabinets. PBM will also determine national guidance to address this recommendation.

OIG Response

The proposed corrective measures in VHA's action plan are responsive to the recommendations. The OIG will close these recommendations when VHA provides sufficient evidence showing completion of the planned actions. The target completion date listed in the action plan for recommendations 1 and 2 is December 2025.

Finding 2: Better Monitoring of Controlled Substance Removals That Use Generic Information Could Reduce the Risk of Drug Diversion

The OIG is concerned that controlled substances—which are highly regulated due to their potential for abuse—are being removed from automated dispensing cabinets at VA facilities using generic information. A medical facility must be accountable for its controlled substances and maintain an electronic record for each controlled substance issued from an automated dispensing cabinet.[34] Although no requirement prohibits removal of controlled substances using generic information, some facilities have taken initiative and added additional requirements to their local guidance to restrict that ability. However, personnel at some of these facilities violated the local guidance and continued removing controlled substances using generic information.

During a review of 40 controlled substance transactions removed from cabinets using generic information, the OIG team found one instance in which a facility could not trace the controlled substance to a specific patient. When users remove controlled substances from cabinets without using a patient's name, they increase the risk of drug diversion because facilities might not be able to trace the controlled substance to a specific patient.

The finding is based on the determination that controlled substances may not be traceable when clinical personnel remove them from cabinets using generic information.

What the OIG Did

The team used the same methodology described in finding 1 for cabinet A.

Controlled Substances May Not Be Traceable When Clinical Personnel Remove Them from Cabinets Using Generic Information

Diversion of controlled substance medications could result in harm to individuals if the medication is not used as intended. For example, a staff member could divert the substance for personal use or a patient could be denied essential pain medication if it is diverted elsewhere.[35] VHA does not prohibit storing controlled substances in cabinets, nor does it prohibit the use of generic information to remove them. However, facilities must still fully account for controlled substances from the time a medication is removed from a cabinet to the time the medication is either administered to a patient, returned to the cabinet, or disposed of.[36] Figure 4 shows an example of a cabinet storing a controlled substance in a bin within a drawer.

[34] VHA Directive 1108.01(1).

[35] US Attorney's Office, District of Connecticut, "West Haven Woman Who Diverted Narcotics from Dying VA Medical Center Patients is Sentenced," press release, December 19, 2024.

[36] VHA Directive 1108.01(1).

Having an appropriate chain of custody is critical to maintaining the quality and authenticity of a controlled substance after it is removed from a cabinet. Chain of custody allows tracking these substances through records management to help reduce the risk of tampering or product alteration.[37] The chain of custody is considered broken if at any point the controlled substance cannot be traced to its final disposition, such as the patient who was supposed to receive the medication. A broken chain of custody increases the potential for diversion and increases the risk that a medical facility might unknowingly give a patient medication, including a controlled substance, that was tampered with.

Figure 4. *A cabinet dispensing a controlled substance. Once a controlled substance is selected to be removed, the drawer and the bin will open, allowing the user to remove it.*

Source: OIG photograph from a medical facility site visit, August 21, 2024.

The OIG team reviewed data during the six-month review period for cabinet A and identified about 2,700 transactions across 57 facilities in which controlled substances were removed from cabinets using generic information.[38] Of the 40 controlled substance transactions the team reviewed, one could not be traced to either a patient or another legitimate purpose such as disposal—indicating a break in the chain of custody. Based on the statistical uncertainty associated with this result, the team did not estimate the number of all controlled substances that could not be traced to specific patients during the review period. Nonetheless, a risk of drug diversion exists whenever a controlled substance is removed without using a patient's name and cannot be traced to a specific patient.

[37] John Clark et al., "ASHP Guidelines on Preventing Diversion of Controlled Substances," *American Journal of Health-System Pharmacy* 79, no. 24 (2022): 2279–2306, https://doi.org/10.1093/ajhp/zxac246.

[38] The team also identified transaction data from cabinet B when controlled substances were removed without using a patient's name. The team found that about 600 transactions across 14 facilities appeared to use generic information—such as "GI RM4," "OR5CART," or "SUR 9" instead of a patient's name—to remove controlled substances from a cabinet at varied times from August 2023 to February 2024. Local guidance at six of these facilities did not address the removal of controlled substances using generic information despite the requirement in VHA Directive 1108.01(1) to maintain accountability for all controlled substances. Based on the limitations and challenges with cabinet B (as described in appendix B), the team did not analyze these data.

Pharmacy chiefs are required to maintain strict oversight over controlled substances and participate in a monthly controlled substance inspection, which includes reconciling a sample of controlled substance transactions from cabinets.[39] Information from these inspections can be used to correct practices that do not comply with VHA policy and to identify discrepancies.

Removing controlled substances from cabinets using generic information creates a vulnerability, so monitoring these transactions is essential. While VHA policy does not prohibit users from removing controlled substances from cabinets in this way, local guidance could be more stringent and better enforced. Of the 73 facilities that submitted local guidance to the OIG team for cabinet A, 15 explicitly prohibited this practice, but data showed that 10 of those facilities still removed controlled substances using generic information from cabinet A. Across these 10 facilities during the six-month review period, the number of controlled substance transactions using generic information ranged from four to 132.

Conclusion 2

Monitoring the removal of controlled substances using generic information is essential to maintaining the chain of custody, which reduces the possibility of contamination, tampering, and drug diversion. VHA policy requires medical facilities' pharmacy chiefs to account for all controlled substances, but when these medications cannot be traced to a specific patient because they were removed using generic information, the risk for diversion and harm is increased. Although VHA policy does not prohibit removing controlled substances from cabinets in this way, some facilities developed local requirements prohibiting the use of generic information for controlled substance removal. However, few facilities had effective mechanisms to monitor compliance with these local restrictions, and the OIG found that controlled substances were still removed from these facilities' cabinets using generic information.

Recommendation 3

The OIG made the following recommendation to the under secretary for health:[40]

3. Ensure, in coordination with the controlled substance coordinator, or appropriate designee, and Veterans Integrated Service Networks, that reports detailing cabinet transactions for controlled substances removed using generic information are reviewed as part of required controlled substance inspections.

[39] VHA Directive 1108.01(1) and VHA Directive 1108.02(2).

[40] The recommendations addressed to the under secretary for health are directed to anyone in an acting status or performing the delegable duties of the position.

VA Management Comments

The acting under secretary for health concurred with the third recommendation and provided an action plan. Appendix D provides the acting under secretary's full comments. In response to recommendation 3, Pharmacy Benefits Management Services will review current national guidance and processes to determine opportunities for medical facilities to review controlled substances using generic information and develop national guidance. Furthermore, the chief operating officer—along with the VISN directors—will instruct facilities to include this new methodology in controlled substance inspections.

OIG Response

The proposed corrective measure in VHA's action plan is responsive to the recommendation. The OIG will close this recommendation when VHA provides sufficient evidence showing completion of the planned actions. The target completion date listed for this recommendation is December 2025.

Appendix A: OIG-Determined High-Risk Medications

VA Office of Inspector General (OIG) clinical team members developed a list of medications that need additional monitoring by VHA based on their potential for abuse or because of the high cost of the medications. Table A.1 lists these medications.

Table A.1. OIG-Selected Medications for Additional Monitoring

Medication	Indications
Abacavir/Dolutegravir/Lamivudine	HIV infection
Adalimumab	Rheumatoid and psoriatic arthritis, Crohn's disease, ulcerative colitis, plaque psoriasis
Benralizumab	Asthma
Bevacizumab	Cancer (colorectal, cervical, glioblastoma, non-squamous non-small lung)
Botulinum toxin	Chronic migraines, overactive bladder, cervical dystonia, hyperhidrosis
Cabotegravir	Prevention of HIV infection
Cabotegravir-Rilpivirine	HIV infection
Denosumab	Osteoporosis, cancer-associated osteoporosis
Dolutegravir	HIV infection
Dolutegravir/Lamivudine	HIV infection
Dolutegravir/Rilpivirine	HIV infection
Dupilumab	Atopic dermatitis, asthma, chronic rhinitis, eosinophilic esophagitis
Ledipasvir/Sofosbuvir	Chronic hepatitis C
Omalizumab	Moderate-severe asthma, nasal polyps, chronic urticaria
Propofol	General anesthesia and sedation
Ranibizumab	Wet age-related macular degeneration, macular edema

Source: FDA.gov.

Note: In addition to the medications listed in the table, the OIG team's review included keys (used to access secured refrigerated medications) and prescription pads (to ensure only authorized clinicians are prescribing medications).

Appendix B: Scope and Methodology

Scope

The VA Office of Inspector General (OIG) team conducted its work from July 2024 through June 2025. The scope of the review included all Veterans Health Administration (VHA) medical facilities that used generic information to obtain medication and items from cabinets in fiscal year (FY) 2024. The team reviewed

- a sample of medications dispensed during a six-month period in FY 2024 (December 1, 2023, through May 31, 2024) from cabinet A to determine accountability for high-risk medications that were removed from the cabinets using generic information and
- data from cabinet B from August 2023 through March 2024 to judgmentally determine the prevalence of the use of generic information.

Methodology

To understand automated dispensing cabinet operations and management, the OIG team reviewed VHA policies, procedures, and directives. Applicable criteria included the following:

- VHA Directive 1108.21, *Pharmacy Clinical Informatics*, June 22, 2023
- VHA Directive 1108.07, *General Pharmacy Service Requirements*, November 28, 2022 (amended October 4, 2023)
- VHA Directive 1108.01(1), *Controlled Substance Management*, May 1, 2019 (amended December 2, 2019)
- VHA Directive 1108.02(2), *Inspection of Controlled Substances*, April 18, 2022
- VHA facilities' standard operating procedures, policies, and guidance

The OIG team received data for medications and items removed using generic information from cabinet A from medical facilities for December 2023 through May 2024. The team analyzed the data and removed all medications and medical-related items including medical supplies that were not high risk. High-risk medications fell into two categories:

- **Needs additional monitoring:** medications and items that have potential to cause significant harm if administered incorrectly or are high cost, including
    - medications from the Pharmacy Benefits Management Service (PBM) "Non-Controlled List for Inventory Monitoring" and

  - medications that OIG clinical team members determined needed additional monitoring based on risks associated with each item—including keys that allow access to high-risk medications and prescription pads.

- **Controlled substances:** medications regulated by the US Drug Enforcement Administration, including narcotics and non-narcotics.

The OIG team statistically selected a stratified sample of 148 out of about 23,500 medication transactions removed from cabinet A using generic information from 39 facilities to determine whether facilities could trace the medication or item back to a patient. The 148 sampled medication transactions consisted of 108 transactions from the "needs additional monitoring" category and 40 transactions from the controlled substances category.[41] The team sent the sampled transactions to the selected facilities and reviewed all supporting documents received. Additionally, the team followed up with the facilities that required further review.

Medical facilities using cabinet B were limited in their ability to provide the OIG team with recent and comparable data. Facilities stated that data were stored on local servers, generally, for only the last 90 days, though some facilities could obtain data that were more than 90 days old. Overall, the data that the OIG received had dates ranging from August 2023 through March 2024. Based on the data provided by these facilities, the team could not determine which transactions were removed using generic information versus actual patient information, nor could the team determine whether transactions were from profiled or nonprofiled cabinets. As they did with cabinet A, the team analyzed the data to identify high-risk medications and items by removing all medications and other medical-related items including medical supplies that were not high risk. The team also took a conservative approach and removed transactions that were tied to what appeared to be a patient's name. The team judgmentally reviewed the remaining 2,500 medication removals from cabinet B and interviewed cabinet subject matter experts and pharmacy chiefs at facilities that used cabinet B to understand the controls, processes, and procedures in place for removing medication from the cabinets. The team did not statistically review the data and could not make projections for cabinet B transactions due to the limitations on the data provided by the facilities.

Furthermore, the OIG team visited the Michael E. DeBakey VA Medical Center in Houston, Texas; the Raymond G. Murphy VA Medical Center in Albuquerque, New Mexico; and the VA Puget Sound Health Care System in Seattle, Washington. The team interviewed cabinet users

[41] The OIG team originally divided "needs additional monitoring" into two categories; one for PBM's list of drugs for inventory monitoring and another for medications that OIG clinical team members determined needed additional monitoring. However, through the course of the review, the team combined those two categories into one. Additionally, the transaction count for the "needs additional monitoring" and the controlled substances categories reflect the reclassification of controlled substance–related keys to the "needs additional monitoring" category.

and managers to understand processes for cabinet operations and management at each facility. The site visits included an examination of cabinet A or cabinet B processes at each facility.

The OIG team reviewed and analyzed VHA facilities' standard operating procedures, policies, and guidance on cabinets, temporary patient criteria, and monitoring of generic information, specifically the "Floor Charge" code and temporary patient transactions.

Internal Controls

The review was conducted in accordance with the Council of Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. While these standards do not require a review of internal controls, the team assessed internal controls in the context of the team's ability to obtain sufficient and appropriate evidence. The team's initial assessment identified two principles with a moderate risk of affecting the sufficiency and appropriateness of evidence, as shown in table B.1.[42]

Table B.1. VA OIG Analysis of Internal Control Components and Principles Identified as Significant

Component	Principle	Deficiency identified by this report that may affect the sufficiency and appropriateness of evidence
Control Environment	2. Exercise Oversight Responsibility	VHA facilities using automated dispensing cabinets have not specifically defined the use and monitoring of generic information in their local policies
Control Activities	10. Design Control Activities	VHA facilities using automated dispensing cabinets have not specifically defined the use and monitoring of generic information in their local policies

Source: VA OIG analysis of internal control components and principles. The principles listed are consistent with the Government Accountability Office's Standards for Internal Control in the Federal Government.

Data Reliability

The OIG obtained data on automated dispensing cabinets from individual VA facilities. However, the differences between cabinets A and B presented challenges in obtaining data for the same time frame for both types of cabinets. Facilities operating cabinet B could obtain data for about the previous 90 days, while facilities operating cabinet A had access to data going back farther, typically up to six months. The OIG team determined that data for the six-month period would provide a more comparable dataset, which would also provide an adequate amount for

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

sampling. The OIG team did not have access to the information systems where the data were stored. Thus, the team relied on their instructions to the facilities to generate the respective report files in conjunction with comparison tests for data fields between individual files to obtain reasonable assurance that the data provided were reliable. Considering all the evidence, the team determined that the data were sufficient and reliable for the purposes of the team's analysis to support the results and conclusions.

Government Standards

The OIG conducted this review in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

Appendix C: Statistical Sampling Methodology

Approach

To accomplish the objective, the VA Office of Inspector General (OIG) team reviewed a statistical sample of the high-risk medications that were dispensed from cabinet A using generic information from December 2023 through May 2024. The team used statistical sampling to quantify the estimated number of transactions for high-risk medications that Veterans Health Administration (VHA) facilities could not fully account for when these medications were removed using this process.

Population

The review population included about 23,500 transactions of high-risk medications and items that were removed from cabinet A using generic information during the review period. Items within the scope of review included medications from the Pharmacy Benefits Management Services' list of drugs for inventory monitoring, medications that OIG clinical team members determined needed additional monitoring based on risks associated with the medication, controlled substances, and items such as keys and prescription pads. These transactions were compiled in a sampling frame for sample selection. Transactions outside the scope of review, which were not included in the sampling frame, included medications and medical-related items including medical supplies that were not high risk.

Sampling Design

The OIG team selected a stratified statistical sample of 148 transactions of high-risk medications and items that were removed from cabinet A using generic information during the scope period of December 2023 through May 2024. The population was stratified by transaction type (high-alert, controlled substance, or additional monitoring) and by the transaction volume of the facility where the transaction occurred (fewer than 500, at least 500 but fewer than 1,000, or at least 1,000 transactions), as shown in table C.1.

Table C.1. Total and Sampled Transactions for Cabinet A by Stratum

Stratum	Transactions	Sample size
High-alert, low-volume	1,499	24
High-alert, medium-volume	145	3
High-alert, high-volume	1,083	18
Controlled substance, low-volume*	1,024	20
Controlled substance, medium-volume*	1,277	24
Controlled substance, high-volume*	372	7

Stratum	Transactions	Sample size
Additional monitoring, low-volume	4,744	14
Additional monitoring, medium-volume	4,861	14
Additional monitoring, high-volume	8,484	24
Total	**23,489**	**148**

Source: VA OIG statistician's stratified population and samples reviewed by the team. Data were obtained from VHA facilities.

**Note: The 148 sampled items were originally selected based on the described stratum counts. Based on the recommendation of OIG clinical team members, the review team later reclassified any controlled substance–related keys to the additional monitoring group. A total of 336 transactions in the sampling frame consisting of all high-risk transactions were reclassified from the controlled substances category to additional monitoring. Eleven transactions in the statistical sample of 148 were reclassified in a similar manner. Statistical estimates were then post-stratified to reflect the reclassification.*

The strata the OIG team used in grouping cabinet A transactions that used generic information to remove medications or items were as follows:

1. High-alert transactions at low-volume facilities (less than 500 high-risk transactions)
2. High-alert transactions at medium-volume facilities (greater than 500 and less than 1,000 high-risk transactions)
3. High-alert transactions at high-volume facilities (more than 1,000 high-risk transactions)
4. Controlled substance transactions at low-volume facilities (less than 500 high-risk transactions)
5. Controlled substance transactions at medium-volume facilities (greater than 500 and less than 1,000 high-risk transactions)
6. Controlled substance transactions at high-volume facilities (more than 1,000 high-risk transactions)
7. Additional monitoring transactions at low-volume facilities (less than 500 high-risk transactions)
8. Additional monitoring transactions at medium-volume facilities (greater than 500 and less than 1,000 high-risk transactions)
9. Additional monitoring transactions at high-volume facilities (more than 1,000 high-risk transactions)

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 about 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 logistic 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.

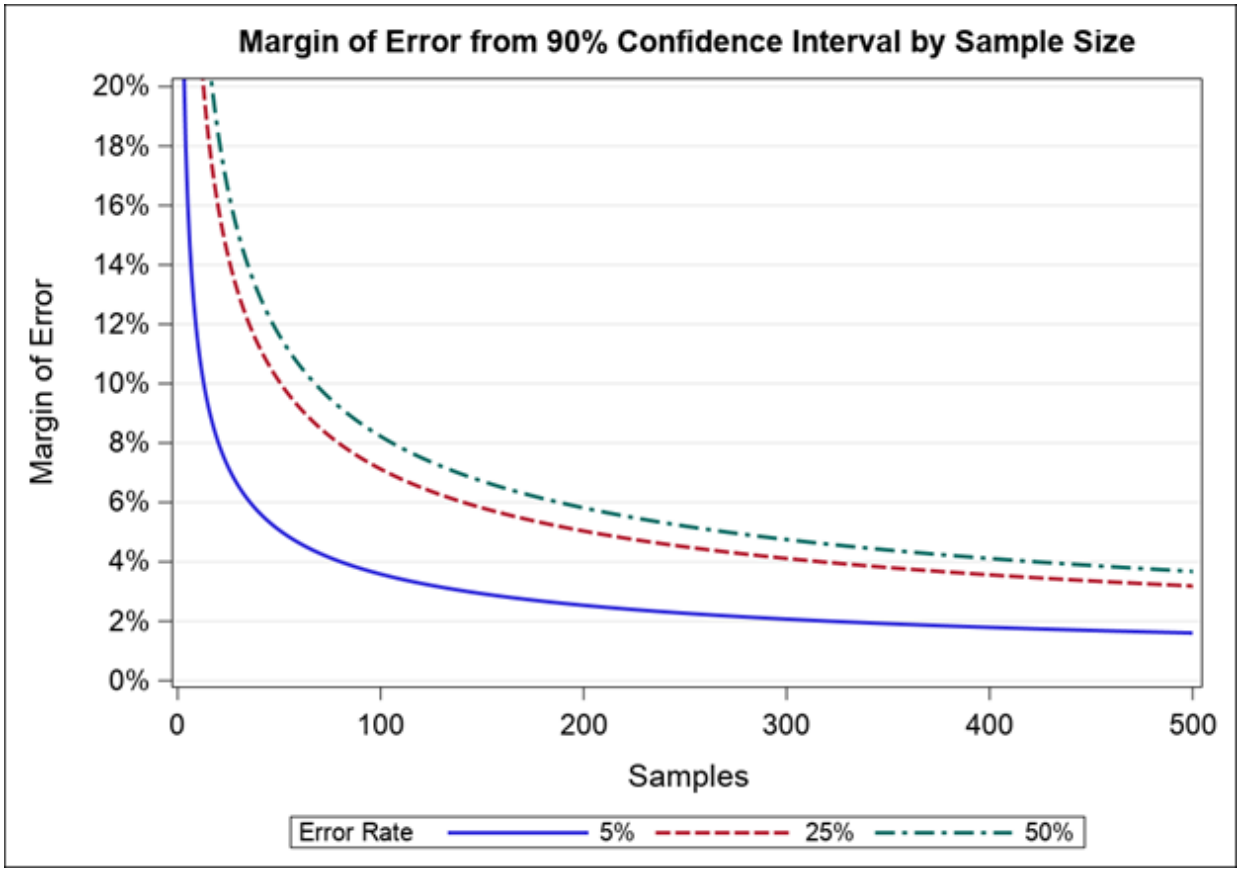

Figure C.1. *Effect of sample size on margin of error.*

Source: VA OIG statistician's analysis.

Projections

Table C.2 details the OIG team's estimate of the count and percentage of transactions for cabinet A where facilities could not fully account for the removed medication or item by tracing it back to a specific patient.

Table C.2. Cabinet A High-Risk Transactions of Medications and Items Not Fully Accounted for, with a 90 Percent Confidence Interval

Estimate name	Value	Margin of error	Lower limit	Upper limit	Sample count/ Sample size
Number of high-risk transactions that VHA facilities could not trace back to a specific patient or fully account for	10,900 (46.4%)	1,950 (8.3%)	8,950 (38.1%)	12,850 (54.7%)	47/148

Source: VA OIG analysis of statistically sampled cabinet A transactions of high-risk medications and items that were removed using generic information from December 2023 through May 2024. Data were obtained from VHA facilities.

Table C.3 details the OIG team's estimate of the count and percentage of transactions for cabinet A where facilities were able to account for the removed medication or item by tracing it back to a specific patient.

Table C.3. Cabinet A High-Risk Transactions of Medications and Items Accounted for, with a 90 Percent Confidence Interval

Estimate name	Value	Margin of error	Lower limit	Upper limit	Sample count/ Sample size
Number of high-risk transactions that VHA facilities could trace back to a specific patient or account for	12,589 (53.6%)	1,950 (8.3%)	10,639 (45.3%)	14,539 (61.9%)	101/148

Source: VA OIG analysis of statistically sampled cabinet A transactions of high-risk medications and items that were removed using generic information from December 2023 through May 2024. Data were obtained from VHA facilities.

Table C.4 details the OIG team's estimate of the count and percentage of propofol exceptions for cabinet A where facilities could not fully account for the removed medication or item by tracing it back to a specific patient.

Table C.4. Cabinet A High-Risk Transactions of Propofol Not Traced Back to a Specific Patient, with a 90 Percent Confidence Interval

Estimate name	Value	Margin of error	Lower limit	Upper limit	Sample count/ Sample size
Number of high-risk transactions of propofol that VHA facilities could not trace to a specific patient or fully account for	8,668 (79.5%)	1,616 (7.8%)	7,051 (71.8%)	10,284 (87.3%)	26/47

Source: VA OIG analysis of statistically sampled cabinet A transactions of high-risk medications and items removed using generic information from December 2023 through May 2024. Data were obtained from VHA facilities.

Finally, table C.5 on the next page details the OIG team's estimate of the count and percentage of non-propofol transactions for cabinet A where facilities were unable to account for the removed medication or item by tracing it back to a specific patient.

Table C.5. Cabinet A High-Risk Non-Propofol Transactions That Were Unable To Be Traced Back to a Specific Patient, with a 90 Percent Confidence Interval

Estimate name	Value	Margin of error	Lower limit	Upper limit	Sample count/ Sample size
Number of high-risk non-propofol transactions that facilities were unable to trace to a specific patient or account for	2,232 (20.5%)	1,003 (7.8%)	1,229 (12.7%)	3,236 (28.2%)	21/47

Source: VA OIG analysis of statistically sampled cabinet A transactions of high-risk medications and items removed using generic information from December 2023 through May 2024. Data were obtained from VHA facilities.

Appendix D: VA Management Comments

Department of Veterans Affairs Memorandum

Date: July 17, 2025

From: Acting Under Secretary for Health (10)

Subj: Office of Inspector General (OIG) Draft Report, Pharmacy Automated Dispensing Cabinets Need Improved Monitoring for Accountability of High-Risk Medications (VIEWS 13320684)

To: Assistant Inspector General for Audits and Evaluations (52)

1. Thank you for the opportunity to review and comment on OIG's draft report, Pharmacy Automated Dispensing Cabinets Need Improved Monitoring for Accountability of High-Risk Medications. The Veterans Health Administration (VHA) concurs with the recommendations made to the Under Secretary for Health and provides an action plan in the attachment.
2. VHA is committed to continually advancing processes and implementing robust monitoring systems to ensure the efficient and accountable management of automated dispensing cabinets. Attention to this critical area helps us to enhance medication availability, reduce dispensing errors, and safeguard against the risk of diversion and waste, thereby maintaining the highest standards of care for Veterans.

The OIG removed point of contact information prior to publication.

(Original signed by)

Steven Lieberman, MD, MBA, FACHE

Attachments

Attachment

VETERANS HEALTH ADMINISTRATION (VHA)

Action Plan

Office of the Inspector General Draft Report – Pharmacy Automated Dispensing Cabinets Need Improved Monitoring for Accountability of High-Risk Medications (2024-00765-AE-0031)

Recommendation 1: Confirm that medical facility directors develop local guidance on using automated dispensing cabinets in accordance with the Veterans Health Administration (VHA) Directive 1108.21 (and any revisions to this directive) and that facilities comply with that local guidance.

VHA Comments: Concur. The Office of the Chief Operating Officer, in collaboration with the VHA Pharmacy Benefits Management, will direct the Veterans Integrated Service Networks (VISNs) to confirm that medical facility directors develop local guidance on using automated dispensing cabinets in accordance with VHA Directive 1108.21 and that facilities comply with that local guidance.

Status: In-progress **Target Completion Date:** December 2025

Recommendation 2: Require Pharmacy Benefits Management Services to revise VHA Directive 1108.21 to include routine monitoring for the use of generic information as a requirement in facility-level guidance for automated dispensing cabinets.

VHA Comments: Concur. VHA Pharmacy Benefits Management Services (PBM) is in the process of amending the section on Automated Dispensing Cabinets in VHA Directive 1108.21. PBM will update this policy and determine national guidance that directly addresses this recommendation.

Status: In-progress **Target Completion Date:** December 2025

Recommendation 3: Ensure, in coordination with the Controlled Substance Coordinator, or appropriate designee, and the Veterans Integrated Service Networks, that reports detailing cabinet transactions for controlled substances removed using generic information are reviewed as part of required controlled substance inspections.

VHA Comments: Concur. VHA Pharmacy Benefits Management Service will review current national guidance and processes to determine where facilities can include review of controlled substances removed using generic information and develop national guidance. The Chief Operating Officer, in collaboration with VISN Directors, will direct facilities to include the new methodology into controlled substance inspections.

Status: In-progress **Target Completion Date:** December 2025

For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended.

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