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VETERANS BENEFITS MANAGEMENT SYSTEM

Ongoing Efforts Can Be Improved; Goals Are Needed to Promote Increased User Satisfaction

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Why GAO Did This Study

VBA pays disability benefits for conditions incurred or aggravated while in military service, and pension benefits for low-income veterans who are either elderly or have disabilities unrelated to military service. In fiscal year 2014, the department paid about $58 billion in disability compensation and about $5 billion in pension claims.

The disability claims process has been the subject of attention by Congress and others, due in part to long waits for processing claims and a large backlog of claims. To process disability and pension claims more efficiently, VA began development and implementation of an electronic, paperless system—VBMS—in 2009.

This statement summarizes GAO's September 2015 report (GAO-15-582) on (1) VA's progress toward completing the development and implementation of VBMS and (2) the extent to which users report satisfaction with the system.

What GAO Recommends

In its September 2015 report, GAO recommended that VA develop a plan with a time frame and a reliable cost estimate for completing VBMS, establish goals for system response time, minimize the incidence of high and medium severity system defects for future VBMS releases, assess user satisfaction, and establish satisfaction goals to promote improvement. VA concurred with GAO's recommendations.

View GAO-16-227T. For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

What GAO Found

As GAO reported in September 2015, the Veterans Benefits Administration (VBA) within the Department of Veterans Affairs (VA) has made progress in developing and implementing the Veterans Benefits Management System (VBMS), with deployment of the initial version of the system to all of its regional offices as of June 2013. Since then, VBA has continued developing and implementing additional system functionality and enhancements that support the electronic processing of disability compensation claims. As a result, 95 percent of records related to veterans' disability claims are electronic and reside in the system. However, VBMS is not yet able to fully support disability and pension claims, as well as appeals processing. Nevertheless, while the Under Secretary for Benefits stated in March 2013 that the development of VBMS was expected to be completed in 2015, implementation of functionality to fully support electronic claims processing has been delayed beyond 2015. In addition, VBA has not yet produced a plan that identifies when the system will be completed. Accordingly, holding VA management accountable for meeting a time frame and for demonstrating progress will be difficult.

As VA continues its efforts to complete development and implementation of VBMS, three areas could benefit from increased management attention.

- *Cost estimating:* The program office does not have a reliable estimate of the cost for completing the system. Without such an estimate, VA management and the department's stakeholders have a limited view of the system's future resource needs, and the program risks not having sufficient funding to complete development and implementation of the system.
- *System availability:* Although VBA has improved its performance regarding system availability to users, it has not established system response time goals. Without such goals, users do not have an expectation of the system response times they can anticipate and management does not have an indication of how well the system is performing relative to performance goals.
- *System defects*: While the program has actively managed system defects, a recent system release included unresolved defects that impacted system performance and users' experiences. Continuing to deploy releases with large numbers of defects that reduce system functionality could adversely affect users' ability to process disability claims in an efficient manner.

VA has not conducted a customer satisfaction survey that would allow the department to compile data on how users view the system's performance, and ultimately, to develop goals for improving the system. GAO's survey of VBMS users found that a majority of them were satisfied with the system, but decision review officers were considerably less satisfied. Although the results of GAO's survey provide VBA with data about users' satisfaction with VBMS, the absence of user satisfaction goals limits the utility of survey results. Specifically, without having established goals to define user satisfaction, VBA does not have a basis for gauging the success of its efforts to promote satisfaction with the system, or for identifying areas where its efforts to complete development and implementation of the system might need attention.

Chairman Miller, Ranking Member Brown, and Members of the Committee:

I am pleased to be here to testify at today's hearing on the Department of Veterans Affairs' (VA) efforts to develop and implement its Veterans Benefits Management System (VBMS). As you know, VA's disability claims process has been a subject of attention for many years, due in part to long waits for decisions and the large number of claims pending a decision. In February 2010, the Secretary of Veterans Affairs committed the department to eliminating the disability claims backlog and directed the Veterans Benefits Administration (VBA) to process all incoming claims within 125 days of their receipt and with at least 98 percent accuracy. This was to be accomplished by the end of fiscal year 2015.[1]

To help reduce the backlog and meet these claims processing goals, VBA engaged in efforts to replace its paper-based claims process with VBMS—a system intended to streamline the disability claims process by providing claims processors with an electronic, paperless environment in which to maintain, review, and make rating decisions for veterans' claims. The agency took an incremental approach to developing and implementing VBMS and, as of June 2013, claims processors had begun using an initial version of the system at all 56 regional offices. Since that time, the agency has continued its efforts toward completing the system and, through fiscal year 2015, had received approximately $1 billion in funding for the initiative.

In September 2015, we issued a report documenting the results of a study of VBMS that we undertook at this committee's request.[2] My remarks today summarize key findings from that study, which (1) assessed VA's progress toward completing the development and implementation of VBMS and (2) determined to what extent users reported satisfaction with the system.

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[1]VA defines a backlogged claim as one that has been awaiting a decision for more than 125 days.

[2]GAO, *Veterans Benefits Management System: Ongoing Development and Implementation Can Be Improved; Goals Are Needed to Promote Increased User Satisfaction,* GAO-15-582 (Washington, D.C.: September 2015).

For the September 2015 report, we reviewed relevant program documentation and interviewed appropriate VA officials. We also administered a Web-based survey to a nationally representative stratified random sample of VBMS users.[3] More detailed information on our objectives, scope, and methodology can be found in the issued report.

The work on which this statement is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Throughout the disability compensation claims process, VBA staff have various roles and responsibilities.

- Claims assistants are primarily responsible for establishing the electronic claims folders to determine whether the dispositions of the claims and control actions have been appropriately identified.
- Veteran service representatives are responsible for providing veterans with explanations regarding the disability compensation benefits programs and entitlement criteria. They also are to conduct interviews, gather relevant evidence, adjudicate claims, authorize payments, and input the data necessary to generate the awards and notification letters to veterans describing the decisions and the reasons for them.
- Rating veterans service representatives are to make claims rating decisions and analyze claims by applying VBA's schedule for rating disabilities (rating schedule) against claims submissions; they also are to prepare rating decisions and the supporting justifications. Further,

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[3]These users (claims processors) included claims assistants, veteran service representatives, supervisory veteran service representatives, rating veterans service representatives, decision review officers, and others. We randomly sampled 3,475 VBA-eligible claims processors to create estimates about the population of all claims processors. Confidence intervals for estimates we reported from this survey were based on a confidence level of 95 percent and were calculated using methods appropriate for a stratified random sample. They were never wider than plus or minus 5 percentage points. At a 95 percent confidence level, this means that, in about 95 out of 100 instances, the sampling procedures we used would be expected to produce a confidence interval containing the true population value we estimate.

they are to inform the veteran service representative, who then notifies the claimant of the decision and the reasons for the decision.

- Supervisory veteran service representatives are to ensure that the quality and timeliness of service provided by VBA meets performance indicator goals. They are also responsible for the cost-effective use of resources to accomplish assigned outcomes.
- Decision review officers are to examine claims decisions and perform an array of duties to resolve issues raised by veterans and their representatives. They may conduct a new review or complete a review of a claim without deference to the original decision; they also can revise that decision without new evidence or clear and obvious evidence of errors in the original evaluation.

The disability compensation claims process starts when a veteran (or other designated individual) submits a claim to VA in paper or electronic form.[4] If submitted electronically, a claim folder is created automatically.

When a paper claim is submitted, a claims assistant creates the electronic folder. Specifically, when a regional office receives a new paper claim, the receipt date is recorded electronically and the paper files (e.g., medical records and other supporting documents) are shipped to one of four document conversion locations so that the supporting documents can be scanned and converted into a digital image.

In the processing of both electronic and paper claims, a veteran service representative reviews the information supporting the claim and helps identify any additional evidence that is needed to evaluate the claim, such as the veteran's military service records, medical examinations, and treatment records from medical facilities and private medical service providers. Also, if necessary to provide support to substantiate the claim, the department performs a medical examination on the veteran.

Once all of the supporting evidence has been gathered, a rating veterans service representative evaluates the claim and determines whether the veteran is eligible for benefits. If so, the rating veterans service

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[4]Veterans and their beneficiaries can submit claims electronically through the eBenefits portal, a Web-based system that combines data from the VBA and Department of Defense to provide veterans, active duty military, and their dependents with an alternate method to obtain assistance with a wide range of online benefits-related tools and information. Additionally, they can apply for benefits electronically using the Veterans Online Application.

representative assigns a disability rating (expressed as a percentage). A veteran who submits a claim with multiple disabilities receives a single composite rating. If the veteran is due to receive compensation, an award is prepared and the veteran is notified of the decision.

A veteran can reopen a claim for additional disability benefits if, for example, he or she experiences a new or worsening service-connected disability. If the veteran disagrees with the regional office's decision on the additional claim, a written notice of disagreement may be submitted to the regional office to appeal the decision, and the veteran may request to have the appeal processed at the regional office by a decision review officer or through the Board of Veterans' Appeals.[5] Figure 1 presents a simplified view of VA's disability compensation claims process.

Figure 1: Simplified View of VBA's Disability Compensation Claims Process
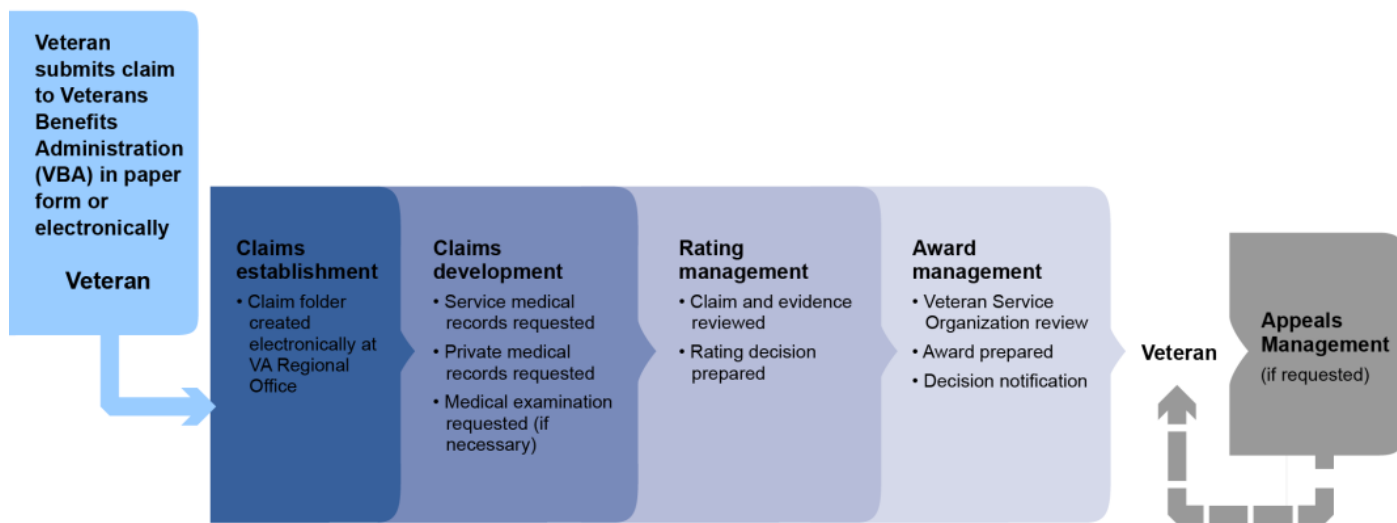
Source: GAO analysis of Veterans Benefits Administration procedures. | GAO-15-582

VBA began the transformation of its paper-intensive claims process to a paperless environment in March 2009, and the effort became formally established as the Veterans Benefits Management System program in

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[5]The Board of Veterans' Appeals makes final decisions on behalf of the VA Secretary on appeals from decisions of local VA offices.

May 2010. VBA's initial plans for VBMS emphasized the development of a paperless claims platform to fully support the processing of disability compensation and pension benefits, as well as appeals.

The program's primary focus was to convert existing paper-based claims folders into electronic claims folders (eFolders)[6] to allow VBA staff to access claims information and evidence in an electronic format. Beyond the establishment of eFolders, VBMS is intended to streamline the entire disability claims process, from establishment through award, by automating rating decision recommendations, award and notification processes, and communications between VBA and the veteran throughout the claims life cycle. The system is also intended to assist in eliminating the claims backlog and serve as the enabling technology for quicker, more accurate, and integrated claims processing in the future. Moreover, it is to replace many of the key outdated legacy systems—which are still in use today—for managing the claims process, including:

- Share—used to establish claims; it records and updates basic information about veterans and dependents.
- Modern Award Processing-Development—used to manage the claims development process, including the collection of data to support the claims and tracking of them.
- Rating Board Automation 2000—provides information about laws and regulations pertaining to disabilities, which are used by rating specialists in evaluating and rating disability claims.
- Award—used to prepare and calculate the benefit award based on the rating specialist's determination of the claimant's percentage of disability. It is also used to authorize the claim for payment.

VBMS is to consist of three modules:

- VBMS-Core is intended to provide the foundation for document processing and storage during the claims development process, including establishing claims; viewing and storing electronic documents in the eFolder; and tracking evidence requested from beneficiaries. The eFolder serves as a digital repository for all documents related to a claim, such as the veteran's military service records, medical examinations, and treatment records from VA and

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[6]The eFolder is the electronic equivalent of a VBA paper claims folder. It contains all of the documents associated with a particular veteran and his or her claims.

Department of Defense medical facilities, and from private medical service providers. Unlike with paper files, this evidence can be reviewed simultaneously by multiple VBA claims processors at any location.

- VBMS-Rating is to provide raters with Web-accessible tools, including rules-based rating calculators and the capability for automated decision recommendations. For example, the hearing loss calculator is to automate decisions using objective audiology data and rules-based functionality to provide the rater with a suggested rating decision. In addition, the module is expected to include stand-alone evaluation builders—essentially interactive disability rating schedules—for all parts of the human body. With this tool, the rater uses a series of check boxes to identify the veteran's symptoms and the evaluation builder identifies the proper diagnostic code and the level of compensation based on those symptoms.
- VBMS-Awards is to provide an automated award and notification process to improve award accuracy and reduce rework associated with manual development of awards. This module is intended to automate and standardize communications between VBA and the veteran at the final stages of the claims process.

VBA is using an agile software development methodology to develop, test, and deliver the system's functionality to its users. An agile approach allows subject matter experts to validate requirements, processes, and system functionality in increments, and to deliver the functionality to users in shorter cycles. Accordingly, the strategic road map that the VBMS Program Management Office is using to guide the system development effort indicated that releases of system functionality were to occur every 6 months.[7] In a March 2013 Senate Veterans Affairs Committee hearing, VA's Under Secretary for Benefits stated that VBMS development was expected to be completed in 2015.

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[7]To help guide its system development efforts, the VBMS Program Management Office developed a strategic road map that identified the program's high-level objectives.

Development and Implementation of VBMS Is Ongoing; Activities Can Benefit from Increased Management Attention

Our September 2015 report noted that, since completing rollout of the initial version of VBMS at all regional offices in June 2013, VBA has continued developing and implementing additional system functionality and enhancements that support the electronic processing of disability compensation claims. As a result, 95 percent of records related to veterans' disability claims are electronic and reside in the system. However, while the Under Secretary for Benefits stated in March 2013 that the development of the system was expected to be completed in 2015, implementation of functionality to fully support electronic claims processing was delayed until beyond 2015.

Specifically, even with the progress VBA has made toward developing and implementing the system, the timeline for initial deployment of a national workload management capability was delayed beyond the originally planned date of September 2014 to October 2015, with additional deployment to occur throughout fiscal year 2016. Efforts undertaken thus far have addressed the strategic road map's objective to deliver a national workload management capability and have entailed developing the technology and business processes needed to support the National Work Queue, which is intended to handle new disability claims in a centralized queue and assign claims to the next regional office with available capacity.[8]

The Program Management Office began work for the National Work Queue in June 2014, and had intended to deploy the first phase of functionality to users in September 2014. However, in late May 2015, the Director of the office informed us that VBA had delayed the initial rollout of the National Work Queue until October 2015 so that the department could fully focus on meeting its goal to eliminate the claims backlog by the end of September 2015. Following the initial rollout, the Program Management Office intends to implement the National Work Queue at all regional offices through fiscal year 2016.

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[8]Traditionally, veterans have submitted disability claims—typically via mail—to their local regional office, where the claims are usually processed. Under the previous paper-based model, claims folders were physically stored and processed at the regional office and material was often mailed between the veteran, the regional office, and the closest VA medical facility. This paper-based business process is no longer necessary, now that 95 percent of all disability claims are digital and all regional offices use VBMS.

Beyond this effort, VBMS program documentation identified additional work to be performed after fiscal year 2015 to fully automate disability claims processing.[9] Specifically, the Program Management Office identified the need to automate steps associated with a veteran's request for an increase in disability benefits, such as when an existing medical condition worsens. In addition, the Director stated that the Program Management Office intends to develop a capability to automatically associate veterans' correspondence when a new piece of evidence to support a claim is received electronically or scanned into VBMS. The office also plans to integrate VBMS with VA's Integrated Disability Evaluation System, which contains the results of veterans' disability medical examinations,[10] as well as with external systems that contain military service treatment records for veterans, including those at the National Personnel Records Center.

Further, while VBMS was planned to support the processing of disability compensation and pension benefits, VBA has not yet developed and implemented end-to-end pension processing capabilities in the system. Without such capabilities, the agency must continue to rely on three legacy systems to process pension claims. Specifically, program officials stated that both the Modern Award Processing-Development and Award legacy systems contain functionality related to processing pensions and will need to remain operational until VBMS can process pension claims. In addition, the Share legacy system contains functionality that is still needed throughout the claims process.[11]

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[9]As of June 2015, claims processors are directed to establish all initial and supplemental compensation claims in VBMS, with several exclusions including pension claims, dual compensation and pension claims, sensitive cases, and claims where the claimant is not the veteran.

[10]Managed by both VA and the Department of Defense, the Integrated Disability Evaluation System provides a single set of disability medical examinations designed for determining a service member's (1) fitness and ability to return to duty and (2) disability if the service member is inhibited from performing his or her assigned duties as a result of a service-connected injury or illness. The department's assessment of fitness for duty occurs concurrently with the VA disability determination process.

[11]These statements regarding the use of legacy systems are consistent with the results of our survey of VBMS claims processors. In addition to VBMS, an estimated 52 percent of users depend on Share, an estimated 37 percent depend on Modern Award Processing–Development, and an estimated 13 percent depend on Award Processing "a great deal" in order to process claims.

Program documentation indicates that the first phase of pension-related functionality is expected to be introduced in December 2015. However, VBA has not yet developed plans and schedules for retiring the legacy systems and for fully developing and implementing their functionality in VBMS.

VBA's progress toward developing and implementing appeals processing capabilities in VBMS also has been limited. Specifically, although the information in a veteran's eFolder is available to appeals staff for review, the appeals process for disability claims is not managed using the new system. According to VA's fiscal year 2016 budget submission, the department is pursuing a separate effort to manage end-to-end appeals modernization, and has requested $19.1 million in fiscal year 2016 funds to develop a system that will provide functionality not available in VBMS or other VA systems. The Director of the Program Management Office stated that VBA is currently analyzing commercial IT solutions that can meet the business requirements for appeals, such as providing document navigation capabilities. According to the Director, VBMS, nevertheless, is expected to be part of the appeals modernization solution because components of the system, such as the eFolder and certain workload management functionality, are planned to continue supporting appeals management.

In the Director's view, the fact that VBMS requires additional development beyond 2015 does not reflect a delay in completing the system's development. Instead, the additional time is a consequence of decisions to enlarge the program's scope over time. The Director stated that the system's original purpose had been to serve primarily as an electronic document repository, and that the program has met this goal.

In addition, the Director said that, as the program's mission has expanded to support the department's efforts to eliminate the disability claims backlog, the office has had to re-prioritize, add, and defer system requirements to accommodate broader departmental decisions and, in some cases, regulatory changes. For example, the office was tasked with developing functionality in VBMS to meet regulatory requirements for processing disability claims using mandatory forms.[12] Officials in the

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[12]Department of Veterans Affairs, *Standard Claims and Appeals Forms, Final Rule,* 79 Fed. Reg. 57660 (Sept. 25, 2014).The effective date for the Final Rule is March 2015.

office said they were made aware of this requirement well after system planning for the March 2015 release had been completed, which had introduced significant complexity to their development work.

Finally, VBA included in its strategic road map a number of objectives related to VBMS that are planned to be addressed in fiscal year 2016. Officials in the Program Management Office stated that they intend to develop tactical plans that identify expected capabilities to be provided in future releases.

Nevertheless, due to the department's incremental approach to developing and implementing VBMS, VBA has not yet produced a plan that identifies when VBMS will be completed and can be expected to fully support disability and pension claims processing and appeals. Thus, it will be difficult for the department to hold its managers accountable for meeting the time frame and for demonstrating progress. Accordingly, we recommended that the department develop an updated plan for VBMS that includes a schedule for when VBA intends to complete development and implementation of the system, including capabilities that fully support disability claims, pension claims, and appeals processing. VA agreed with our recommendation.

VBMS Development and Implementation Have Been Hindered by Lack of a Reliable Cost Estimate

Consistent with our guidance on estimating program costs, an important aspect of planning for IT projects, such as VBMS, involves developing a reliable cost estimate to help managers evaluate a program's affordability and performance against its plans, and provide estimates of the funding required to efficiently execute a program.[13] In 2011, VBA submitted to the Office of Management and Budget a life-cycle cost estimate for VBMS of $934.8 million. This estimate was intended to capture costs for the system's development, deployment, sustainment, and general operating expenses through the end of fiscal year 2018. However, as of July 2015, the program's actual costs had exceeded the 2011 life-cycle cost estimate. Specifically, VBMS received approximately $1 billion in funding

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[13]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs,* GAO-09-3SP (Washington, D.C.: March 2009).

through the end of fiscal year 2015 and the department has requested an additional $290 million for the program in fiscal year 2016.[14]

A significant concern is that the Program Management Office has not reliably updated the VBMS life-cycle cost estimate to reflect the program's expanded scope and timelines for completion of the system. This is largely attributable to the fact that the office has developed cost estimates for 2-year project cycles that are used for VBMS milestone reviews under the Office of Information and Technology's Project Management Accountability System.

When asked how the Program Management Office arrived at the cost estimates reported in the milestone reviews, program officials stated that they developed rough order of magnitude estimates for each business need based on expert knowledge of the system, past development and engineering experience, and lessons learned. However, while this approach may have provided adequate information for VBA to prioritize VBMS system requirements to be addressed in the next release, it has not produced estimates that could serve as a basis for identifying the system's funding needs. Because it is typically derived from limited data and in a short time, a rough order of magnitude analysis is not equivalent to a budget-quality cost estimate and may limit an agency's ability to identify the funding necessary to efficiently execute a program.

In addition, the Program Management Office's annual operating plan, which is generally limited to high-level information about the program's organization, priorities, staffing, milestones, and performance measures for fiscal year 2015, also shows estimated costs totaling $512 million for VBMS development from fiscal years 2017 through 2020. However, according to the Director of the Program Management Office, this estimate was also developed using rough order of magnitude analysis. Further, the estimate does not provide reliable information on life-cycle costs because it does not include estimated IT sustainment and general operating expenses.

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[14]The $1 billion figure represents funding for VBMS IT development, sustainment, and general operating expenses for fiscal years 2009 through 2015. For fiscal year 2016, VA has requested $76 million for IT development, $177 million for sustainment, and $37 million for general operating expenses.

Thus, even though the Program Management Office developed rough order of magnitude cost estimates for VBMS, these estimates have not been sufficiently reliable to effectively identify the program's funding needs. Instead, during the last 3 fiscal years, the Director has had to request an additional $118 million in IT development funds to meet program demands and to ensure support for ongoing development contracts.[15] Specifically, in May 2013, VA requested $13.3 million to support additional work on VBMS. Then, during fiscal year 2014, VA reprogrammed $73 million of unobligated IT sustainment funds to develop functionality to transfer service treatment records from the Department of Defense to VA, and to support development of VBMS-Core functionality. In December 2014, the Program Management Office identified the need for additional fiscal year 2015 funds for ongoing system development contracts for VBMS-Core and VBMS-Awards, and, in late April 2015, department leadership submitted a letter to Congress requesting permission to reprogram $31.7 million to support work on these contracts, the National Work Queue, and other VBMS efforts.

According to the Program Management Office Director, the need to request additional funding does not represent additional risk to the program, but is the result of VBMS's success. The Director further noted that, as the Program Management Office has identified opportunities to increase functionality to improve the electronic claims process, their funding needs have also increased. Nevertheless, evolution of the VBMS program illustrates the importance of continuous planning, including cost estimating, so that trade-offs between cost, schedule, and scope can be effectively managed. Further, without a reliable estimate of the total costs associated with completing work on VBMS, stakeholders will have a limited view of VBMS's future resource needs and the program is at risk of not being able to secure appropriate funding to fully develop and implement the system. Therefore, we recommended that VA develop an updated plan for VBMS that includes the estimated cost to complete development and implementation of the system. VA agreed with our recommendation.

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[15]In fiscal years 2013, 2014, and 2015, VA requested permission from Congress to reprogram Office of Information and Technology funds that had not been used in the prior year or had been identified for IT sustainment to support IT development.

VBA Has Made Progress toward Improving VBMS Operation, but Does Not Have Key System Performance Goals

Our and other federal IT guidance recognize the importance of defining program goals and related performance targets, and using such targets to assess progress in achieving the goals.[16] System performance and response times have a large impact on whether staff successfully complete work tasks. If systems are not responding at agreed-upon levels for availability and performance, it can be difficult to ensure that staff will complete tasks in a timely manner. This is especially important in the VBA claims processing environment, where staff are evaluated on their ability to process claims in a timely manner.

VBA reported that, since its initial rollout in January 2013, VBMS has exceeded its 95 percent goal for availability. Specifically, the system was available at a rate of 98.9 percent in fiscal year 2013 and 99.3 percent in fiscal year 2014. Through May of fiscal year 2015, it was available for 99.98 percent of the time.

Nevertheless, while VBA has reported exceeding its availability goals for VBMS, the system has also experienced periods of unavailability, many times at a critical level affecting all users. Specifically, since January 2013, VBA reported 57 VBMS outages that totaled about 117 hours of system unavailability. The system experienced about 18 hours of outages in January 2014, which were almost entirely at the critical level and affected all users. It reported experiencing only 2 system outages since July 2014—a 30-minute critical outage in December 2014 and a 23-minute critical outage in May 2015.

In addition to system availability, VBA monitors system response times for each of the VBMS modules using an application that measures the amount of time taken for each transaction. From September 2013 through April 2015, VBA reported a decrease in average response times for VBMS-Core and VBMS-Rating. It attributed the decrease in response times to continuous engineering improvements to system performance. Program officials also explained that the difference in response times between modules was due to the type of information that is being pulled into each module from various other VBA systems. For example, both VBMS-Core and VBMS-Rating require information from the VBA

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[16]GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, GAO-04-394G (Washington, D.C.: March 2004) and Executive Office of the President, Office of Management and Budget, *Evaluating Information Technology Investments, A Practical Guide* (November 1995).

corporate database, but VBMS-Core is populated with data from multiple VBA systems in addition to the corporate database.

Program officials told us that specific goals for mean transaction response times have not been established because they feel that adequate tools are in place to monitor system performance and provide alerts if there are response time issues. For example, VBMS performance is monitored in real time by dedicated staff at a contractor's facility, users have access to a live chat feature where they can provide feedback on any issues they are experiencing with the system, and the VBMS help desk offers another avenue for users to provide feedback on the system's performance. The officials also noted that, because transaction response times have decreased, which can be indicative of an improvement to system performance, they are focusing their resources on adding additional functionality instead of trying to get the system to achieve a specific average transaction response time.

While VBA's monitoring of VBMS's performance is commendable and the system's performance and response times have improved over time, the system is still in development and there is no guarantee that performance will remain at current levels as the system evolves. Performance targets and goals for VBMS response times would provide users with an expectation of the system response times they should anticipate, and management with an indication of how well the system is performing relative to performance goals. To address this situation, we recommended that the department establish goals for system response time and use the goals as a basis for periodically reporting actual system performance. VA agreed with this recommendation.

A Recent VBMS Release Included Unresolved Defects that Adversely Impacted System Implementation

A key element of successful system testing is appropriately identifying and handling defects that are discovered during testing. Outstanding defects can delay the release of functionality to end users, denying them the benefit of features. Key aspects of a sound defect management process include the planning, identification and classification, tracking, and resolution of defects. Leading industry and government organizations

consider defect management and resolution to be among the primary goals of testing.[17]

The VBMS program has defect management policies in place and is actively performing defect management activities. Specifically, in October 2012, the department developed the VBMS Program Management and Technical Support Defect Management Plan, which describes the program's defect management process. The plan was updated in March 2015 and describes, among other things, the process for identifying, classifying, tracking, and resolving VBMS defects. For example, it provides criteria for assigning four different levels of severity for defects—critical, high, medium, and low.[18]

According to the plan, critical severity defects are characterized by complete system or subsystem failure, complete loss of functionality, and compromised security or confidentiality. Critical defects also have extensive user impact and do not have workarounds. High severity defects can have major user impact, leading to significant loss of system functionality. Medium severity defects can have moderate user impact and lead to moderate loss of functionality. For high and medium severity defects, workarounds could exist. Low severity defects lead to minor loss of functionality with no workaround necessary. According to the Program Management Office, high, medium, and low severity defects do not need to be resolved prior to a system release.

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[17]The Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), Fifth Edition, (Newtown Square, Pa.: 2013); Institute of Electrical and Electronics Engineers, *Software and systems engineering — Software testing*, ISO/TEC/IEEE Std 29119 (New York, N.Y.: Sept. 1, 2013); Institute of Electrical and Electronics Engineers, *IEEE Standard for Software and System Test Documentation*, IEEE Std 829-2008 (New York, N.Y.: July 10, 2008); Institute of Electrical and Electronics Engineers, *IEEE Standard Classification for Software Anomalies*, IEEE Std 1044-2009 (New York, N.Y.: Jan. 7, 2010); Software Engineering Institute, *CMMI® for Acquisition*, *Version 1.3* (Pittsburgh, Pa.: November 2010); Software Engineering Institute, *CMMI® for Development, Version 1.3* (Pittsburgh, Pa.: November 2010); GAO, *Year 2000 Computing Crisis: A Testing Guide*, GAO/AIMD-10.1.21 (Washington, D.C.: November 1998); *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009); and *GAO Schedule Assessment Guide: Best Practices for Project Schedules—Exposure Draft*, GAO-12-120G (Washington, D.C.: May 2012).

[18]In addition to the defect severity level, these four defect priority-level assignments are used to designate the immediacy of repair: (1) resolve immediately, (2) give high attention, (3) normal queue, and (4) low priority.

The Program Management Office uses an automated tool to monitor and track defects in the VBMS defect repository. It is used to produce a daily defect management report that is shared with VBMS leadership, and to provide the current status of all open defects identified in testing of a forthcoming VBMS release or identified during production of a previous release.[19]

According to the defect management plan, defects can be resolved in a number of different ways, and, once a defect has been fixed, tested, and has passed testing, it is considered done or resolved. Defects that cannot be attributed to an existing requirement are reclassified as a system enhancement and considered resolved, as they do not affect a current system release requirement. A defect is also considered resolved if it is determined to work as designed, duplicate another defect, or if it is no longer evident in the system.

From March 2014 through March 2015, the total number of VBMS defects declined as release dates approached for four releases (7.0, 7.1, 8.0, and 8.1). Additionally, to the department's credit, no critical defects remained at the time of each of these releases.

However, even with the department's efforts to resolve defects prior to a VBMS release, defects that affected system functionality remained open at the time of the releases. Specifically, of the 254 open defects at the time of VBMS release 8.1, 76 were high severity, 99 were medium severity, and 79 were low severity. Examples of medium and high level defects that remained open at the time of VBMS release 8.1 included:

- E-mail addresses for dependents only occasionally allowed special characters (medium).
- The intent to file for compensation/pension had an active status for a deceased veteran (medium).
- Creating a claim in legacy or VBMS would remove the Homeless, POW, and/or Gulf War Registry Flash (high).
- Disability name appeared incorrectly in Issue and Decision text for amyotrophic lateral sclerosis (ALS) (high).

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[19]The daily defect management report consists of the following data: (1) total critical and high, priority one defects for resolution; (2) total number of critical defects; (3) total number of high, priority one defects; and (4) total defects for resolution.

- VBMS-Core did not recognize updated rating decisions from VBMS-Rating (high).

According to the Program Management Office, these defects were communicated to users and an appropriate workaround for each was established. Nevertheless, even with the workarounds, high and medium severity open defects, which by definition impact system functionality, degraded users' experiences with the system. Continuing to deploy system releases with defects that impact system functionality increases the risk that these defects will diminish users' ability to process disability claims in an efficient manner. Accordingly, we recommended that VA reduce the incidence of high and medium severity level defects that are present at the time of future VBMS releases. The department agreed with this recommendation.

VBA Had Not Conducted a Survey to Obtain Users' Feedback or Established Related Goals; GAO Found that Satisfaction with the System Varied

Our September 2015 report noted that, in addition to having defined program goals and related performance targets, leading practices identify continuous customer feedback as a crucial element of IT project success.[20] Particularly for projects like VBMS, where development activities are iterative, customer and end user perspectives and insights can be solicited through various methods—user acceptance testing, interviews, complaint programs, and satisfaction surveys—to validate or raise questions about the project's implementation.

Further, leading practices emphasize that periodic customer satisfaction data should be proactively used to improve performance and demonstrate the level of satisfaction the project is delivering. The Office of Management and Budget has developed standards and guidelines in survey research that are generally consistent with best practices[21] and call for statistically valid data collection efforts to be used in fulfilling

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[20]GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, GAO-04-394G (Washington, D.C.: March 2004); and Executive Office of the President, Office of Management and Budget, *Evaluating Information Technology Investments, A Practical Guide* (November 1995).

[21]For example, the American Association of Public Opinion Research (AAPOR) best practices (http://www.aapor.org/best_practices1.htm), describe the manner in which to produce a quality survey when a need for information arises for which existing data appear to be insufficient. AAPOR describes features such as random selection that should be used when selecting samples in order to allow the results to be projectable to the population being studied.

agencies' customer service data collection.[22] These leading practices also stress the importance of centrally integrating all customer feedback data in order to have more complete diagnostic information to guide improvement efforts.[23]

VA has used a variety of methods for obtaining customer and end user feedback on the performance of VBMS. For example, the department solicits end user involvement and feedback in the iterative system development process based on user acceptance criteria.[24] According to the Senior Project Manager for VBMS Development within the Office of Information and Technology, at the end of each development cycle and before a new version of VBMS is deployed, end users are involved in user acceptance testing and a final customer acceptance meeting.[25]

The department also provides training to a subset of end users—known as "superusers"—on the updated functionality introduced in a new version of VBMS. These superusers are expected to train the remaining users in the field on the new version's features. The department tracks the overall satisfaction level with training received after each VBMS major release.

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[22]OMB, *Standards and Guidelines for Statistical Surveys* (September 2006). In part, this guidance directs that agency survey designs use generally accepted statistical methods, such as probabilistic methods that can provide estimates of sampling error. Any use of nonprobability sampling methods must be justified statistically and be able to measure estimation error. According to the OMB standards, the size and design of the sample must reflect the level of detail needed in tabulations and other data products, and the precision required of key estimates.

[23]GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, GAO-04-394G (Washington, D.C.: March 2004); Carnegie Mellon Software Engineering Institute, *Capability Maturity Model® Integration (CMMI) for Development*, Version 1.3 (Pittsburgh, Pa.: November 2010); M.S. Garver and R.L. Cook, "Best Practice Customer Value and Satisfaction Cultures," *Mid-American Journal of Business*, vol. 16, no. 1 (2001); M.S. Garver, "Modeling Best Practices for Government Agencies: Implementing Customer Satisfaction Programs" (Jan. 28, 2002); Best Practices, LLC, "Achieving World-Class Customer Service: An Integrated Approach" (copyright 1998-2001); Federal Benchmarking Consortium, "Serving the American Public: Best Practices in Customer-Driven Strategic Planning" (February 1997); and OMB, *Evaluating Information Technology Investments, A Practical Guide* (November 1995).

[24]User acceptance criteria are criteria that a deliverable must satisfy to be accepted by a user, customer, or other authorized entity.

[25]User acceptance testing is formal testing conducted to enable a user, customer, or other authorized entity to determine whether to accept a deliverable.

However, this tracking is limited to superusers' satisfaction with the training, rather than with their satisfaction with the system.[26]

Further, the department solicits customer feedback about the system through interviews. For example, the Director of the Program Management Office stated that the Under Secretary for Benefits hosts a weekly phone call with bargaining unit employees as a "pulse check" on VBA transformation activities, including VBMS. According to this official, the VBA Office of Field Operations also offers an instant messaging chat service to all regional office employees to solicit feedback about the latest deployment of VBMS functionality.

Another method in which the department obtains customer input is through a formal feedback process. For example, according to the Director, VA provides national service desk support to assist users in troubleshooting system issues and identifying system defects. In addition, VBMS applications include a built-in feature that enables users to provide feedback to the Program Management Office on problems with the system. According to the Director, the feedback received by the office also helps to identify user training issues.

Nevertheless, while VA has taken these various steps to obtain feedback on the performance and implementation of VBMS, it has not established goals to define user satisfaction that can be used as a basis for gauging the success of its efforts to promote satisfaction with the system. Further, while the efforts that have been taken to solicit users' feedback provide VBA with useful insights about particular problems, data are not centrally compiled or sufficient for supporting overall conclusions about whether customers are satisfied. In addition, VBA has not employed a customer satisfaction survey of claims processing employees who use the system on a daily basis to process disability claims. Such a survey could provide a more comprehensive picture of overall customer satisfaction and help identify areas where the system's development and implementation efforts might need additional attention.

According to the Director of the Program Management Office, VBA has not used a survey to solicit feedback because of concern that such a

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[26]As of March 31, 2015, VA reported it had exceeded its target goal of 90 percent with a 94 percent satisfaction rate with VBMS superuser training.

mechanism may negatively impact the efficiency of claims processors in completing disability compensation claims on behalf of veterans. Further, the Director believed that the office had the benefit of receiving ongoing end user input on VBMS by virtue of the intensive testing cycles, as well as several of the other mechanisms by which end users have provided ongoing feedback. Nevertheless, without establishing user satisfaction goals and collecting the comprehensive data that a statistically valid survey can provide, the Program Management Office limits its ability to obtain a comprehensive understanding of VBMS users' satisfaction with the system. Thus, VBA could miss opportunities to improve the efficiency of its claims process by increasing satisfaction with VBMS. Therefore, we recommended that VA develop and administer a statistically valid survey of VBMS users to determine the effectiveness of steps taken to make improvements in users' satisfaction. The department agreed with this recommendation.

Most Types of Users Reported Satisfaction with VBMS, but Decision Review Officers Were Generally Dissatisfied

In response to a statistical survey that we administered, most of the VBMS users reported that they were satisfied with the system that had been implemented at the time of the survey.[27] These users (claims assistants, veteran service representatives, supervisory veteran service representatives, rating veterans service representatives, decision review officers, and others)[28] were satisfied with the three modules of VBMS.[29]

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[27]We received a response rate of 60 percent. We adjusted for characteristics that were associated with survey response propensity using standard weighting class adjustments defined by sampling strata. We assumed that nonresponse adjusted data are missing at random and therefore concluded the respondent analyses using the nonresponse adjusted weights are unbiased for the population of VBMS users sampled in the survey and the responses to be generalizable to all VBA claims processors at 56 VA regional offices. Confidence intervals for estimates we report from this survey are based on a confidence level of 95 percent and are calculated using methods appropriate for a stratified random sample. Confidence intervals are never wider than plus or minus 5 percentage points. At a 95 percent confidence level, this means that in about 95 out of 100 instances, the sampling procedures we used would be expected to produce a confidence interval containing the true population value we estimate.

[28]Some survey respondents identified themselves as "other" when selecting their role (e.g., rating quality review specialist).

[29]Survey respondents were asked to rate their VBMS experience with various system usability statements and were given the option to select the following answer choices: "strongly agree," "agree," "neither agree nor disagree," "disagree," "strongly disagree," and "not applicable or no basis to judge." We defined satisfaction as a combination of the "strongly agree" and "agree" responses, and excluded those respondents who selected "not applicable or no basis to judge" for analysis of satisfaction, within the main report.

Specifically, an estimated 59 percent of the claims processors were satisfied with VBMS-Core; an estimated 63 percent were satisfied with the Rating module, and an estimated 67 percent were satisfied with the Awards module.

Nevertheless, while a majority of users were satisfied with the three modules, decision review officers expressed considerably less satisfaction than other users with VBMS-Core and VBMS-Rating.[30] Specifically, for VBMS-Core, an estimated 27 percent of decision review officers were satisfied compared to an estimated 59 percent of all roles of claims processors (including decision review officers) who were satisfied. In addition, for VBMS-Rating, an estimated 38 percent of decision review officers were satisfied, compared to an estimated 63 percent of all roles of claims processors.

Decision review officers were considerably less satisfied with VBMS in comparison to all roles of claims processors in additional areas. For example, an estimated 26 percent of decision review officers viewed VBMS-Core as an improvement over the previous legacy system or systems for establishing claims and storing and reviewing electronic documents related to a claim in an eFolder. In contrast, an estimated 58 percent of all users (including decision review officers) viewed the Core module as an improvement.

In addition, an estimated 26 percent of decision review officers viewed VBMS-Rating as an improvement over the previous systems with respect to providing Web-accessible tools, including rules-based rating calculators, to assist in making claims rating decisions. In contrast, an estimated 55 percent of all roles of claims processors viewed the Rating module as an improvement. For VBMS-Awards, an estimated 61 percent of all roles viewed this module as an improvement over the previous systems to automate the award and notification process.

Similarly, in considering the three modules, a majority of users (including decision review officers) would have chosen VBMS over the legacy system or systems. However, decision review officers indicated that they were less likely to have chosen VBMS-Core and VBMS-Rating over

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[30]Decision review officers do not typically use VBMS-Awards. Therefore, decision review officers were not compared to other users for that module.

legacy systems. Specifically, an estimated 27 percent of decision review officers would have chosen VBMS-Core compared to an estimated 60 percent of all roles of claims processors. In addition, an estimated 27 percent of decision review officers would have chosen VBMS-Rating compared to 61 percent of all roles that would have chosen the system over the legacy system or systems. For VBMS-Awards, an estimated 67 percent of all roles would have chosen this module over the previous systems.

Decision review officers perform an array of duties to resolve claims issues raised by veterans and their representatives. They may also conduct a new review or complete a review of a claim without deference to the original decision, and, in doing so, must click through all documents included in the e-Folder. Survey comments from decision review officers stated, for example, that reviews in the VBMS paperless environment take longer because of the length of time spent loading, scrolling, and viewing each document (particularly if the documents are large, such as a service medical record file). Additionally, multiple decision review officers commented that it is easier and faster to review documents in a paper file. Although such comments provide illustrative examples of individual decision review officers' views and are not representative, according to the Director of the Program Management Office, decision review officers' relative dissatisfaction is not surprising because the system does not yet include functionality that supports their work, which primarily relates to appeals processing. To improve this situation, we recommended that VA establish goals that define customer satisfaction with the system and report on actual performance toward achieving the goals based on the results of our survey of VBMS users and any future surveys VA conducts. The department concurred with this recommendation.

In conclusion, while VA has made progress in developing and implementing VBMS, additional capabilities to fully process disability claims were delayed beyond when the system's completion was originally planned. Further, in the absence of a plan that identifies when and at what cost the system can be expected to fully support disability compensation and pension claims processing and appeals, holding VA management accountable for meeting a schedule, while ensuring sufficient program funding, will be difficult. Also, without goals for system response times, users do not have an expectation of the response times they can anticipate, and management lacks an indication of how well the system is performing. Furthermore, continuing to deploy system releases with defects that impact functionality increases the risk that these defects

will diminish users' ability to process disability claims in an efficient manner. Lastly, although the results of our survey provide VBA with useful data about users' satisfaction with VBMS (e.g., the majority of users are satisfied), without having goals to define user satisfaction, VBA does not have a basis for gauging the success of its efforts to improve the system. As we stressed in our report, attention to these issues can improve VA's efforts to effectively complete the development and implementation of VBMS. Fully addressing our recommendations, as VA agreed to do, should help the department give appropriate attention to these issues.

Chairman Miller, Ranking Member Brown, and Members of the Committee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have.

Contacts and Staff Acknowledgments

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