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Report to Congressional Requesters

July 2018

VA CONSTRUCTION

Management of Minor Construction and Non-Recurring Maintenance Programs Could Be Improved

Accessible Version

GAO-18-479

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GAO Highlights

Highlights of GAO-18-479, a report to congressional requesters

Why GAO Did This Study

VA relies on VHA's Minor Construction and NRM programs to maintain and improve its 1,240 medical facilities at a cost of over $1 billion in fiscal year 2018. However, in recent years, GAO and the VA's Inspector General have identified weaknesses in these programs. GAO was asked to assess VHA's management of its Minor Construction and NRM programs. This report assesses, among other things: (1) the extent to which VHA's guidance for developing cost estimates for Minor Construction and NRM projects meets GAO's 12 steps for cost estimating and (2) the extent to which VHA is able to monitor the Minor Construction and NRM programs.

GAO evaluated VHA's cost-estimating guidance against GAO's 2009 *Cost Estimating and Assessment Guide*. GAO also obtained and reviewed data from VHA's Capital Asset Database for the period of October 2011 through July 2017, including the reliability of these data, assessed VHA's plans to improve its database, and interviewed VHA and VA officials.

What GAO Recommends

GAO is making six recommendations, including that VHA revise its cost estimating guidance to incorporate the 12 steps in GAO's *Cost Estimating and Assessment Guide*—and develop a comprehensive plan for updating the Capital Asset Database. VA concurred with GAO's recommendations and provided updated information, which we incorporated as appropriate.

View GAO-18-479. For more information, contact Andrew Von Ah at (202) 512-2834 or vonaha@gao.gov.

What GAO Found

The Veterans Health Administration's (VHA) guidance on preparing cost estimates for Minor Construction and Non-recurring Maintenance (NRM) projects does not fully incorporate the 12 steps in the *GAO Cost Estimating and Assessment Guide*. These steps, if followed, should result in reliable and valid cost estimates and help management formulate realistic budgets for these projects. Examples of Minor Construction projects include building parking garages or clinical buildings and examples of NRM projects include replacing utility systems or maintaining facility components, such as roofs and roads.
VHA's guidance for its staff and contractors on how to prepare cost estimates:

- fully or substantially met 3 of the 12 steps,
- partially met 5 of the 12 steps, and
- minimally met or did not meet 4 of the 12 steps.

For example, VHA's guidance fully met the step to obtain the data because it requires cost estimators to conduct a market survey that explores factors that affect the cost of construction bids. On the other hand, the guidance does not meet the step to conduct a risk analysis because it does not require an analysis of risks associated with the estimated project cost, such as how a change in a project's schedule might affect the cost estimate. By revising the cost estimating guidance to incorporate the 12 steps in *GAO's Cost Estimating and Assessment Guide*, VHA could have greater assurance that its cost estimates for Minor Construction and NRM projects are reliable.
VHA's ability to monitor its Minor Construction and NRM programs is limited by a lack of accurate financial data and project information, such as reasons for changes in cost. VHA officials told GAO that their central office uses the Capital Asset Database as its primary method to monitor medical facilities' Minor Construction and NRM projects. For example, the database compares obligations, planned and actual construction completion dates, and expenditures against the annual operating plan. VHA officials also stated that they use the database to conduct a monthly budget review to identify Minor Construction and NRM construction projects with problems and assess the progress of the annual capital construction plan. However, GAO found the information in the database to be unreliable due in part to missing data and other inaccuracies in the database. For example, a project listed in the data base as complete and $3.9 million under budget was actually cancelled after VHA had paid $319,000 in design costs, according to VHA officials. In addition, the database does not contain information identifying, for example, why projects cost more than initially planned. VHA officials are aware of the problems and have been working to improve data quality by updating the database. However, VHA does not have a comprehensive plan that clearly lays out milestones to help VHA officials meet their objectives or that lays out the roles and responsibilities of those involved in the update. Without a comprehensive plan to update the database and to lay out milestones and roles and responsibilities, it is unclear if VHA will be able to improve the system the central office uses to monitor projects and the Minor Construction and NRM programs.

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Abbreviations

NRM	Non-Recurring Maintenance
SCIP	Strategic Capital Improvement Process
USACE	United States Army Corps of Engineers
VA	Department of Veterans Affairs
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network

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July 31, 2018

The Honorable Johnny Isakson
Chairman
Committee on Veterans' Affairs
United States Senate

The Honorable David P. Roe, MD
Chairman
Committee on Veterans' Affairs
House of Representatives

The Honorable John Ratcliffe
House of Representatives

The Veterans Health Administration (VHA) is the largest integrated health care system in the United States, providing care through the Department of Veterans Affairs (VA) to millions of veterans a year at about 1,240 VA medical centers and outpatient clinics throughout the country. The President's 2019 budget request for VA estimates that VHA would require approximately $57 billion for enhancements, additions, and maintenance of current medical facilities and for bringing new, additional medical facilities into operation.[1] VHA, to address some of these needs, relies on the Minor Construction program for facility enhancements and additions and the Non-Recurring Maintenance (NRM) program for maintenance projects. These VHA programs manage and fund projects that generally

[1]Purchasing and installing furniture, medical equipment, and hiring new staff in order to bring a medical facility into fully planned operations are called activation costs and are included in this number.

cost $10 million or less.[2] However, in recent years we and the VA's Inspector General have identified weaknesses in these programs.[3] For example, in 2012, we recommended that VA improve its budget estimates for the NRM program due to higher than estimated spending on NRM projects—$867 million more than initially anticipated for NRM construction in 2011.[4] VA's Inspector General also reported on weaknesses in VA's management of Minor Construction projects in 2012, and NRM projects in 2014. Due to VHA's large construction and maintenance needs and these historic weaknesses, you asked us to assess VHA's management of the Minor Construction and NRM programs. This report assesses:

- the extent to which VHA's guidance for developing cost estimates for Minor Construction and NRM projects meets *GAO's Cost Estimating and Assessment Guide's* cost-estimating steps and characteristics;
- challenges selected medical facilities face related to managing these projects and how, if at all, VHA is addressing them; and
- to what extent VHA is able to monitor its Minor Construction and NRM programs.

[2]At the time of the evidence gathering and analysis phase of our audit, the statutory definition of "major medical facility project" in effect set the threshold between minor medical facility projects and major medical facility projects at a $10-million upper limit for minor projects. After the completion of our evidence gathering and analysis phases, this threshold for minor projects was effectively raised to $20-million in June 2018 by the VA Mission Act of 2018 (Pub. L. No. 115-182, §503, 132 Stat. 1393) (codified as amended at 38 U.S.C. 8104(a)(3)). References in this report to the minor medical facility project threshold , cap, or upper limit, or VA programmatic actions related to the threshold amount, refer to the $10-million minor project upper threshold amount in effect during the evidence gathering and analysis phases of our audit. NRM projects have a $10-million upper limit, except NRM projects such as pure utility/building system projects or demolition projects, which have no upper limit. As part of capital asset management of these facilities, VHA uses multiple construction programs that vary in size and scope.

[3]We have previously reported and testified on VA's Major Construction Program, which focuses on construction projects over $10 million, and have reported on VA's difficulties in managing projects conducted under this program. See, for example, GAO, *VA Construction, Improved Processed Needed to Monitor Contract Modifications, Develop Schedules, and Estimate Costs*, GAO-17-70 (Washington D.C.: Mar. 7, 2017) and GAO, *VA Construction: Actions Taken to Improve Denver Medical Center and Other Large Projects' Cost Estimates and Schedules*, GAO-18-329T (Washington D.C.: Jan. 17, 2018).

[4]GAO, *Veterans Health Care Budget, Transparency and Reliability of Some Estimates Supporting President's Request Could Be Improved*, GAO-12-689 (Washington D.C.: June 11, 2012). VA has since improved its estimates and we closed the three recommendations we made to improve the transparency and reliability of its budget estimates.

To assess VHA's guidance for developing cost estimates, we compared the methods for developing Minor Construction projects' cost estimates outlined in *VHA's Minor Construction Handbook*,[5] *VA's Manual for Preparing Cost Estimates*,[6] and the *Veterans Affairs Medical Center Unit Cost Guide by Product Type* to the 12 steps for cost estimating outlined in the *GAO Cost Estimating and Assessment Guide*.[7] Because VHA's *Handbook and Unit Cost Guide* as well as VA's *Manual* taken as a whole guide VHA's project cost estimating, we refer to these three documents as "VHA guidance" throughout the report. The steps outlined in the *GAO Cost Estimating and Assessment Guide*, when incorporated into an agency's cost-estimating procedures and guidance, should result in reliable and valid cost estimates.

We also conducted in-depth assessments of cost estimates for four of seven projects we visited—two Minor Construction and two NRM projects—to determine if their cost estimates were reliable. Specifically, for each of the projects, we compared these estimates to the four characteristics—well documented, comprehensive, accurate, and credible—of a reliable cost estimate, as indicated in the *GAO Cost Estimating and Assessment Guide*.[8] For each project, we interviewed individuals who developed the cost estimate and reviewed the supporting documentation provided by the VHA medical facility to determine the extent to which the cost estimates and related documentation met these four general characteristics. (See below for additional information on how we selected the seven projects.)

To obtain information on the challenges medical facilities face related to Minor Construction and NRM projects and how, if at all, VHA is addressing them, we selected seven projects—four Minor Construction and three NRM projects—to visit. Specifically, we selected a non-generalizable sample of projects that were (1) ongoing so that if we identified management issues, they could potentially be corrected before

[5]Veterans Health Administration, *Minor Construction Program*, VHA Handbook 1002.02 (Washington D.C.: Nov. 8, 2012).

[6]Department of Veterans Affairs, *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities,* (Mar. 8, 2011).

[7]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes GAO-07-1134SP*),* GAO-09-3SP (Washington, D.C.: March 2009).

[8]GAO-09-3SP.

project completion; (2) relatively high cost projects due to the complexity of those projects; and (3) located in various VHA regions to account for management differences.[9] We conducted semi-structured interviews at each of the seven medical facilities where these seven projects were located. We interviewed

- VHA officials knowledgeable about the project,
- applicable United States Army Corps of Engineers (USACE) officials for projects USACE is managing,
- the architectural and engineering contractors who designed and estimated the construction costs for the projects, and
- construction contractors.[10]

(For a complete list of projects and information on them, see app. I.) We analyzed responses across the interviews to identify common themes that illustrate challenges that the officials and staff we interviewed identified. In addition, we reviewed a VA-contracted *Program Process Review* that identified ideas for streamlining the Minor Construction and NRM contracting process.[11]

To assess VHA's management of Minor Construction and NRM programs, we reviewed documents pertaining to VHA's oversight mechanisms and interviewed VA and VHA officials. We also attempted to use data from VHA's Capital Assets Database, which VHA uses (1) to manage projects at the national level and (2) to obtain information on total construction dollars, project cost increases and decreases, and milestones for ongoing and completed Minor Construction and NRM projects. However, we determined the data were not reliable for these

[9]We selected four projects to assess the cost estimating for those projects and added three more – for a total of seven projects from which to identify potential challenges.

[10]The VHA can enter into interagency agreements with other federal agencies to manage the construction of its projects. VHA entered into interagency agreements with the U.S. Army Corps of Engineers for three of the seven projects we reviewed.

[11]Booz Allen Hamilton, *Department of Veterans Affairs Minor Construction and Non-Recurring Maintenance Program Process Review* (Maclean, VA; Mar. 3, 2017).

purposes, as discussed later in this report.[12] We then compared VHA's plans for improving its data to federal internal control standards,[13] leading principles on sound planning,[14] and information-technology management practices.[15]

We conducted this performance audit from March 2017 to July 2018 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.

[12]We obtained VHA's capital asset data for the period October 1, 2011, through July 31, 2017, from VHA. These data included more than 7,190 completed and 1,360 ongoing Minor Construction and NRM projects including project timelines, planned and actual project costs, and project status. To assess the reliability of the data, we interviewed knowledgeable VHA officials about the strengths and weaknesses of the database, and steps VHA was taking to ensure the reliability of the data.

[13]GAO, *Standards for Internal Control in the Federal Government,* GAO-14-704G (Washington D.C.: September, 2014).

[14]Our leading practices for sound planning are derived from prior work related to planning. We have found that implementation plans that include these leading practices help ensure organizations achieve their goals and objectives. For example, see GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act,* GAO/GGD-96-118 (Washington, D.C.: June 1996); GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism,* GAO-04-408T (Washington, D.C.: Feb. 3, 2004); GAO, *Veterans' Health Care: Proper Plan Needed to Modernize System for Paying Community Providers,* GAO-16-353 (Washington, D.C.: May 11, 2016); and GAO, *Health Care Quality: HHS Should Set Priorities and Comprehensively Plan Its Efforts to Better Align Health Quality Measures*, GAO-17-5 (Washington, D.C.: Oct. 13, 2016).

[15] GAO, *Information Technology Management: Government Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved,* GAO-04-49 (Washington D.C.: Jan. 12, 2004).

Background

VHA's Minor Construction and NRM Programs

VHA's Minor Construction program funds projects for enhancements or additions to medical facilities with costs at or below $10 million.[16] Examples of Minor Construction projects include the acquisition of land or the building of parking garages, clinical buildings, or warehouses to expand a facility. VHA's NRM program funds VHA's non-recurring maintenance projects that renovate, repair, maintain, and modernize its existing infrastructure—and that generally costs less than $10 million.[17] These projects include replacing utility systems; maintaining facility components such as roofs, roads, grounds, and structures; as well as demolition projects not associated with a construction project. Minor Construction and NRM projects are typically funded over multiple fiscal years. Project design is funded in the year the project is approved in VA's capital-program-planning process, known as the Strategic Capital Improvement Process (SCIP), and construction is funded in the next fiscal year or the year after, depending on available funding. Table 1 below describes key features of the Minor Construction and NRM programs.

[16]As discussed in footnote 2, references in this report to the minor medical facility project threshold, cap, or upper limit refer to the $10-million minor project upper threshold amount in effect at the time of the evidence gathering an analysis phase of our audit. After the completion of our evidence gathering and analysis phases, this threshold for minor projects was effectively raised to $20-million in June 2018by the VA Mission Act of 2018 (Pub. L. No. 115-182, §503, 132 Stat. 1393) (codified as amended at 38 U.S.C. 8104(a)(3)).

[17]There is a $10-million limit for NRM projects with the intent to renovate. However, there is no upper limit for utility/building system projects and building demolition projects.

Table 1: Key Features of the Veterans Health Administration's (VHA) Minor Construction and Non-Recurring Maintenance Programs

Features	Minor Construction program	Non-Recurring Maintenance program
General purpose	Enhancements or additions to VHA medical facilities that add more than 1,000 square feet.	Renovation, repair, and maintenance of existing infrastructure that can add up to 1,000 square feet.
2018 budget request	$193.6 million	$1.87 billion
Consolidated Appropriations Act, 2018	$ 193.6 million [a]	At least $1 billion
Project funding limits	$10 million[b]	$10 million[c]
Funding	These funds remain available for obligation for more than 1 fiscal year. Therefore, VA can obligate the funds over the period of time that the funds are available. VHA's central office approves design funding in the first fiscal year of the project, and construction funding generally in the third fiscal year of the project.	NRM appropriations are generally 1-year funding, according to VA officials. VA is required to obligate the funding to the fiscal year in which the funds were made available. VHA's central office approves design funding, and construction funding is approved by VHA's regional office.

Sources: GAO analysis of Department of Veteran Affairs information. | GAO-18-479

Note: Projects over $10 million that are not exempt, non-recurring maintenance projects fall under the Veteran's Affairs Major Construction Program.

[a]The explanatory statement (164 Cong. Rec. H2045 (daily ed. Mar. 22, 2018)) accompanying division j of the Consolidated Appropriations Act, 2018 (Pub. L. No. 115-141, 132 Stat. 348 (2018)) directed $193,610,000 for the Veterans Health Administration Minor Construction projects.

[b]After the completion of our evidence gathering and analysis phase, this threshold for minor projects was effectively raised to $20-million in June 2018 by the VA Mission Act of 2018 (Pub. L. No. 115-182, §503, 132 Stat. 1393) (codified as amended at 38 U.S.C. 8104(a)(3)). References in this report to the minor medical facility project threshold, cap, or upper limit, or VA programmatic actions related to the threshold amount, refer to the $10-million minor project upper threshold amount in effect during the evidence gathering and analysis phases of our audit.

[c]Certain non-recurring maintenance projects such as boiler plant replacements or demolition do not have an upper project funding limit. For example, the Hines, IL, VA boiler-plant replacement project we reviewed was projected to cost $57.8 million.

Responsibilities for Managing Minor Construction and NRM Projects

VHA's Office of Capital Asset Management Engineering and Support manages the Minor Construction and NRM programs. According to VHA's written responses to our questions about how VHA manages the Minor Construction and NRM programs, VHA uses a multi-step process to approve and fund Minor Construction and NRM projects. First, medical facilities submit all Minor Construction projects regardless of cost and NRM projects above $25,000 for approval through VA's SCIP, which serves as an integrated, comprehensive planning process for all capital

programs within VA, and also forms the basis for VHA's annual capital budget request. VHA's Veterans Integrated Service Network[18] reviews proposed projects at the regional level and then VHA's Office of Capital Asset Management Engineering and Support reviews and approves them centrally to ensure the submissions are consistent with Minor Construction and NRM program definitions and VA's strategic goals.[19] VHA-approved Minor Construction projects and NRM projects above $1 million are then submitted to a national SCIP panel, which reviews and ranks budget year SCIP projects for inclusion in VHA's long-range capital action plan.[20]

For the Minor Construction program, once projects have been approved through the SCIP process, the Office of Capital Asset Management Engineering and Support manages all of the funding, operating plans, and program execution. Specifically, all funding for the Minor Construction program remains with the Office of Capital Asset Management Engineering, where a fiscal year operating plan is developed. This plan identifies all projects that will be funded in a specific fiscal year for design or construction. For NRM projects, the Office of Capital Asset Management Engineering and Support distributes funding as a lump-sum to each Veterans Integrated Service Network, which then develops an operating plan for individual projects and manages execution of that plan. According to VHA's written responses provided to us on the Minor Construction program operations, prior to releasing funding for projects in VHA's operating plan, the central office is to review the medical facilities' project documents—such as the statement of work, design documents, or

[18]VHA organizes its system of care into regional networks called Veterans Integrated Service Networks (VISN). Each VISN is responsible for coordination and oversight of all administrative and clinical activities within its specified geographic region. Specifically, the 18 VISNs oversee the day-to-day functions of VA Medical Centers and Community Based Outpatient Clinics within the VISN's geographical regions.

[19]In 2017, examples of VA's strategic goals included improving energy standards such as increasing energy efficiency and increasing water usage efficiency.

[20]According to VA's *Capital Assessment Guide*, NRM projects under $1 million are approved at the regional level, and do not need to go through the SCIP process. In 2013, we recommended that VA establish written policies for its regions when prioritizing NRM projects that are below $1 million and therefore not subject to the SCIP process. VHA addressed this recommendation and included written policies for prioritizing these projects in its 2016 *Capital Asset Management Guidebook*. See GAO, *Veterans Health Care, Improvements Needed to Ensure Budget Estimates are Reliable and that Spending for Facility Maintenance is Consistent with Priorities,* GAO-13-220 (Washington D.C.: Feb. 22, 2013) and Veterans Health Administration, *Capital Assessment Management Guidebook* (St. Louis: September, 2016).

final drawings—to ensure the project remains fully functional and ready to proceed. For example, for a Minor Construction project already in design, the central office should ensure design requirements are met before releasing funding for the start of construction. However, for SCIP-approved NRM projects, depending on the stage of the project, the central office provides funding to the medical facility or the region. The central office initially releases design funding directly for the medical facility, and the region is responsible for managing the NRM projects through a regional yearly operating plan. Much like the central office does for Minor Construction projects the region is to approve completion of project design before releasing final funding for the project's construction costs.

According to VHA officials, individual medical facilities' engineering staff generally manage the day-to-day execution of the approved Minor Construction and NRM projects from design to project completion, but do have the ability to outsource the management of these projects to other agencies such as USACE or the Naval Facilities Engineering Command. Individual medical facilities, working with a contracting officer, select (1) an architectural and engineering contractor and (2) a construction contractor to design and build the project.[21] According to VHA's *Capital Asset Management Guidebook*, these contracts are typically awarded using a design-bid-build approach in which the individual medical facility first contracts with an architectural and engineering contractor to design the project, and then separately contracts with a construction contractor to construct the designed project. According to this *Guidebook*, another less frequently used contracting method is a design-build approach where a contractor both designs and constructs the project. VHA officials told us that, depending on the scope and complexity of projects, they can also outsource the management of these projects to certain other federal agencies. When outsourcing to another agency such as USACE, VA obligates all the construction funding to USACE, which is then responsible for selecting, managing, and overseeing the construction contractor, with VHA providing oversight assistance.

[21]A contracting officer assists with execution of the construction contracts. For example, the contracting officer coordinates with the project engineer to ensure the original design or construction contract or any subsequent modifications fall within scope of the work of the approved project. See VHA, *Minor Construction Handbook,* VHA Handbook 1002.02 (Washington D.C.: Nov. 8, 2012) and VHA, *Capital Asset Management Guidebook.*

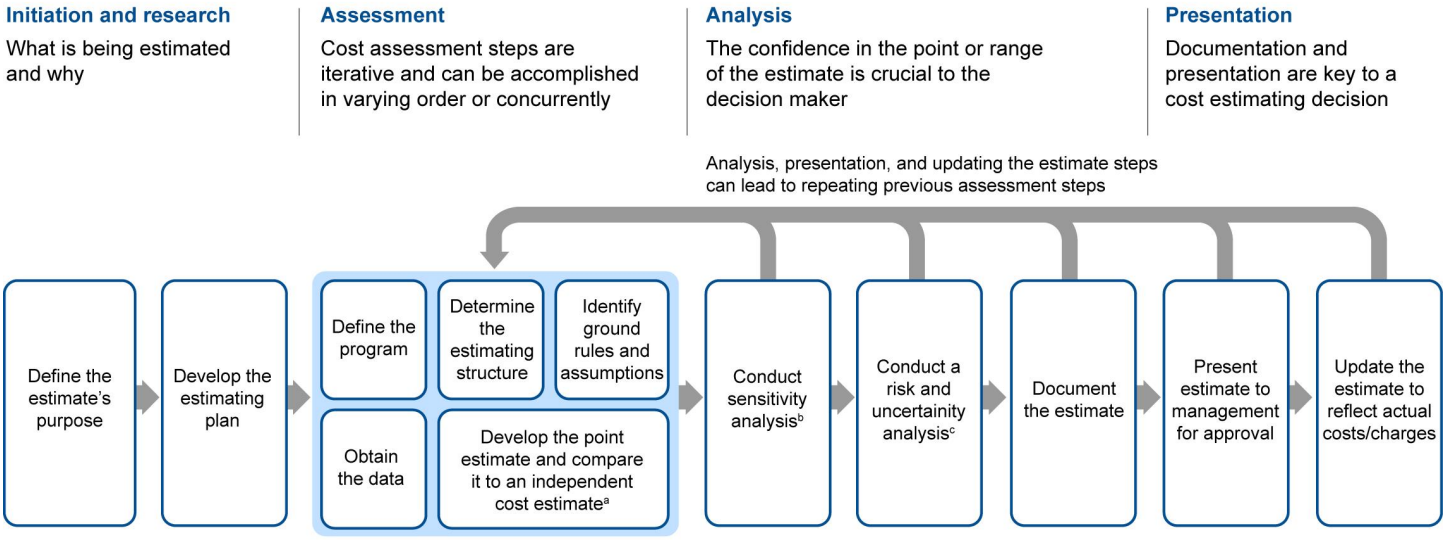
VHA's Guidance Does Not Fully Incorporate Steps for Developing Reliable Cost Estimates and Estimates for Selected Projects Were Not Reliable

VHA's Cost-Estimating Guidance Does Not Fully Incorporate Steps Needed for Developing Reliable Estimates

The *GAO Cost Estimating and Assessment Guide* identifies 12 steps that, when incorporated into an agency's cost-estimating guidance, should result in reliable and valid cost estimates that management can use to make informed decisions.[22] (See fig. 1 for information on these steps.) A reliable cost estimate is critical to the success of any construction program. Such an estimate provides the basis for informed decision making, realistic budget formulation and program resourcing, and accountability for results. For example, VA relies on these estimates to make annual funding decisions for various facilities. Additionally, because these estimates inform VA's overall annual budget requests, Congress relies on them to make annual appropriations decisions.

[22]GAO-09-3SP.

Figure 1: Twelve Steps for Developing a Reliable Cost Estimate



Source: *GAO Cost Estimating and Assessment Guide.* | GAO-18-479

[a]The point estimate is the best guess estimate, given the underlying data. High-quality cost estimates usually fall within a range of possible costs, the point estimate being between the best and worst case extremes.

[b]A sensitivity analysis examines the effects of changing assumptions and ground rules.

[C]Quantifying risk and uncertainty is a cost estimating best practice; quantitative risk and uncertainty analysis provides a way to assess the variability of the point estimate.

We found that VHA's guidance for medical center engineering staff and contractors on how to prepare cost estimates for Minor Construction program projects—specifically *VHA's Minor Construction Handbook, VA's Manual for Preparation of Cost Estimates and Related Documents, and the Veterans Affairs Medical Center Unit Cost Guide By Project Type*—does not fully incorporate these 12 steps, raising the possibility of unreliable cost estimates affecting decisions on how many such projects the agency can fund at one time.[23] Our comparison of VHA's current cost-estimating guidance with the 12 steps outlined in figure 1 above found

[23]As mentioned previously, we are referring to guidance on developing cost estimates as VHA guidance for purposes of this report.

that this guidance incorporated these steps to varying degrees,[24] but in some cases did not incorporate them at all. Specifically, VHA's Minor Construction guidance:

- fully or substantially met 3 of the 12 steps,
- partially met 5 of the 12 steps, and
- minimally or did not meet 4 of the 12 steps.

For example, VHA's guidance fully met the step to "obtain the data" because it requires a market survey that explores all factors that will affect the bid cost and collects valid and useful historical data to develop a sound cost estimate. VHA's guidance substantially met another step—"determine the estimating structure"—because VA's *Manual for Preparation of Cost Estimates and Related Documents* references other applicable sources.[25] For example, definitions for the "work breakdown structure"—which defines in detail the work necessary to accomplish a project's objectives—are available at VA's Cost Estimating website. On the other hand, the guidance minimally meets the step of identifying ground rules and assumptions because it does not specify, among other things, guidance for defining ground rules for estimating standards and assumptions about conditions for building the estimate, who should develop them, their source, or how and where to document them. Additionally, while VHA provides guidance for preparing budget estimates and using inflation factors that may affect construction and renovation

[24]Cost estimating guidance is included in *VHA's Minor Construction Handbook,* Department of Veterans Affairs, *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities* and the *Veterans Affairs Medical Center Unit Cost Guide*. The *Manual for Preparation of Cost Estimates* is a VA-wide document that VHA staff and contractors refer to in developing cost estimates. Our assessments of this guidance in comparison with the *GAO Cost Estimating and Assessment Guide* fall in the following categories:

Fully met: VA provided complete evidence that satisfies the elements of the step;

Substantially met: VA provided evidence that satisfies a large portion of the elements of the step;

Partially met: VA provided evidence that satisfies about half of the elements of the step;

Minimally met: VA provided evidence that satisfies a small portion of the elements of the step; and

Not met: VA provided no evidence that satisfies any of the elements of the step.

[25]*Manual for Preparation of Cost Estimates and Related Documents for VA Facilities.*

costs, the guidance does not describe sources, weaknesses, and related assumptions related to these inflation factors. (See table 2)

Table 2: Summary of the Extent to Which VHA's Minor Construction Guidance Incorporates the 12 Steps Needed to Develop a High-Quality, Reliable Cost Estimate

Step	GAO's overall assessment	GAO's detailed assessment
1: Define estimate's purpose	Partially met	According to the *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*,[a] the purpose of a cost estimate is determined by its intended use and its intended use determines its scope and detail. To determine an estimate's scope, cost analysts must identify the customer's needs. VHA's guidance[b] addresses identifying a project's needs. However, the guidance does not specifically state that an estimate must include a purpose or how that purpose should be defined. Additionally, the guidance vaguely refers to the elements of work to be estimated and is not specific as to the amount of detail the estimate should include.
2: Develop the estimating plan	Partially met	According to our *Cost Guide*, an analytic approach to cost estimates typically entails a written estimating plan detailing a master schedule of specific tasks, responsible parties, and time frames. Enough time should be scheduled to collect data, including visits to contractor sites to further understand the strengths and limitations of the data that have been collected. If there is not enough time, then the schedule constraint should be clearly identified in the ground rules and assumptions, so that management understands the effect on the estimate's quality and confidence. VHA guidance loosely describes the cost-estimating team and the timeline to develop the estimate. However, the guidance does not discuss the importance of planning sufficient time for the estimating effort or data collection. Further, the guidance does not describe the cost-estimating team's roles and responsibilities or identify responsible points of contact for cost-estimating team members' respective areas.
3: Define the program's characteristics	Partially met	According to our *Cost Guide*, key to developing a credible estimate is having an adequate understanding of the project that usually takes form in a technical baseline. A technical baseline should include a description of the project, define the requirements, and document the underlying technical and project assumptions necessary to develop a cost estimate and update changes as they occur. VHA guidance identifies technical and schedule information that the cost estimate should contain. However, the guidance does not describe how the estimate should be linked to a technical baseline. For example, the guidance does not describe how the estimate should be built from a document or set of documents, nor does it contain a common definition of the project—including a detailed technical, project and schedule description.

Step	GAO's overall assessment	GAO's detailed assessment
4: Determine the estimating structure	Substantially met	According to our *Cost Guide*, a work breakdown structure is the cornerstone of every program because it defines in detail the work necessary to accomplish a program's objectives. For example, a typical "work breakdown structure"[c] reflects the requirements, what must be accomplished to develop a program, details common elements, and provides a basis for identifying resources and tasks for developing a program cost estimate. VHA's cost-estimating guidance states that the cost model should be prepared to a "work breakdown structure Level 2" of the construction budget estimate construction cost at award. Guidance also states that VA has adopted the Tri-Service Modified Uniformat II[d] structure work breakdown structure—a standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada—and lists four levels of work breakdown structure elements. Furthermore, guidance also says that work breakdown structure definitions can be downloaded at VA's Cost Estimating website. However, the handbook specifically for managing Minor Construction projects does not contain any work breakdown guidance.
5: Identify ground rules and assumptions	Minimally met	According to our *Cost Guide*, cost estimates are typically based on limited information and therefore need to be bound by the constraints that make estimating possible. These constraints are usually made in the form of assumptions. It is imperative that cost estimators document all assumptions well and test them for risk to portray the effects of any assumptions changing, so that management fully understands the conditions the estimate was based on. Such documentation and analysis provides management with an invaluable perspective on its decision. Additionally, cost estimators must ensure that assumptions are not arbitrary and that they are founded on expert judgments rendered by experienced program and technical personnel. VHA provides guidance for preparing budget estimates and factors for construction and renovation costs. However, the guidance does not describe sources of the cost factors, weaknesses, and related assumptions for these factors. Further, VHA's guidance included no evidence for the definitions of ground rules and assumptions; who should develop them; where they should come from; and how and where to document all assumptions and methods, sources and level of detail.
6: Obtain the data	Fully met	According to our *Cost Guide*, credible cost estimates are rooted in historical data. Estimators usually develop estimates for new programs by relying on data from existing programs and adjusting for any differences. Thus, collecting valid and useful historical data is a key step in developing a sound cost estimate. One way of ensuring that the data are applicable is to perform checks of reasonableness to see if the results are similar. Guidance requires a market survey that explores all factors that will affect the amount of the bid and that collects valid and useful historical data to develop a sound cost estimate.
7: Develop the point estimate and compare to an independent cost estimate	Partially Met	According to our *Cost Guide*, this step pulls all the information together to develop the "point estimate"—the best guess at the estimate given the underlying data. This estimate includes the estimate's methodology, and validation process. VHA's guidance stresses the importance of a reasonable estimate reflecting a competitive market and addresses developing the point estimate and comparing it to an independent cost estimate. However, we did not find evidence of specific VA guidance to perform cross-checks on cost drivers to confirm that results are similar and to verify that calculations are accurate.

Step	GAO's overall assessment	GAO's detailed assessment
8: Conduct a "sensitivity analysis"	Not met	According to our *Cost Guide*, a "sensitivity analysis" should be included in all cost estimates because it examines the effects of changing single assumptions. Without sensitivity analysis, the cost estimator will not fully understand which variable most affects the cost estimate. VHA's guidance does not require a sensitivity analysis.
9: Conduct a risk analysis	Not met	According to our *Cost Guide*, quantitative risk and uncertainty analysis provides a way to assess the variability in the point estimate. Having a range of costs around a point estimate is more useful to decision makers because it conveys the level of confidence in achieving the most likely cost and also informs them on cost, schedule, and technical risks. VHA's guidance does not require a risk analysis.
10: Document the estimate	Minimally met	According to our *Cost Guide*, documentation provides total recall of the estimate's detail so that the estimate can be replicated by someone other than those who prepared it. Documentation also serves as a reference to support future estimates. Documenting the cost estimate makes available a written justification showing how it was developed and aiding in updating it as key assumptions change and more information becomes available. According to the *Cost Guide*, estimates should be documented to show all parameters, assumptions, descriptions, methods, and the calculations used to develop the cost estimate. VHA's guidance requires that supporting documents be submitted once a project is approved. However, it does not require all detail to be shown, including parameters, assumptions, descriptions, methods, and the calculations used to develop the estimate.
11: Present estimate to management for approval	Partially met	According to our *Cost Guide*, briefing management about how the estimate was constructed—including the specific details about the program's technical characteristics, assumptions, cost-estimating methodologies, data, sensitivity, risk and uncertainty—is necessary for management to have confidence that the estimate is accurate, complete, and high in quality. Furthermore, a cost estimate is not considered valid until management has approved it. The briefing should be clear and complete so that those who are unfamiliar with it can easily comprehend the competence that underlies the estimate results. VHA guidance vaguely describes the cost estimate's preparation and that a briefing should be included with the estimate. VHA's guidance does not completely describe the best practice of briefing management, or presenting management with information, on how the estimate was developed, including risks associated with the underlying data and methods. Moreover, the guidance does not state who should validate and approve the cost estimate.

Step	GAO's overall assessment	GAO's detailed assessment
12: Update the estimate	Substantially met	According to our *Cost Guide*, cost estimates must be updated whenever requirements change and the results should be reconciled and recorded against the old estimate baseline. The documented comparison between the current estimate (updated with actual costs) and the old estimate allows the cost estimator to determine the level of variance between the two estimates. In other words, it allows estimators to see how well they are estimating and how the program is changing over time. VHA guidance requires that cost data be submitted on the most up-to-date design information possible, including narrative of any late developments affecting cost. Guidance also requires that the cost model be adjusted to reflect design decisions as design progresses. Further, for each subsequent market survey submission, guidance requires that updated information be shown as addenda to the preceding version, to reflect both original verbiage and new developments. However, guidance does not mention documenting lessons learned so that they are available for the next version of the estimate.

Source: GAO assessment of VHA's cost estimating guidance. | GAO-18-479

Note:

Fully met: VA provided complete evidence that satisfies the elements of the step;

Substantially met: VA provided evidence that satisfies a large portion of the elements of the step;

Partially met: VA provided evidence that satisfies about half of the elements of the step;

Minimally met: VA provided evidence that satisfies a small portion of the elements of the step; and

Not met: VA provided no evidence that satisfies any of the elements of the step.

[a]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs (Supersedes GAO-07-1134SP),* GAO-09-3SP (Washington, D.C.: March, 2009).

[b]The VHA's cost estimating guidance we reviewed includes two VHA documents and one VA document that VHA staff rely on to guide their cost estimating efforts—*VHA's Minor Construction Handbook, VA's Manual for Preparing Cost Estimates,* and the *Veterans Affairs Medical Center Unit Cost Guide.*

[c]"Work breakdown structure" defines in detail the work necessary to accomplish a project's objectives.

[d]Tri-Service Modified UNIFORMAT II is a standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada. The elements are major components common to most buildings. It enables a link of all phases of a building's life cycle—from facilities development through facilities management as a tool to control project scope, cost, time and quality.

VHA officials stated that they are currently updating both VHA's *Minor Construction Handbook*—the document that currently reflects VHA policy for the Minor Construction program and VHA's NRM directive.[26] They also said that they are considering how to work with VA's Construction and

[26]GAO has previously found that VHA is reviewing national policy documents to align with new policy definitions. Previously, VHA had a variety of documents, including handbooks and directives that had been issued as policy documents. GAO, *Veterans Health Care: Additional Actions Could Further Improve Policy Management,* GAO-17-748 (Washington, D.C.: Sept. 22, 2017). VHA officials indicated that, going forward, policy documents such as those that will govern the Minor Construction and NRM programs will be referred to as directives.

Facilities Management Office to incorporate cost estimating guidance in VA's *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities.*[27] Both VA and VHA officials initially explained that they thought that the 12 steps included in the *GAO Cost Estimating and Assessment Guide* applied to major acquisition efforts and projects and not to smaller projects such as VA's Minor Construction projects. However, the officials recently stated that they now understand the applicability of all the steps. VHA officials stated that they are considering how to revise VHA's cost-estimating guidance to address the 12 steps but did not provide specific details of their planned approach. VA expects to complete these directives by October 2018. According to VHA officials, although the new Minor Construction and NRM directives will not specifically incorporate cost-estimating guidance, they will refer to VA's *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities.* By revising the cost-estimating guidance to address the 12 steps in the *GAO Cost Estimating and Assessment Guide,* such as considering each project's scope and complexity, VHA would have greater assurance that its cost estimates for Minor Construction and NRM projects are reliable.

Cost Estimates for Projects We Reviewed Did Not Meet Most Characteristics of Reliable Estimates

We found that none of the cost estimates for the four projects we selected to review in-depth are reliable as they neither met nor substantially met all four of the characteristics of reliable cost estimates, as outlined in the *GAO Cost Estimating Guide*.[28] Specifically, a reliable cost estimate is comprehensive, well documented, accurate and credible, if it meets certain best practices. If any of the characteristics are partially, minimally, or not met, then the cost estimate cannot be considered reliable.

The four projects for which we assessed cost estimates were:[29]

[27]Department of Veterans Affairs, *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities,* (Mar. 8, 2011). VA's Office of Construction and Facilities Management developed this manual.

[28]GAO-09-3SP.

[29]According to VHA, the agency generally uses professional Architect/Engineering firms to produce construction estimates.

- *Columbia, SC:* a $9.9 million Minor Construction project to construct a parking garage,
- *Hines, IL:* a $57.8 million NRM project to replace the medical facility's central plant,
- *Kansas City, MO:* a $9.9 million Minor Construction project to construct a veteran's service center in the entrance to the medical facility, and
- *Seattle, WA:* a $22.4 million NRM project to upgrade the medical facility's electrical system.

Since construction has not been completed on any of these projects it is unclear how these cost estimates may reflect actual costs. For additional information on these projects, see appendix I.

See figure 2 and the descriptions that follow for information on our assessments of the cost estimates for these four projects.

Figure 2: Extent to which Cost Estimates for Projects We Reviewed Met Characteristics of Reliable Cost Estimates

Characteristics	Projects			
	Columbia, SC	Hines, IL	Kansas City, MO	Seattle, WA
Comprehensive[a]	Partially met	Substantially met	Substantially met	Substantially met
Well documented[b]	Minimally met	Partially met	Partially met	Partially met
Accurate[c]	Minimally met	Minimally met	Partially met	Minimally met
Credible[d]	Not met	Minimally met	Minimally met	Not met

Fully met · Substantially met · Partially met · Minimally met · Not met[e]

Source: GAO Analysis of VHA Information. | GAO-18-479.

[a]A cost estimate is considered comprehensive if it (1) accounts for all possible costs associated with a project; (2) is structured in sufficient detail to ensure that costs are neither omitted nor double counted; (3) documents all cost-influencing assumptions; and (4) documents all cost-influencing ground rules and assumptions.

[b]A cost estimate is well documented when (1) supporting documentation explains the process, sources, and methods, used to create the estimate; (2) the estimate contains the underlying data used to develop the estimate; and (3) it is adequately reviewed and approved by management.

[c]A cost estimate is considered accurate when the estimate is (1) not overly conservative or optimistic, (2) based on an assessment of the costs most likely to be incurred, and (3) regularly updated so that the estimate always reflects the project's current status.

[d]A cost estimate is considered credible when (1) it includes a sensitivity analysis; (2) a risk and uncertainty analysis was conducted; (3) major cost elements were cross-checked; and (4) an independent cost estimate was conducted.

[e]Fully met: VA provided complete evidence that satisfies the elements of the characteristic; Substantially met: VA provided evidence that satisfies a large portion of the elements of the characteristic; Partially met: VA provided evidence that satisfies about half of the elements of the characteristic; Minimally met: VA provided evidence that satisfies a small portion of the elements of the characteristic; and Not met: VA provided no evidence that satisfies any of the elements of the characteristic.

Comprehensive

The cost estimates for the Hines boiler plant, the Kansas City veterans' service center, and the Seattle electrical-system upgrade substantially met the comprehensive characteristic.[30] In contrast, the cost estimate for the Columbia parking garage partially met this characteristic. For example, although the Columbia project's cost estimate included most

[30]A cost estimate is considered comprehensive if it (1) accounts for all possible costs associated with a project, (2) is structured in sufficient detail to ensure that costs are neither omitted nor double counted, (3) documents all cost-influencing assumptions, and (4) documents all cost-influencing ground rules and assumptions.

costs and the work breakdown structure had an appropriate level of detail to ensure that cost elements were neither omitted nor double-counted, the estimate did not document all cost-influencing ground rules and assumptions.

Well documented

None of the projects fully met or substantially met the well-documented characteristic.[31] For example, while all four of the projects described the calculations performed and the estimating methodologies in sufficient detail, none of the four projects had documentation that provided evidence that the cost estimates were reviewed and approved by management. VA medical center officials in one location stated that the fact that VA paid for the estimate indicates that VA approved the estimate. Further, the documentation for the Columbia project and that for the Kansas City project lacked step-by-step descriptions of how the estimates were developed.

Accurate

None of the cost estimates fully met or substantially met the accurate characteristic.[32] Although the cost estimates for the four projects contained few, if any errors, the cost estimators did not document the source data used to develop the estimates or regularly update the estimates. For example, the Hines projects regularly updated the estimate during design but not after awarding the construction contract. However, the Columbia project did not update the estimate.

Credible

We found that none of the cost estimates met or substantially met the credible characteristic.[33] For example, some steps were taken to cross-

[31]A cost estimate is well documented when (1) supporting documentation explains the process, sources, and methods used to create the estimate; (2) the estimate contains the underlying data used to develop the estimate; and (3) it is adequately reviewed and approved by management.

[32]A cost estimate is considered accurate when the estimate is (1) not overly conservative or optimistic, (2) based on an assessment of the costs most likely to be incurred, and (3) regularly updated so that it always reflects the project's current status.

[33]A cost estimate is considered credible when (1) it includes a sensitivity analysis, (2) a risk and uncertainty analysis was conducted, (3) major cost elements were cross checked, and (4) an independent cost estimate was conducted.

check major cost elements for the Kansas City project to compare the estimate to an independent cost estimate, but a sensitivity analysis was not performed. Additionally, cost estimators for the Hines project did not perform a sensitivity analysis or risk and uncertainty analysis but did compare the project estimate to a separate estimate developed by the VA. The cost estimates for the Columbia and Seattle projects did not include any of the best practices associated with this characteristic.

As previously stated, VHA officials said they are considering how to revise VHA's cost-estimating guidance to address the 12 steps in the *GAO Cost Estimating and Assessment Guide*. Going forward, by incorporating the 12 steps in its cost-estimating guidance, VHA would have greater assurance that its future cost estimates are reliable.

VHA Is Addressing Some of the Challenges Medical Facilities Reported in Managing Projects, but Weaknesses in the Contract Modification Process Exist

VHA is Taking Actions to Address a Range of Management Challenges Stakeholders Reported

Medical facility staff we interviewed reported a number of challenges they face in managing Minor Construction and NRM projects locally, including challenges related to (1) VHA's bidding approach, (2) Minor Construction funding cap, (3) veteran owned small business set-aside requirement, and (4) staffing of contracting officers and engineering positions. VHA has begun taking action to address some of these challenges:

Bidding Approach: Staff from three of the seven selected medical facilities we visited told us that VHA's preference that medical facilities identify items of work to deduct when developing requests for construction bids – known as a "bid deduct" approach – is a challenge. (See sidebar.) For example, on one project, medical facility staff explained that to keep the construction cost within budget, they removed two elevators from the bid package. However, once a project element is deleted from the contract and or contract package with a bid deduct approach, according to agency officials, that element cannot be added

back even if the costs of other project elements are running less than anticipated as the project progresses. Staff stated that if this restriction did not exist and there were funds available within the budget for the project, they could negotiate with the contractor to see if they could add, for example, the elevators back to the project. Medical facility staff we spoke to stated that they believe the bid deduct approach results in VHA's getting less in project scope than originally planned when construction costs increase. One medical facility's staff noted that adding items later—known as a "bid alternative" approach—would be preferred as it would have a less negative impact on design and project scope than eliminating items with a bid deduct approach. With a *bid alternative* approach, VHA can add project elements into the project if other elements are running less than anticipated.

> In general, there are two approaches for developing a request for bids on a construction project; both of these approaches rely on a standard or "base scope of work." One approach, known as a "bid deduct" approach, identifies project components, such as the number of elevators or the finishes (e.g., type of flooring) that can be deducted from the base scope of work prior to awarding a contract to keep a project within a budget. The other approach, known as a "bid alternative" approach, identifies project components that can be added to the base scope of work depending on available funding.

Source: Veterans Health Administration. I GAO-18-479

To address this challenge, VHA's central office officials told us that they have begun taking steps to allow medical facilities to use the bid alternative approach that allows features to be added. In recent years, some medical facilities have requested and VHA has allowed—bid-alternative versus bid-deduct bidding approaches. VHA acknowledged that its guidance pertaining to bid alternatives and bid deducts can be confusing for medical facilities because the guidance is inconsistent. For example, VHA guidance recommends the bid alternative approach for NRM projects but encourages bid deducts for Minor Construction projects. As mentioned previously, VHA is currently updating the VHA's *Minor Construction Handbook.* According to VHA officials, the updated directive will allow the bid alternate approach for Minor Construction projects.

Minor Construction Funding Cap: VHA guidance requires Minor Construction projects to be "fully functional," standalone projects, with a

combined total cost of $10 million or less.[34] Staff from four of the seven selected medical facilities we visited stated that keeping Minor Construction projects under the $10 million cap is a challenge, given the scope, scale, and complexity of some of these projects. For example, staff from one medical facility stated that all of the project bids it received exceeded the cap for a Minor Construction project. As a result, the medical facility could not execute the initially planned scope of the project and needed to scale back the project to keep it within the cap, thus reducing its impact. When officials were asked why they didn't switch the project to a Major Construction project, the medical facility officials indicated that it takes a very long time to get funding for a Major Construction project so they opted to reduce the scope and proceed with a smaller Minor Construction project at this point in time.[35] According to one VHA official, the spending limit makes it difficult to modernize and renovate aging VHA facilities. VHA's central office officials acknowledged that overall construction costs increase if a medical facility builds a Minor Construction project and later finds that the project does not meet its needs and that the facility subsequently has to construct an additional project. Constructing two projects can result in additional design and construction costs as opposed to addressing the medical facilities' needs with one project.

To address this challenge, VA requested legislation to increase the maximum cost of Minor Construction projects from $10 million to $20 million as part of its 2019 congressional budget submission.[36] VHA's central office officials said that increasing the cap may require project management training for contracting and engineering staff to be able to handle the increased workload; however, VHA stated that a threshold

[34]According to VHA guidance, all Minor Construction projects must be certified fully functional and independent of any other project- or construction-funding sources.

[35]At the time of the evidence gathering and analysis phase of our audit, VA was required to submit a prospectus to the House and Senate Committees on Veterans' Affairs and the House and Senate Committees on Appropriations when it proposes to build, renovate, or acquire any medical facilities estimated to cost more than $10 million known as "major medical facility projects," This threshold amount was raised to "more than $20-million "in June 2018 by the VA Mission Act of 2018 (Pub. L. No. 115-182, §503, 132 Stat. 1393) (codified as amended at 38 U.S.C. 8104(a)(3)). According to VHA, this requirement contributes to the time required to obtain funding for these projects. Minor Construction projects are not subject to the same requirement.

[36]As discussed in footnote 2, the threshold for minor medical facility projects was effectively raised to $20-million in June 2018 by the VA Mission Act of 2018 (Pub. L. No. 115-182, §503, 132 Stat. 1393) (codified as amended at 38 U.S.C. 8104(a)(3)).

increase might lead to fewer projects overall, resulting in a lower volume of contracting actions that could, in turn, benefit contracting staff workloads.

Veteran-Owned Small Business Set-Aside Requirement: Medical facility staff raised concerns that relying on veteran-owned small businesses for design and construction work can increase costs compared to the commercial market. In general, VA is statutorily required to award contracts on the basis of competition restricted to veteran-owned small businesses, if it reasonably expects that at least two or more such businesses will submit offers and if VA can award the contract for that work at a fair and reasonable price that offers best value to the United States.[37] Staff at five of the seven selected medical facilities we visited cited concerns with the costs associated with this requirement. For example, medical facility staff in smaller construction markets with fewer veteran-owned small businesses expressed concern that there was not enough robust competition to obtain competitive bids. One medical facility engineer stated that some of these firms realize that there are few qualified contractors in smaller markets, allowing them to potentially drive up prices. Further, a 2017 independent assessment of VA's Minor Construction and NRM programs found that its procurement process to find qualified veteran-owned firms caused significant project delays in some cases.[38] For example, when medical centers find that no qualified veteran-owned firms are able to perform the work in the solicitation, they restart the bidding process, a step that can add months to the project's schedule, according to the assessment report. The report recommended a "cascading" approach that opens up bids for contracts to multiple types of small businesses at the same time, expanding the competition restriction until an appropriate number of qualified responses can be evaluated.

[37]38 U.S.C. § 8127(d).

[38]Booz Allen Hamilton, *Department of Veterans Affairs Minor Construction and Non-Recurring Maintenance Program Process Review*, (Maclean, VA: Mar, 3, 2017.) VA's Office of Asset and Enterprise Management (OAEM) contracted with Booz Allen Hamilton (Booz Allen) to undertake a process review of the Minor Construction and Non-Recurring Maintenance Programs. Booz Allen conducted interviews with stakeholders that support and implement the programs through planning, contracting, executing, and reporting activities and developed recommendations for process improvement. GAO did not confirm the extent to which VA implemented the report's recommendations.

VHA central office officials stated that they have heard concerns from medical facility staff regarding costs associated with the veteran-owned small business set-aside requirement.[39] However, officials stated that when the officials asked medical facility staff about the extent to which using veteran-owned businesses is an issue, project engineers were unable to provide evidence of increased costs associated with using these firms.

Staffing Challenges: Medical facility staff we interviewed identified two related staffing challenges at the medical facility and regional office levels—staffing levels and continuity of staff—that VHA is taking steps to address. First, staff at six of the seven selected medical facilities we visited stated that they do not have adequate staffing levels to manage complex Minor Construction and NRM projects, given the workload demands of the project engineers and contracting officers.[40] A regional contracting official at one location noted that lower-cost projects tend to have fewer problems, making them easier to manage, but higher cost projects are more complex and require greater involvement from contracting and engineering staff. VHA central office officials acknowledged that VHA contracting and engineering staff are stretched thin, resulting in less experienced staff managing complex projects. We have previously found that managing workloads is a challenge for some of VHA's acquisition workforce, which includes contracting officers and project engineers.[41] Specifically, we found that in some cases, workloads prevented contracting officials from pursuing an optimal acquisition strategy.

Second, medical-facility and regional-office staff indicated that VHA experiences high turnover among engineering and contracting staff; such turnover can lead to a lack of continuity of staff and ultimately to project

[39]We have ongoing work on how VA is implementing this requirement, which VA refers to as its Veterans First Contracting Program, following a 2016 U.S. Supreme Court decision that addressed the application of this requirement, *Kingdomware Technologies., Inc. v. United States*, 579 U.S. __, 136. Ct 1969 (2016).

[40]VA officials used the terms "project engineer" or "contracting officer's representative" when referring to the VA's medical facility engineering staff responsible for day-to-day management of a project. VA officials indicated that both terms generally referred to the same set of roles and responsibilities for VA Minor Construction and NRM projects. For purposes of this report, we will refer to this individual as the project engineer.

[41]GAO, *Veterans Affairs Contracting: Improvements in Polices and Processes Could Yield Cost Savings and Efficiency*, GAO-16-810 (Washington, D.C.: Sept. 16, 2016).

delays, given that new staff must get up to speed on a project. For example, a VHA contracting official at one site we visited told us that the project we reviewed had four different contracting officers assigned during the life of the project. Similarly, a VHA contracting officer from another region noted that high turnover exists among engineering positions in VHA. For example, the regional contracting official stated that three of eight medical facilities in this region experienced 100 percent turnover rate among engineers in the last couple of years. Medical facility officials we spoke to identified a number of reasons for the lack of continuity on some of the projects we reviewed including high workload demands, retirements, and people leaving the agency for higher paying positions. VHA central office officials confirmed that recruiting and retaining contracting officers and engineers have been challenges for VA in recent years, primarily due to competition for talent with other agencies and the 2017 federal hiring freeze.[42] One contracting official we spoke with noted that the high turnover of contracting officer and engineer positions could potentially lead to schedule delays and higher project costs.

In part, to help mitigate the staffing challenges, three of seven medical facilities we visited entered into interagency agreements with USACE to contract for and manage construction of the projects we reviewed. VHA's central office officials noted that while outsourcing with USACE is not common across the country for Minor Construction and NRM projects,[43] it is beneficial for medical facilities that have difficulties staffing a construction project internally. According to VHA's central office officials,

[42]On January 23, 2017, the President ordered a freeze on the hiring of federal civilian employees to be applied across the board in the executive branch. The order did not apply to military personnel or civilian employee positions whom the heads of executive agencies and departments deemed necessary to meet national-security or public-safety responsibilities. Presidential Memorandum, *Hiring Freeze*, 82 Fed. Reg. 8493 (Jan. 23, 2017). Upon the issuance of a memorandum by the Director of the Office of Management and Budget providing agencies guidance on fulfilling the requirements of the hiring freeze, the government-wide hiring freeze was lifted on April 12, 2017. Office of Management and Budget, *Comprehensive Plan for Reforming the Federal Government and Reducing the Federal Civilian Workforce*, Memorandum M-17-22 (Washington, D.C.: Apr. 12, 2017).

[43]In 2015, Congress passed and the president signed the Department of Veterans Affairs Expiring Authorities Act of 2015, the National Defense Authorization Act for Fiscal Year 2016, and the Consolidated Appropriations Act, 2016. Collectively, these three laws require VA to contract with other federal entities to provide full project management services for the design and construction of certain ongoing construction projects with a total estimated cost of $100 million or more—known as "super construction projects"—as well as all such construction projects Congress authorizes in the future. *See* Pub. L. No. 114-58, § 502, 129 Stat. 530, 537-38; Pub. L. No. 114-92, 129 Stat. 726, 1020 (2015); Pub. L. No. 114-113, 129 Stat. 2242, 2691-92 (2015), respectively.

USACE can speed up projects with additional manpower and technical expertise that medical facilities may not have. However, the officials noted that outsourcing with USACE to manage construction projects increases project costs since VHA must pay USACE for its services. According to a VHA official, this increase could potentially reduce a project's scope to ensure the project stays within its approved funding level.

VHA officials stated that the agency is also collaborating with the Office of Personnel Management to address challenges in recruiting and retaining engineering positions. Officials also stated that they are using VA's technical career intern program to identify and recruit new interns; officials hope these interns will eventually become full-time engineers within the agency. A regional contracting official also stated that the uncertainness of the appropriations process made managing workloads among contracting and engineering staff difficult. To address this, VHA piloted a program in which medical facilities' engineering staff can delegate contracting activities to VA's Office of Program Contracting Activity Central,[44] especially for surge situations. According to VHA, this program has worked well over the last couple of years and has been beneficial for staff managing Minor Construction and NRM projects.

VHA Faces Potential Challenges Processing Contract Modifications and Lacks Information and Target Time Frames to Better Manage This Process

Most construction projects require some degree of change during construction, and typically, organizations have a process to initiate and implement these changes through contract modifications.[45]

[44] VA's Office of Program Contracting Activity Central supports the administration's national acquisitions.

[45]A change to a project can occur for a variety of reasons, including errors in the project's design; unknown conditions at the project site (such as buried fuel storage tanks); or because medical center staff request a change.

Federal Acquisition Regulation § 43.103: Types of Contract Modifications
There are two types of contract modifications – bilateral and unilateral. A "bilateral" contract modification occurs when a supplemental agreement is signed by the contractor and contracting officer. Bilateral modifications are used to make negotiated equitable adjustments resulting from the issuance of a change order, among other things. A "unilateral" modification is a contract modification that is signed only by the contracting officer. For the purposes of this report, we are referring to bilateral contract modifications.

Source: Federal Acquisition Regulation I GAO-18-479

Officials at six of the seven medical facilities we visited stated that VHA's contract modification approval process, in their view, can be lengthy, indicating to them that improvement is needed. Medical facility staff we spoke with did not provide information on contract modification approval delays and the extent to which they are a problem, and as we discuss later, VHA's central office does not have administration-wide information on why contract modifications occurred and how long they took to process.

Although VHA does not have data on the processing time for contract modifications, staff we spoke to raised aspects of the process that they believe delay contract modifications. For example, according to medical facility staff at four of the seven sites we visited, one factor contributing to processing delays for NRM projects is that, as explained earlier, generally NRM projects are available for obligation for one fiscal year, and VHA is required to obligate in-scope changes for funds that are made available for a definite period in the year in which the contract was initially executed. Under VA policy, if a facility cannot obligate all funds allotted to it before the end of the approved fiscal year, the facility is to notify the Veterans Integrated Service Network well in advance so that such funds can be sent to another facility that can use them. Generally, contract changes that are within the scope of the original contract and that occur after the fiscal year in which the project was approved must be charged against the appropriation current when the contract was originally executed. According to VHA officials, due to the significant amount of 1-year funding VHA receives for NRM projects, the statutory requirement to obligate funding against funds made available when the contract was initially executed increases the length of time to process contract

modifications when VHA must identify if prior year "expired" funding is available.[46] For example, according to one contracting officer, since there are not contingency funds available for project increases, as discussed above, the Veterans Integrated Service Network and contracting officer must find unobligated funds from other projects—possibly in other medical centers—that may have cost less than expected. If funding is not found, they may make a request to the central office to obtain funds in the next fiscal year.

According to the officials, this is a laborious and lengthy process. For example, according to one medical facility staff, a $15,000 contract modification within the original scope of a NRM project can take 6 months or more to be approved by the region. As we discuss below, since VHA has not specified goals for how long it should take for contract modifications to be approved for Minor Construction and NRM projects, it is unclear how long it should take the regions to approve the contract modification.

In addition, staff at two medical facilities we visited told us that in their experience, USACE generally addressed contract modifications in a more reasonable time frame than VHA, thus avoiding delays. Specifically, medical facility staff stated that USACE required fewer levels of review than VHA when approving contract modifications. Further, medical facility engineers indicated that unlike VHA, USACE's engineers have warrant authority onsite.[47] The medical facility staff stated that in their view, this helps keep projects moving forward when unexpected changes occur. Medical facility staff we spoke with stated that they would like to have warrant authority onsite—either for engineering staff or onsite contracting staff—to approve contract modifications up to a certain amount more quickly. VHA Central Office officials acknowledged these concerns and indicated that they are looking into ways to expand warrant authority in the field.

[46]Account-closing procedures set forth in 31 U.S.C. §§ 1551-1558 provide that upon expiration of a fixed appropriation, the obligated and unobligated balances retain their fiscal year identity in an "expired account" for that appropriation for an additional 5 fiscal years. An adjustment to an existing obligation where the adjustment or contract change is a within scope price adjustment of the original contract must be charged against the appropriation current when the contract was initially executed.

[47]A warrant to contracting officers certifies that they are authorized to obligate funds on the government's behalf.

VHA's Central Office officials also noted that the time required to process a modification to a construction contract varies, depending on the size and complexity of the change but acknowledged that processing contract modifications is a challenge, given engineering and contracting workloads and the experience levels of staff at some locations. However, VHA officials lack specific information about the extent to which this situation varies and is an issue. In addition, a VHA central office official said that having some review of contract modifications that have not been approved, for example, for more than 60 days, could help assure that issues are addressed and needed modifications do not fall through the cracks.

VHA has a process for reviewing and approving contract modifications, but the central office does not

- collect information on how long contract modification are taking,
- specify target time frames for processing contract modifications for Minor Construction and NRM projects to identify contract modifications that may require additional attention and support,
- have a mechanism to monitor and review contract modifications that are taking an inordinate amount of time to be approved, and
- as discussed later in the report, collect information on the reasons for delays.

Federal internal controls indicate management should obtain relevant data from reliable internal sources in a timely manner so that it can be used for effective monitoring.[48] Further, federal internal-control standards state that management should define objectives in measurable terms so that performance toward achieving these objectives can be assessed. In addition, according to federal internal control standards, ongoing monitoring should be built into the entity's operations, performed continually, and be responsive to change. While VHA central office officials told us that regional offices track contract-modification-processing time frames for projects in their regions using spreadsheets, VHA lacks information on contract-modification-processing time frames at the central office. Thus, VHA is unable to monitor how it is performing in processing contract modifications and address the effect of delays. Without information and a mechanism to trigger higher-level reviews of contract

[48]GAO-14-704G.

modifications, VHA is at risk of unexpected cost increases and schedule delays occurring at locally managed VHA projects.

We previously found that VA's contract modification process for major construction projects lacked processing time frames, among other things.[49] In our 2017 report on VA Construction, we found that VA improved its process for managing contract modifications by establishing processing time frames.[50] For example, VA's *Contract Modification Handbook* for VA's major construction program now includes both interim milestones throughout the contract modification process and milestones for the total amount of time a contract modification should take to be processed.[51]

VHA's Ability to Monitor Its Minor Construction and NRM Programs Is Limited, and Its Plan to Address These Limitations Is Not Comprehensive

[49]GAO, *VA Construction: Additional Actions Needed to Decrease Delays and Lower Costs of Major Medical Facility* Projects, GAO-13-302 (Washington, D.C.: Apr. 4, 2013). In this report, we recommended that VA take steps to implement guidance to streamline its change order process. VA has since addressed this recommendation.

[50] GAO, *VA Construction: Improved Processes Needed to Monitor Contract Modifications, Develop Schedules, and Estimate Costs,* GAO-17-70 (Washington, D.C.: Mar. 7, 2017).

[51]VA, *Contract Modification Handbook for Resident Engineers in Field Offices: Appendix III: Modification Milestones (Version 1.0,* Aug. *29, 2013).*

VHA Primarily Uses Its Capital Asset Database to Monitor Medical Facilities' Management of Minor Construction and NRM Projects, but Some Data Are Inaccurate and Limited

VHA officials told us that their central office uses the Capital Asset Database as their primary method to monitor medical facilities' management of Minor Construction and NRM projects. For example, VHA's Office of Capital Asset Management Engineering and Support can use the database to compare obligations, planned and actual construction completion dates, and expenditures against the annual operating plan. Engineering staff at the local medical facility populate the database by completing a VHA monthly project-tracking report to provide updates on all their projects including milestones and budget. VHA officials told us that they use information from the database to conduct a monthly budget review in order to identify Minor Construction and NRM construction projects with problems and assess the progress of the annual capital construction plan.[52] We found limitations with the Capital Asset Database, and VHA concurred with them.

Inaccurate Data

Although the database is an important resource for VHA in overseeing its Minor Construction and NRM projects, our review of financial data within the database found data entry errors that make it difficult for VHA's central office to accurately monitor projects at a national level.[53] For example, we found projects that were listed incorrectly as complete when they were actually cancelled, and missing data on construction funding and completion dates. Of the 336 completed Minor Construction projects in the database, we found that the data showed that 234 projects were completed at or under budget, obligating less funding than initially planned for the entire project. However, based on our analysis of the data, it is not clear that these projects actually came in under budget. For example, one project that had a planned cost of approximately $4.2 million was listed in the database as complete and costing approximately $319,000. However, VHA officials told us that this project was actually canceled but was listed incorrectly in the database as complete, and the

[52]They also review other capital programs such as the major construction program.

[53]The capital assets data VHA provided included more than 7,190 completed and 1,360 ongoing Minor Construction and NRM projects.

costs incurred were for project design. We asked VHA officials about two other projects that appeared to have inaccurate data, and VHA officials told us that these projects were also listed incorrectly as complete, when they should have been listed as canceled. Federal internal control standards state that having reliable data free from error and bias is needed for effective monitoring and that such data should be processed into quality information to make informed decisions and to evaluate performance in achieving key objectives and addressing risks.[54] Without reliable financial data, VHA cannot monitor its Minor Construction and NRM programs appropriately and runs the risk of not having accurate information on its construction portfolio and understanding projects' overall costs.

Limited Project Information

The database does not contain data elements that identify the reasons projects cost more than initially planned, thus missing out on opportunities to identify potential project performance issues, improve project tracking, and ultimately improve program performance. According to information in the database, VHA spent approximately $86 million more than initially planned and budgeted for 112 out of 336 completed Minor Construction projects.[55] However, the database would not provide any project information on why these 112 projects went over their planned budget. For example, VHA officials told us that if a project was awarded for $4 million at construction and the final costs increased to $4.4 million or if the project took longer than expected, the database would likely not include any information on why the cost increased or the reasons for delays, unless information was entered by a local project engineer explaining these changes. VHA officials told us that the current narrative information in the database on the reasons for project cost increases or delays is often limited or missing because local project engineers are not required to enter this information in the database. VHA officials told us to fully understand why costs increased or project schedules changed, they would have to look at project files and information kept at the medical facility level and could not access this by reviewing the database at a central office level. For example, the database contains limited

[54]GAO-14-704G.

[55]We obtained VHA capital asset data for the period October 1, 2011, through July 31, 2017, from VHA.

information on contracting changes and their effect on project milestones and cost.

As previously discussed, officials involved with six out of the seven projects we visited told us that the contract modification process can be lengthy and can result in schedule delays and added costs for the projects, but they did not have information on the reasons contract modifications occur or the delays associated with them. VHA officials agreed that such information would be useful for monitoring its Minor Construction and NRM programs at the central office level. Federal internal controls indicate management should obtain relevant data from reliable internal sources in a timely manner so that these data can be used for effective monitoring.[56] Because VHA does not collect information on why projects cost more than initially planned, including information on contract modifications, it cannot accurately identify the source of performance issues to target any need improvements.

VHA's Plans to Update Its Database Address Data Inaccuracies and Limitations but Does Not Have a Comprehensive Plan for Doing So

VHA officials recognize the limitations with the Capital Asset Database we identified and told us that they are planning to update the Capital Asset Database to improve the data's quality, with the assistance of a contractor. For example, according to VHA officials, the VHA plans to improve the data accuracy by transferring financial data, including data on projects financial and contracting information such as key milestone dates, from other internal systems into the database. VHA officials said that this step will eliminate the need for engineering staff at a local medical facility to populate these fields in the database, reducing the potential for data entry errors. The updated Capital Asset Database should allow VHA's central office to better track the expenditure and obligation rate of projects to have a real-time understanding of projects' status, and to compare these projects to overall trends in a given year. For example, if projects at a certain point in a fiscal year have a low obligation rate compared to other projects, VHA will be able to better identify what is preventing the projects' ability to move forward. VHA officials told us this approach will allow them to target assistance for

[56]GAO-14-704G.

regions or facilities that are having difficulty obligating funding and moving projects forward.

VHA officials said their goal is to finish the upgrade that links the financial data to the Capital Asset Database by October 2018. However, VHA does not have a comprehensive plan for this effort. According to federal internal-control standards, an entity should formulate plans to achieve its objectives.[57] In addition, sound planning practices indicate plans should lay out what the plan is trying to achieve and show how these efforts would proceed including priorities and milestones to monitor and gauge the results.[58] Further, information-technology-planning practices call for agencies to assign roles and responsibilities to achieve the system's goals.[59]

VHA's written description of its plans to update the database—a high-level document prepared in response to our questions about VHA's plans—lacks information on milestones, how these efforts would proceed and roles and responsibilities for implementing the plan. By developing a comprehensive plan, VHA would be better positioned to upgrade its system to achieve its objectives within its planned milestones.

Conclusions

Given the roughly $1.2 billion VA requested for Minor Construction and NRM programs for fiscal year 2018, VA needs to manage these programs carefully to ensure that taxpayer funds are being used wisely and efficiently to support veterans' care. However, VA has room to improve its management of these programs. Most notably, it lacks important information needed to make sound decisions. Specifically, without incorporating sufficient guidance on cost estimates for projects in the Minor Construction and NRM programs, medical facilities staff cannot provide meaningful estimates of what it costs to maintain and improve medical facilities. Because VHA is currently updating the guidance for its Minor Construction and NRM programs, it has an opportunity to incorporate the 12 steps included in the *GAO Cost Estimating and*

[57]GAO-14-704G.

[58]GAO-17-5.

[59]GAO-04-49.

Assessment Guide and develop the kind of reliable estimates that are critical to the success of any program.

Additionally, VHA's medical facility staff stated that the contract modification process—changes to a project that occur during construction—takes too long. However, VHA does not have time frames for how long processing contract modifications should take nor a way to monitor the length of time or the reason contract modifications occur. Collecting information on how long contract modifications take to process at the national level could help identify the extent to which processing contract modifications is a problem across the administration. Further, establishing a mechanism to review modifications that take longer than a certain timeframe, e.g. 60-days to be approved could help ensure VHA addresses any potential problems with contract modifications. Additionally, VHA lacks information on why contract modifications are needed as well as why project costs increase and schedules are delayed for Minor Construction and NRM programs' projects because this information is not systematically captured in the Capital Asset Database. Without this information, VHA's central office lacks information needed to monitor the performance of its Minor Construction and NRM programs and cannot accurately identify the source of performance issues. Finally, VHA has inaccurate data on costs in its Capital Asset Database; such limitations make it difficult to monitor these programs. While VHA plans to update its Capital Asset Database to address data accuracies and limitations, without a comprehensive plan that lays out milestones and roles and responsibilities for achieving this update, VHA runs the risk of not achieving this update for use for fiscal year 2019. Until VHA completes an upgrade, the lack of accurate data and full information limits VHA's ability to monitor over $1 billion of Minor Construction and NRM program funding.

Recommendations

We are making the following six recommendations to VHA.

1. The Under Secretary for Health should work with VA's Office of Construction and Facilities Management to ensure that VHA incorporates the 12 steps in the *GAO Cost Estimating and Assessment Guide* in VHA's updated construction projects' cost-estimating guidance. (Recommendation 1)
2. The Under Secretary for Health should collect information on the time it takes to process contract modifications. (Recommendation 2)

3. The Under Secretary for Health should establish target time frames that trigger a higher-level review of contract modifications. (Recommendation 3)
4. The Under Secretary for Health should establish, at the central office level, a mechanism to monitor and review Minor Construction and NRM contract modifications that are taking longer than the established target time frame. (Recommendation 4)
5. The Under Secretary for Health should obtain information on cost increases, schedule delays, and reasons for contract modifications in its updated Capital Asset Database through requiring medical center staff to provide the information or another appropriate method. (Recommendation 5)
6. The Under Secretary for Health should develop a comprehensive plan that includes elements such as milestones and roles and responsibilities for updating VHA's Capital Asset Database. (Recommendation 6)

Agency Comments

We provided a draft of this report to VA for its review and comment. VA concurred with our recommendations and provided updated information, which we incorporated as appropriate. VA's comments are reprinted in appendix II.

We are sending copies of this report to the appropriate congressional committees, the Secretary the Veteran's Administration, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions regarding this report, please contact Andrew Von Ah at (202) 512-2834 or vonaha@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

Andrew Von Ah
Director, Physical Infrastructure Issues

Appendix I: Veterans' Health Administration Minor Construction and Non-Recurring Maintenance Projects GAO Visited

GAO visited seven projects. These projects are described below based on VHA project information.

Figure 3: Wm. Jennings Bryan VA Medical Center's Current Parking Situation

Wm. Jennings Bryan VA Medical Center, Columbia, SC

Project type: Minor construction

Project name: Construct parking garage

Estimated cost: $9.9 Million

Project summary: The purpose of the project is to construct a new parking garage structure. This project will provide a net gain of 418 parking spaces for the site that will address an on-site parking deficiency. The additional parking is expected to address an increase in clinic stops by providing parking close to hospital facilities.

Source: GAO. | GAO-18-479

Figure 4: Carl Vinson VA Medical Center's Boiler Plant Addition

Carl Vinson VA Medical Center, Dublin, GA

Project type: Non-recurring maintenance

Project name: Replace boiler plant/combined utility plant

Estimated cost: $14.5 Million

Project summary: The project will build a chiller plant addition to the existing boiler plant, which will create a combined utility plant that is more energy efficient, and will utilize renewable energy in the form of solar panels. The focus of the project is on creating overall energy efficiency, and correcting deficiencies and load problems in boiler and chiller plants.

Source: GAO. | GAO-18-479

Figure 5: Hines Boiler Plant Project in Construction

Edward Hines Jr. VA Hospital, Hines, IL

Project type: Non-recurring maintenance

Project name: Boiler plant replacement

Estimated cost: $57.8 Million

Project summary: The project will construct a new physical plant. The new plant will house four new boilers and an emergency diesel engine generator that will replace the current boiler plant that is 95 years old and does not meet VA security set-back requirements. The current physical plant flooded in 2010, which interrupted operations for several days and is still susceptible to flooding.

Source: GAO. | GAO-18-479

Figure 6: Iowa City Patient-Aligned-Care Team Addition

Iowa City VA Health Care System, Iowa City, IA

Project type: Minor construction

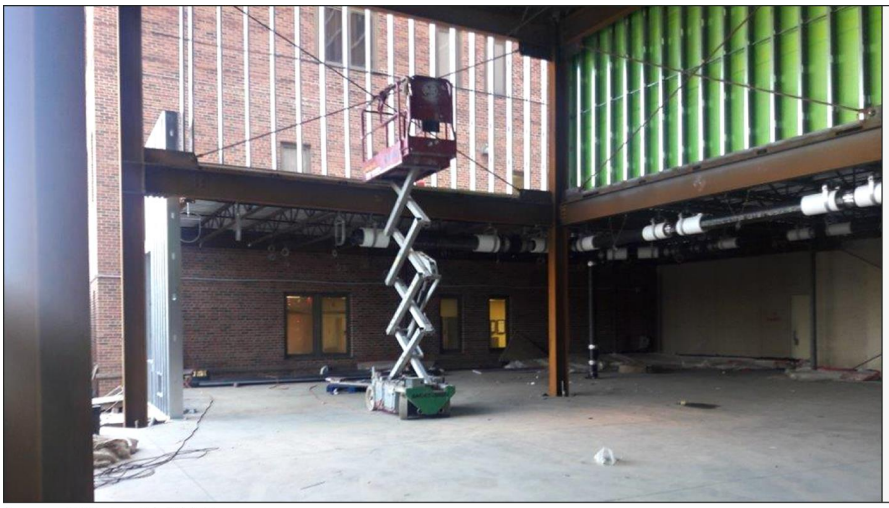
Project name: Expand building 1 for patient aligned care team, ambulatory care, radiology, egress stairwell addition

Estimated cost: $9.97 Million

Project summary: The project will provide a new 12,000 square foot treatment center that will provide 10 exam rooms, an emergency room with patient drop-off, and a trauma room. The new addition will allow for team based coordinated care and will put the Veterans primary care physician, case manager, nurse, and clerk in the same space.

Source: GAO. | GAO-18-479

Figure 7: Kansas City Veterans' Service Center Addition



Kansas City VA Medical Center, Kansas City, MO

Project type: Minor construction

Project name: Construct veterans' service center addition

Estimated cost: $9.95 Million

Project summary: The project will construct a new 10,000 square foot service center and renovate approximately 9,000 square feet that will provide primary care and specialty care rooms, mental health and transition support space, registration and intake, public restrooms, patient advocacy offices, and voluntary services support space. The new service center will allow for better flow and decreased congestion in the lobbies and hallways between patient clinics.

Source: GAO. | GAO-18-479

Figure 8: Seattle Electrical Upgrade

VA Puget Sound Health Care System, Seattle WA

Project type: Non-recurring maintenance

Project name: Upgrade electrical distribution

Estimated cost: $22.4 Million

Project summary: The project will replace electrical distribution switchgear and generators that are 29 years and in need of replacement with a higher voltage distribution system to match and integrate into newer distribution systems used elsewhere on campus. This project will install state-of-the-art electrical distribution systems in place including new higher voltage emergency generators to ensure electrical power during any electrical power interruption, which have become more frequent from the utility, and for any extended natural disaster.

Source: Veterans Health Administration. | GAO-18-479

Figure 9: Walla Walla's Specialty Clinic Facility

Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA

Project type: Minor construction

Project name: Construct specialty care clinic facility

Estimated cost: $22.4 Million

Project summary: Construction of a 20,700 square foot specialty clinic that will house dental, optometry, and audiology services. The project includes associated site work and utilities at the building site work location.

Source: GAO. | GAO-18-479

Appendix II: Comments from the Department of Veterans Affairs

DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON DC 20420

July 18, 2018

Mr. Andrew Von Ah
Director
Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Von Ah:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office's (GAO) draft report, ***"VA CONSTRUCTION: Management of Minor Construction and Non-Recurring Maintenance Programs Could be Improved"*** (GAO-18-479).

The enclosure sets forth the actions to be taken to address the GAO draft report recommendations.

VA appreciates the opportunity to comment on your draft report.

Sincerely,

Jacquelyn Hayes-Byrd
Acting Chief of Staff

Enclosure

Enclosure

Department of Veterans Affairs Comments to
Government Accountability Office (GAO) Draft Report
"VA CONSTRUCTION: Management of Minor Construction and Non-Recurring Maintenance Programs Could be Improved"
(GAO-18-479)

Recommendation 1: The Under Secretary for Health should work with VA's Office of Construction and Facilities Management to ensure that VHA incorporates the 12 steps in the GAO Cost Estimating and Assessment Guide in its updated construction projects' cost estimating guidance.

VA Comment: Concur. The Office of Capital Asset Management Engineering and Support (OCAMES) will work with the Department of Veterans Affairs (VA) Office of Construction and Facilities Management (CFM) to ensure cost-estimating guidance is updated in accordance with VA cost-estimating policy, and also incorporating the 12 steps in the GAO Cost Estimating and Assessment Guide, as applicable, and then referenced in VHA Minor Construction and Non-Recurring Maintenance Directives.

The Department has issued cost-estimating policy consistent with GAO's Green Book, establishing requirements and standards for a cost-informed decision structure at VA. The policy focuses on Life Cycle Cost Estimates (LCCE) for large programs, requiring that LCCEs be comprehensive, well documented, accurate and credible. This Departmental policy does not address cost estimating for specific Minor Construction or Non-Recurring Maintenance projects specifically; however, the updated guidance from VHA and CFM will follow this policy, where applicable, as noted above. Target Completion Date: October 2018.

Recommendation 2: The Under Secretary for Health should collect information on the time it takes to process contract modifications.

VA Comment: Concur. VHA's Office of Procurement and Logistics will explore with VA the possibility of modifying the Electronic Contract Management System (eCMS) to create a data element to capture when executable modification requests are received. If feasible, this would enable a dashboard where trending and timelines could be captured regarding the length of time it takes for contracting offices to execute construction contract modifications from the date an executable request for modification is received from the responsible program office. The target date to determine feasibility and potential implementation date is October 2018.

Recommendation 3: The Under Secretary for Health should establish target timeframes that trigger central office review of contract modifications.

VA Comment: Concur. VHA's Deputy Under Secretary for Health for Operations and Management will establish a mechanism for a higher level of review for construction modifications that have not been executed within 60 calendar days after the requested changes (which could include revised drawings) and cost estimates have been submitted to the supporting contracting offices. Construction modifications will be jointly

1

Enclosure

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reviewed by the Chief of Facilities Management or equivalent and a Supervisory Contracting Officer or Branch Chief on a bi-weekly basis. This would provide the proper level of oversight to assure that issues are addressed and needed modifications are timely. Target Completion Date: September 2018.

Recommendation 4: The Under Secretary for Health should establish, at the central office level, a mechanism to monitor and review minor construction and NRM contract modifications that are taking longer than the established target timeframe.

VA Comment: Concur in principle. The response is contingent upon capability to implement a national dashboard as described in Recommendation 2 or voluntary reporting by medical centers. VHA's Deputy Under Secretary for Health for Operations and Management will establish a mechanism for a headquarter-level review by the appropriate Network Contracting Office Director and Veterans Integrated Service Network Capital Asset Manager for construction modifications that have not been executed within 90 calendar days after the requested changes (which could include revised drawings) and cost estimates have been submitted to the supporting contracting offices. Construction modifications will be jointly reviewed on a bi-monthly basis. Target date for implementation is November 2018, for information voluntarily reported.

Recommendation 5: The Under Secretary for Health should obtain information on cost increases, schedule delays, and reasons for contract modifications in its updated Capital Asset Database through requiring medical center staff to provide the information or another appropriate method.

VA Comment: Concur. OCAMES is currently in the process of updating the Capital Asset Database (CAD) and will incorporate information on cost increases, schedule delays, and reasons for change orders as a required input field by medical center staff.

Additionally, VA's Office of Management recently established an Executive Tiger Team that will provide guidance and oversight on the execution for approximately 300 VHA Non-Recurring Maintenance (NRM) and Minor Construction projects funded under the fiscal year (FY) 2018 Infrastructure Plus-Up. The Team will incorporate the above-mentioned updates to CAD and utilize other existing databases and processes to help improve the tracking of these projects. The Tiger Team will also assist in ensuring this GAO recommendation is met by:

Enclosure

Department of Veterans Affairs Comments to
Government Accountability Office (GAO) Draft Report
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- Creating a Minor and Non-Recurring Maintenance project database including planned baseline and actual project schedule, contracting, acquisition and cost data including milestones;
- Making recommendations on appropriate performance benchmarks;
- Developing and implementing a strong project monitoring system to inform management of at-risk facility projects requiring attention;
- Developing mitigation measures for projects with schedule delays or cost increases to ensure potential issues are worked as early as possible;
- Assisting with the execution of projects, to include assistance with development of project requirements, contracting, issue resolution throughout process; and
- Tracking project and overall program execution performance, and provide reports to senior VA leadership and to Congress.

VA's Office of Management is responsible for the establishment of the Tiger Team and carrying out the above bulleted actions. Implementation has already begun and VA expects them all to be fully in place by the end of August 2018. While the Tiger Team is focused on the projects under the FY 2018 Infrastructure Plus-Up, it is expected that some of the outcomes of that effort (i.e., resource allocation, issue resolution, process improvements) could be applied to a broader portion of the Minor Construction and/or NRM program in the future. Target Completion Date: October 30, 2018.

Recommendation 6: The Under Secretary for Health should develop a comprehensive plan that includes elements such as milestones and roles and responsibilities for updating VHA's Capital Asset Database.

VA Comment: Concur. OCAMES is currently in the process of updating CAD and has begun initial testing of improvements made. OCAMES will develop a comprehensive plan that will include milestones, roles, and responsibilities for updating CAD. Target Completion Date: October 30, 2018.

3

Appendix III: GAO Contact and Staff Acknowledgments

Contact

Andrew Von Ah, Director, Physical Infrastructure, (202) 512-2834 or vonaha@gao.gov

Staff Acknowledgments

In addition to the contact above, the following staff made key contributions to this report: Brian Bothwell; Antoine Clark; Cathy Colwell (Assistant Director); Juaná Collymore; Lynn Filla-Clark (Analyst-in-Charge); George Depaoli; Geoff Hamilton; Ed Laughlin (Assistant Director); Jason Lee; Nitin Rao; Malika Rice; Amy Rosewarne; Kelly Rubin; and Dave Wise (Director).

Appendix IV: Accessible Data

Agency Comment Letter

Accessible Text for Appendix II Comments from the Department of Veterans Affairs

Page 1

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Enclosure

Page 2

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(GAO-18-479)

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Page 4

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GAO's Mission

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