



PERSONNEL AND
READINESS

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

SEP 27 2016

The Honorable Thad Cochran
Chairman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr Chairman:

This final report (enclosed) is in response to Senate Report 114-57, pages 15-16, to accompany HR 2029, the Military Construction, Veterans Affairs, and Related Agencies Appropriations Bill, 2016, which requests that the Defense Health Agency (DHA) consult with the Department of Veterans Affairs (VA) on best practices in hospital design and construction, and, subsequently, to report to the House and Senate Appropriations Committees on the consultation.

The DHA, with the assistance of subject matter experts from the National Institute of Building Sciences, completed a seven-step process to fulfill this request. Through extensive research, interviews, and analysis, the team focused on five key best practices, which have been coordinated with the VA and Department of Defense officials. It is the DHA's intent to continue to share best practices and strengthen the partnership with the VA.

Thank you for your interest in our health care design and construction program. A similar letter has been sent to the House Appropriations Committee, and the Senate and House Subcommittees on Military Construction, Veterans Affairs, and Related Agencies.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Levine", written over a large, stylized, handwritten "P" or similar mark.

Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Barbara A. Mikulski
Vice Chairwoman



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SEP 27 2016

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Nita M. Lowey
Ranking Member



PERSONNEL AND
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UNDER SECRETARY OF DEFENSE
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WASHINGTON, DC 20301-4000

SEP 27 2016

The Honorable Mark Kirk
Chairman
Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
Committee on Appropriations
United States Senate
Washington, DC 20510

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Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Jon Tester
Ranking Member



PERSONNEL AND
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UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

SEP 27 2016

The Honorable Charlie Dent
Chairman
Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Sanford Bishop, Jr.
Ranking Member

Report to

House and Senate Appropriations Committees



Report on Department of Defense Best Practices in Healthcare Design and Construction

The estimated cost of this report or study for the Department of Defense is approximately \$ 491,000.0 . This includes \$ 475,000.0 in expenses and \$ 16,000.0 in DoD labor.

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Executive Summary

The Department of Defense (DoD), the Military Health System (MHS) Facility Shared Service (FSS), and the Defense Health Agency (DHA) Facilities Division (FD) welcome the opportunity to provide this report to Congress on best practices in DoD healthcare design and construction. In order to provide an objective, third-party evaluation of both industry and federal best practices, and to complete the task as prescribed, DHA has developed this response with the assistance of contract support from the National Institute of Building Sciences (NIBS). In coordination with the Department of Veterans Affairs (VA), MHS FSS officials also offer continued post-report consultation and dialogue with VA and their design and construction **Agent(s)** (most recently the U.S. Army Corps of Engineers, referred to in this report as USACE).

This initiative was requested by Senate Report 114-57, pages 15-16, to accompany H.R. 2029, Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2016, dated December 16, 2015.

Several collaborative steps were taken by DoD and VA officials in conducting this effort, along with a comprehensive review of government and consultant reports, studies, ongoing projects, and legislation. Analyses of interviews and documents are outlined in the report, and a complete listing is included as a bibliography. Recommendations based on consultation with VA officials are also included as part of this effort.

In conducting research on best practices (in both the public and private sectors) the report team found several essential elements that must be in place and highly functioning for success in federal or commercial construction. The attributes outlined below contribute to any organization's facility program success and can be considered not only best practice in government, but also in industry.

Essential elements of success include:

1. A well administered, **owner**-led organization with a single executive in charge;
2. Business operating principles that govern all aspects of facility life-cycle management;
3. An industry-aligned financial model that provides a basis for sustainment and investment;
4. A cadre of experienced leaders and professionals that control, oversee, and manage facility investments, transition, facility operations, and organizational change; and
5. Competent and reliable acquisition program and project management, led by trained **users** and experienced design and construction **Agents** acting on the **owner's** behalf.

Incorporating these elements successfully, the MHS FSS¹ operates a life-cycle oriented, shared-service business model responsible for managing a large, technically complex, globally-deployed facility portfolio.

¹ The Facility Shared Service (FSS) as part of the MHS is the collaborative team made up of the DHA FD (**owner**) and the three Service Surgeons General facilities staffs (**users**); see Revision 1, Coordinated Concept of Operations (CONOPS) DHA Facilities. In acquisition, the **Agents** are added.

Many best practices in federal facility management are notably different than those in the private sector. DoD, and more specifically MHS, is a publicly-funded, appropriations-driven federal program management activity that supports a health system and is bound by certain federal limitations and competitive restrictions. Private health system entities are, for the most part, profit-driven and do not operate with the same set of business rules used in federal program and acquisition management. In some cases, MHS FSS practices are superior to the private sector due to organizational maturity, leadership, design and construction criteria, and long history of management of a large and complex facility portfolio. Implementation of World Class Facility standards² by MHS FSS is a direct integration of private sector tools, practices, and industry partner capabilities in design, construction, and sustainment. Many of these standards jointly serve private sector health systems. This report focuses on the essential elements in the MHS FSS where leading organizational, operational, financial, and leadership attributes allow them to achieve program success.

The MHS FSS is mindful of the need to keep pace with changes inherent in a constantly evolving health care system. They are, by necessity, also evolving and should not be considered mature. By policy and practice, the MHS FSS strives for improved efficiency, cost management, and standardization, exemplifying a learning organization cognizant of the need for continual business process improvement and organizational fine-tuning.

This report will further articulate these collective success elements and illustrate consultative measures taken by DoD with VA to execute the tasks in the Congressional Committee request.

² *Strategy Drives Function and Form: Pursuing a World-Class System for Health*, Independent Review Panel on Military Medical Construction Standards, Federal Advisory Committee Final Report, September 10, 2015.

Background

This initiative was requested by Senate Committee Report 114-57 to H.R. 2029, Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2016, dated December 16, 2015, which reads in part:

Defense Health Agency. The Defense Health Agency [DHA] employs a comprehensive approach to hospital construction, working closely with the military services and monitoring the process as military hospitals are planned, built, maintained, and replaced. Military hospital construction projects are managed by the Army Corps of Engineers or the Naval Facilities Engineering Command [NAVFAC], both of which have extensive experience and expertise in managing large construction projects. DHA consults with the Corps and NAVFAC throughout the planning, design, and construction phases of a project to help manage project execution and change orders. Notably, DHA also accepts input from clinicians early on in the design process, but maintains control of the project after that point, which serves as a limiting factor on costly and time-consuming change orders. The close coordination among DHA, the Corps of Engineers, and NAVFAC enables DHA to more efficiently manage the design and construction of large-scale medical facilities, while containing cost and schedule overruns. Given the massive cost overruns and lengthy delays in recent Department of Veterans Affairs' hospital construction projects, the Committee directs DHA to consult with VA on best practices in hospital design and construction. Further, the Committee directs DHA to submit a report to the Committees on Appropriations of both Houses of Congress within 180 days of enactment of this act regarding steps DHA has taken to fulfill this directive.

In anticipation of fulfilling the requirements of this request, DHA FD officials established liaison in early Fall of 2015 with VA officials in the Office of Acquisition, Logistics and Construction, specifically the Office of Construction and Facilities Management (CFM). Formal liaison was established with CFM concurrent with the official publication of the legislation in December 2015.

As requested by the committee report, this report will focus on those best practices that the MHS FSS employs in its management of DoD's medical infrastructure. DHA FD routinely shares ideas and engages with commercial for-profit and not-for-profit health systems. Where feasible, the MHS FSS includes the private sector's best ideas and practices into their criteria and business operations. Additionally, the MHS FSS has developed a set of World Class Facilities criteria in a web-based toolkit³ that relies on industry standards in applying evidence-based practices for new or renovated healthcare facilities.

³ <https://home.facilities.health.mil>

Approach

Subsequent to legislative enactment of House Resolution 2029, Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2016, dated December 16, 2015, several steps were (and continue to be) taken to fulfill the request as outlined below.

1. **Expectations:** Initial dialogue between DHA FD and VA CFM officials occurred in December 2015, and again in early January 2016, to establish the working group, goals, intent, schedule, and expectations on behalf of both organizations.
2. **Consultation:** DHA FD contracted for services of the National Institute of Building Sciences (NIBS⁴ at <http://www.nibs.org>) to assist both Departments in the development of an objective analysis of best practices in healthcare design and construction. NIBS provided subject matter experts in DoD and VA health facilities management to assist DHA and VA officials with the writing of the report and development of future consultative opportunities.

3. **Best Practice Definition:** As described in the committee report:
The Defense Health Agency (DHA) employs a comprehensive approach to hospital construction, working closely with the military services and monitoring the process as military hospitals are planned, built, maintained, and replaced.

The best practices in this report are based on those elements found in the MHS FSS that contribute to overall program success in managing its facility life-cycle portfolio. These best practices should not necessarily be considered industry-leading, unless specified as such, nor should they be considered best commercial practices, even though the MHS FSS does apply those practices where needed. These practices have been determined to be best for the MHS FSS as it operates within federal healthcare, based on an extensive literature review, stakeholder interview process, and the prior professional experiences of consulted expertise at NIBS.

4. **Research:** A comprehensive literature review was conducted on DoD and VA medical facilities programs by examining past and current legislation, studies and reports, organizations and structure, audits, and operating procedures related to this topic. A bibliography of relevant literature can be found at Appendix A.
5. **Interviews:** Fifty-eight interviews and information exchanges were conducted with government and private sector experts during January to June 2016. Official interviews were conducted with representatives from both DoD and VA offices, federal design and construction contracting **Agents**, Service Surgeons General facilities staffs, as well as industry health system **owners** and service providers. A list of interviewees is located at Appendix B.

⁴ NIBS is the authoritative source for federal facility management practices and technology and provides a professional forum for and link between federal agencies and the commercial building industry.

- 6. Analysis:** Based on the research and interviews, an analysis was conducted exploring the organizations, personnel, business-operating models, financial management, and field execution practices of DoD and VA facility programs in managing their respective infrastructures. Analysis was also conducted on the many previous studies, reports, consultant recommendations, and audits that benchmarked both DoD and VA against the private sector. A synopsis of process and organizational best practices found in the MHS FSS is provided in the Analysis section of this report.
- 7. Coordination:** Interviews and exchanges with VA and DoD officials are ongoing. The intent of DoD is to advance these ideas to assist both Departments in an effort to continuously improve capital construction processes as part of facility life-cycle portfolio management.
- 8. Conclusions:** Conclusions of best practices for further consideration in medical capital construction and facility life-cycle management are included in this report.

Healthcare Design and Construction Overview

Effectively Managed Projects Start with Well-Defined Requirements

While the Committee Report language requests “best practices in hospital design and construction,” there are two foundational activities that lead to a successful construction project in both the public and private sector: (1) *planning* and (2) *design and construction acquisition* execution. Both activities must be linked organizationally, professionally managed and overseen, fiscally controlled, and led by the **owner**, representing the needs of the health system. The DHA FD is recognized as the **owner** serving the Service Surgeons General as **users** in this construct.⁵

Origins of Shared Services in DoD Medical Facility Planning

As early as 1986, and subsequent to a Blue Ribbon Panel study on sizing of military medical facilities, there was recognition in DoD that a more consistent approach to developing requirements for new medical facilities was needed. Each of the Services planned, programmed, and executed facility projects with individual success but with wide variation. There was no coherent method to define system-level priorities and select projects for recommended funding and no entity with the ability to advocate for a program that would support the overall healthcare mission of DoD.

Findings of the Blue Ribbon Panel included:

- No consistent functional and design criteria across Services;
- Significant construction cost variation;
- Medical projects not comparable in cost, operations, scope, management, sizing, quality;
- Inconsistent cost models applied by Services and agents;
- No central management of a program;
- No centralized advocacy for priorities or defense of requirements;
- Military Construction (MILCON) based investment as the only approach; and
- Inconsistent planning assumptions used in each Service and market.

As a result, Service medical MILCON program planning and execution responsibilities and resources were consolidated at DoD in 1987, in a program management office as part of the TRICARE Management Activity. Consolidation of program management functions and expertise created the foundation for the current evolution to the Shared Service operation in the MHS today.

Develop the Requirement, Make the Case, then Decide

Successful construction begins with a well-articulated requirement. Requirements are generated during planning by a well-documented process capturing the “demand signal” generated by clinical and operational field entities. In the MHS, these come from the Army, Navy, and Air

⁵ See Coordinated Concept of Operations (CONOPS), Revision 1

Force medical departments, or from an analysis generated by elements responsible for management of the health system. After the requirement is vetted through a deliberate requirements analysis process managed by experienced field planners and corporate planning executives, the requirement is further developed, conceptually engineered, validated by experts, and prioritized through the Department’s Capital Investment Decision Model (CIDM). Results from the CIDM process are then vetted through Flag Officer oversight committees, which produce two fundamental parts of any requirement: (1) a fully developed articulation of the need and (2) a well-articulated investment decision support package. This decision-support protocol enables three-star and senior political leadership to make confident investment decisions. Following this deliberative planning and approval process, a clearly defined requirement is further planned along with detailed construction cost estimating involving the **Agents**, before entry into the Department’s budget request. As the requirement obtains Congressional authorization and appropriation, it moves by directive into project execution through DoD’s design and construction **Agents**.

The discipline found in the planning process managed by the FSS in creating a well-developed requirement enables a higher probability of success in construction execution. Requirement surety during construction is managed by well-trained **users** along with experienced, medical design and construction **Agents** acting on behalf of both the **owner** (DHA) and **user** (Services). The MHS FSS Value Proposition, Figure 1, includes administration of requirements development, approval, and project execution.

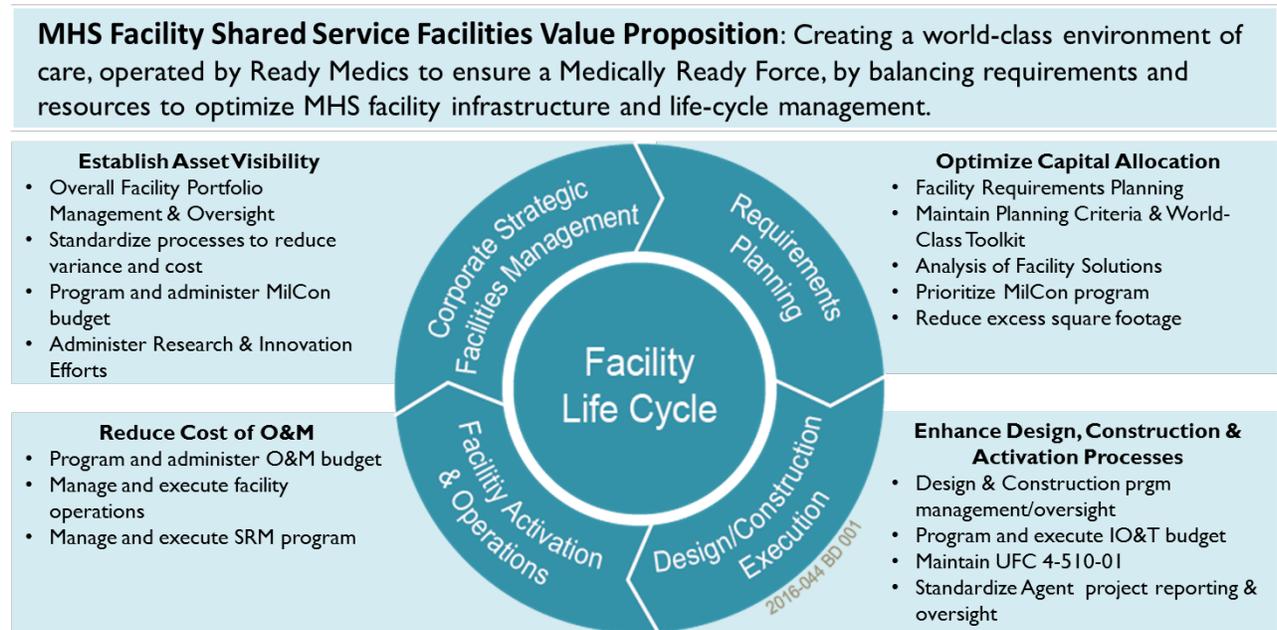


Figure 1 – Facility Shared Service Value Proposition in the Military Health System

Analysis

Analysis was conducted in two phases: a comprehensive literature review of DoD and VA studies and reports, and interviews with 58 leaders and officials from VA, DoD, and commercial healthcare systems. Results of this analysis informed the best practices and recommendations included in this report and will inform ongoing dialogue between the DoD and VA on healthcare facility life-cycle management. A bibliography of studies and reports is included at Appendix A.

Literature Review

Analysis was conducted on 23 reports and numerous studies on healthcare facility construction and maintenance. These references included Government Accountability Office reports, NIBS reports, findings published by independent consulting firms, Blue Ribbon Panel studies, Federal Advisory Committee recommendations, and internal reports released by VA and DoD. The team reviewed these reports to track recommendations on facility life-cycle management offered to both VA and DoD and to compare and benchmark federal health facility practices against the private sector. Study recommendations were then organized into two categories: Life-Cycle Elements and Business Domains.

Life-Cycle Elements include six categories: *Planning, Design, Construction, Outfitting and Activation, Operations and Maintenance, and Disposal and Resetting*. A further filter was used to organize recommendations into business operations categories of Portfolio/Asset Management or Project Management, indicating activities at the system or individual project level.

Analysis was also conducted in four Business Domains: *People, Processes, Technology, and Structure and Governance*. *People* describes recommendations that involved human capital management (such as training); *Processes* denotes a recommendation that involved policies, procedures, or business operations; *Technology* involved physical assets or tools including software; and *Structure and Governance* described authorities, charters, organizational alignment, and administration.

Analysis of the literature review found concentration in the major topics of: portfolio level management tasks and administration, business management processes, human capital management, and topics related to structure and governance. A great number of topics also involved recommendations for addressing and improving organizational culture and business operations.

While many, but not all, of these recommendations have been implemented over time, there is need for continued improvement. Analysis of these recommendations through the life-cycle lens revealed that the most opportunities for enhancing performance fall within portfolio and program management, operations and maintenance, and capital planning phases. Analysis through the business domains lens revealed opportunities to transform in the human capital, learning and development arena (people), as well as the policies, charters, and business operations arena (processes).

The recommendations from past studies indicate the breadth and depth of the many inter-related business tasks involved in successfully managing a large portfolio of technically complex medical facilities. These studies also suggest the level to which harmonized organizational structures and processes can help facility executives achieve organizational success. Overall, they illustrate the complexity and challenges inherent in medical facility planning, acquisition, and operations in support of an ever evolving medical business model.

Stakeholder Interviews

To supplement the findings of the literature review, the team conducted a series of interviews with 58 leaders and executives from VA, DoD, and commercial healthcare enterprises. These candid exchanges were essential in validating observations made in the literature review and in assessing ongoing efforts in facilities life-cycle management. The interviews helped identify best practices by evaluating their applicability, feasibility, and priority with industry experts. Interviews and information exchange details can be found at Appendix B.

Notably, the interview and information exchange process allowed the NIBS team to communicate the findings of the research to leadership at VA and DoD, further facilitating ongoing dialogue between the two departments and the **Agents** on best practices.

Reviewing the recommendations and how they have been implemented or applied, then conducting stakeholder interviews yielded an understanding of leadership and organizational maturity, operational strategy, information availability, business approach and administration, financial acumen, and staff expertise and effectiveness. Results from the interviews formed the basis for developing best practices found later in this report.

Overall Findings

There are No Perfect Projects

There is no formula for a risk-free, perfectly executed project. No program or project in either the government or private sector, especially in the acquisition of complex medical or research facilities, is ever without challenges that lead to alterations to scope, cost, schedule, and quality. There is inherent risk in any acquisition due to unforeseen conditions or omissions, which can lead to scope modifications and schedule and cost increases.

The level of sophistication of teams that are required to manage this complexity also plays a part in how effectively project execution is governed and managed. Project success is the result of multiple factors, including disciplined performance and accountability of the design and construction components of the team responsible for executing the project. Especially important are both the **owner's** focused commitment to clear articulation of the need and an organizational imperative to acknowledge change. This entails overseeing proper governance and accountable management conditions necessary for successful execution of the project, while embracing the inevitable changes faced by the team during planning, design, and construction.

The MHS has built a FSS that has organizational, fiscal, process, execution oversight, and management control over all parts of the facility life-cycle. While DHA FD (**owner**) as an organization does not execute all aspects of life-cycle management, the team members of the MHS FSS do, including designated **users** and trained **Agents** that serve the MHS. Again, conditions for success vary by project, teams, and constraints. Program and project oversight from DHA FD (**owner**) in collaboration with the **users** and **Agents** form the Shared Service team that apply disciplined management controls and help provide reasonable assurance of success in execution.

Effective Planning Pays Dividends in Execution – No Project before it's Time

Assembling an experienced team assigned clear roles and responsibilities with well-formed processes and World Class Standards are the keys to a successful project. Health system and facility planning begins in tandem with stakeholders at the market and **user** level, along with corporate **owner** staff. This team, working together, develops detailed, well-articulated requirements based on the demand generated by the needs of the system. Initial planning needs to be done deliberately, with trained staff at every step, in a well-coordinated sequence of events (business rules), before any requirement is approved as a project. Once that requirement is developed, confident investment decisions (cost, schedule, options, business case, operational expense, transition planning, outfitting, staffing) and operational trade-offs (make vs. buy) can be compared, and validation of the requirement can be conducted. When initial validation is complete, the requirement can be approved by leadership and prioritized for investment. Understanding that new clinical practice patterns, advancing medical technology, and consumer-driven shifts in the patient experience all add up to a dynamic healthcare landscape, a project team of **owner**, **users**, and **Agent** will constantly need to embrace flexibility and agility to deliver a successful project. Figure 2 depicts the life-cycle operating model used by the MHS FSS.

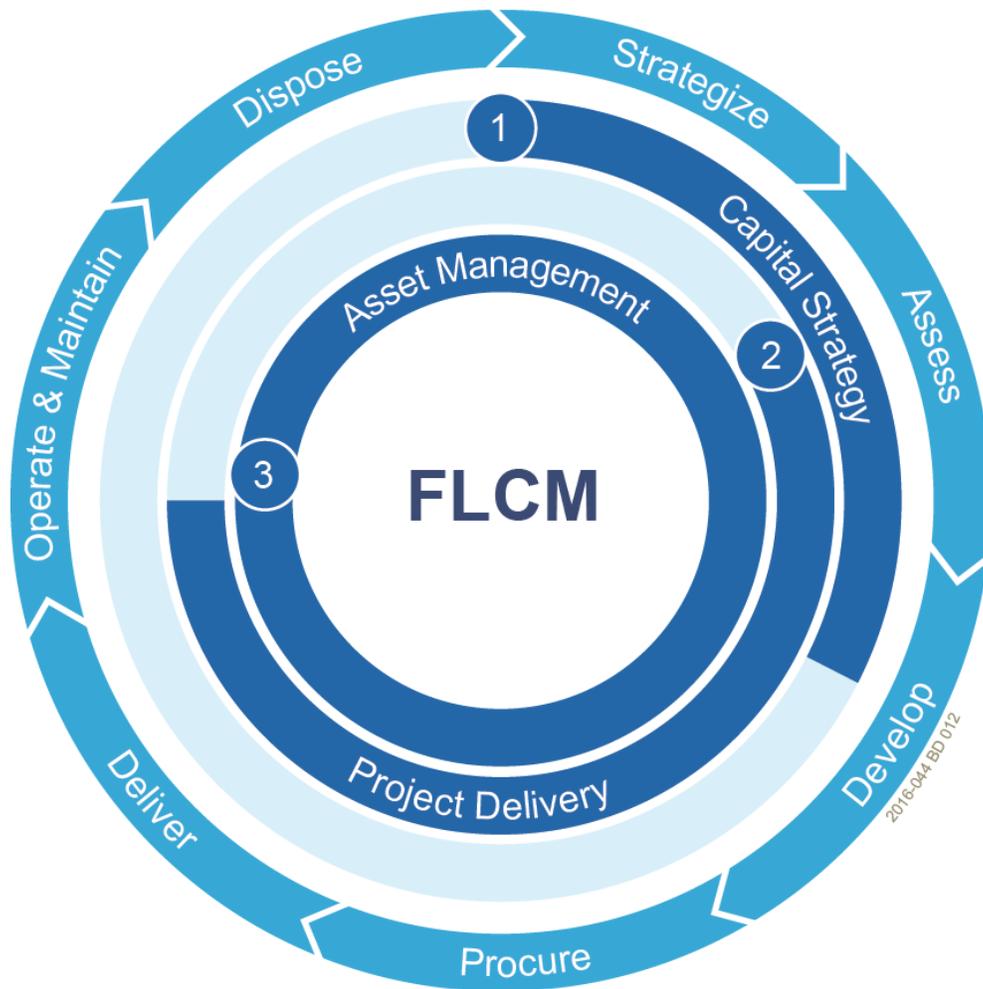


Figure 2 – Facility Life-Cycle Management (FLCM) considers the entire life-cycle of a facility, from its design, through its construction and operation, to its eventual disposal

At any step of the process (including design and construction), **owner** revalidation can and should be encouraged to ensure changes are incorporated as required and the decision to invest remains valid. Only after development by experienced staff, validation, prioritization, and approval does a requirement become a project. The MHS FSS operates a government best practice in the requirements planning and development process. This formalized approach is referred to as the Demand Signal process; demand signal generation and use is shown in Figure 3. Inherent in the management of the process is standardized documentation, business case analysis, cost estimates, and acquisition management approach, all viewed through the four lenses as shown. Additionally, the ability to stay flexible to manage change as it naturally occurs, not only during planning, but also in design and in acquisition, is inherent in the process.

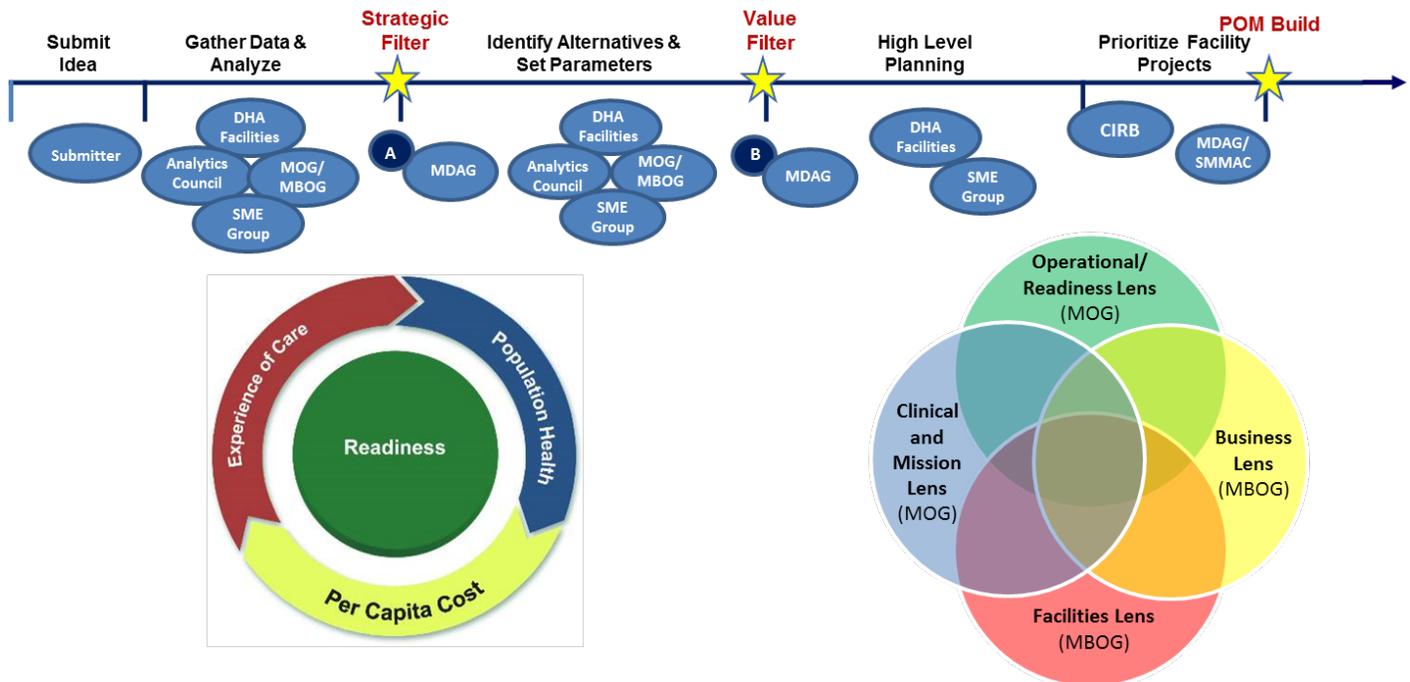


Figure 3 – Demand Signal Process Flow, Quadruple Aim, and Planning Lenses

Governed Roles and Responsibilities Help Maintain Project Execution and Fiscal Discipline

The requirement transitions to a *project* once the investment decision is approved by leadership, then authorized and appropriated. The same Shared Service systems approach used in planning (with well-formed processes and clear roles and responsibilities) also applies in project execution. Governance of project execution becomes more challenging during construction when a new set of experts joins the **owner** and **user** team to administer the acquisition, contracting, design, construction, and activation. These government **Agent** and industry design and construction experts are added as stakeholders to the execution team, thereby becoming part of the Shared Service.

The MHS FSS does not self-perform construction and, therefore, is required to use **Agents**. The organizational relationship between the DHA and **Agents** continues to evolve and improve as requirements change. The **Agents** cannot be effective without a corporate **user** interface in order to understand change and to help the team evaluate, manage, and decide on changes during execution. This disciplined relationship occurs both at the program level at DHA and in project oversight at the user level; it is essential to project success. Project success is dependent upon the **owner**, **user**, and **Agent** entities continuing to evolve together as the need for more and different kinds of facility-related services are identified to accommodate an ever-evolving MHS.

The success of the collective Shared Service (‘collective’ denoting the addition of the **Agents**) depends on experienced program and project oversight, project focused fiscal controls, disciplined change management, clearly understood roles and responsibilities, and timely and effective decision-making.

Oversight and Controls

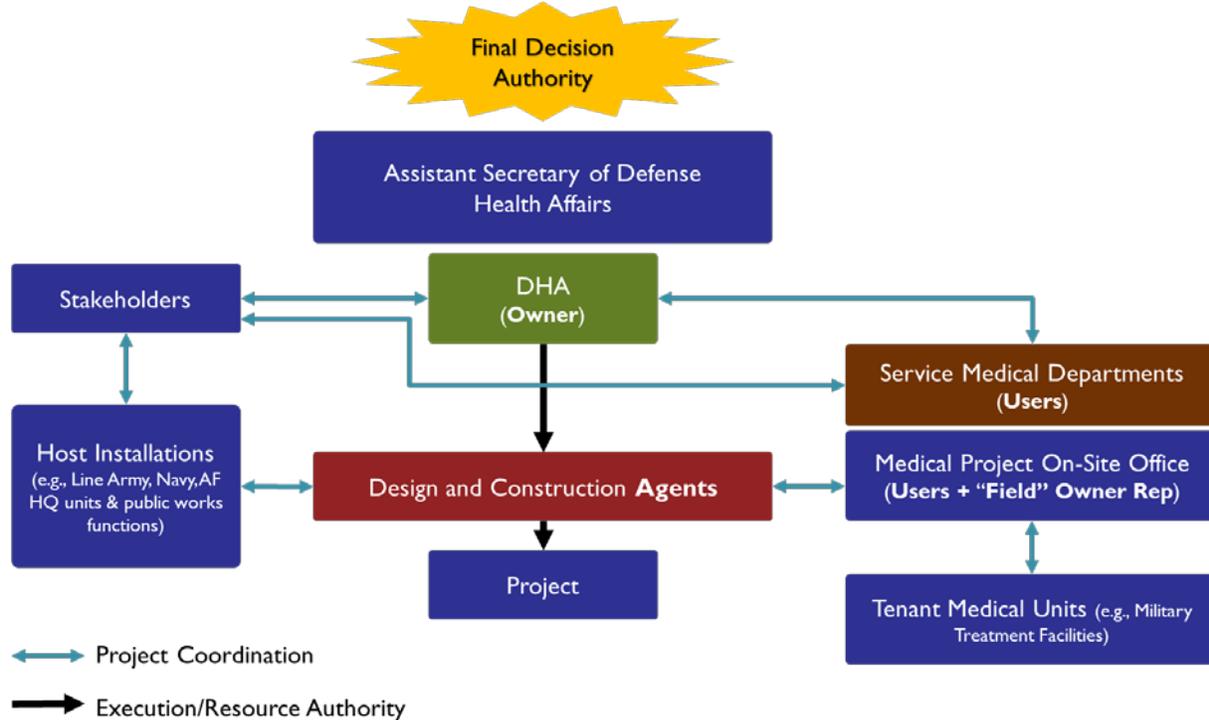


Figure 4 – Project Oversight, Authorities, Coordination, and Control

As part of overall program oversight, the collective Shared Service has mutually developed effective project controls. These controls ensure accountability through monthly status updates by the **Agents**, regular line-item reviews with senior leadership, change-order management and approvals, and continuous communication between DHA FD, Service **user** representatives, and **Agent** program management staff. This dialogue is essential, especially while trying to accommodate change. Figure 4 shows the flow of funds (authorization), the coordination points with stakeholders and users, and the authority of the owner on a typical project.

Corporate User Representatives are Essential to Program Success.

As part of the MHS FSS, a well-trained and experienced **user representative** is responsible for both development and execution of the requirement on site. This life-cycle oriented activity is essential in the disciplined management of capital investments through the planning, design, construction, transition, training, outfitting, and operations of a new facility. This component is important to the MHS FSS success in managing the interface with design and construction **Agents** and contracted designers and builders during execution.

The Military Departments are responsible for development of a trained cadre of professionals in the Army Health Facility Planning Agency (HFPA), the Air Force Health Facilities Division (HFD), and the Navy Bureau of Medicine (BUMED) Health Facility Planning and Project Officer corps to ensure successful execution that supports operational requirements. These uniquely formed and highly trained facility planners are a team of clinical, operational, logistical,

biomedical, information technology (IT), training, transition, and design and construction professionals organized under each respective military service Surgeon General. They are the designated **user representatives**. Each respective **user** group has been conducting this trained **user** interface function for over 40 years as part of MHS facility life-cycle management. This corporate **user** leadership function is recognized not only in government but also commercially as an industry-leading best practice.

Figure 5 is a graphic depicting the roles and responsibilities of the DHA FD (**owner**), Services (**user**), and USACE and the Naval Facilities Engineering Command (NAVFAC) as **Agents** as part of facility life-cycle program support to the MHS.

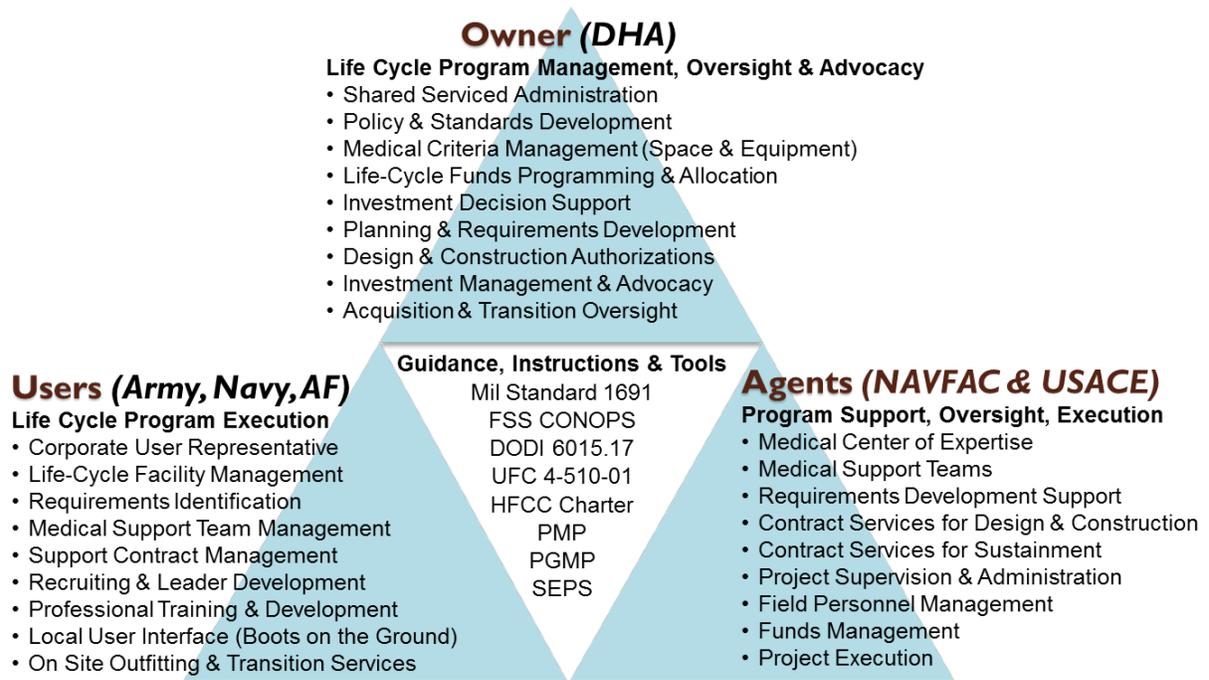


Figure 5 – MHS Facilities Shared Service Program Support Roles and Responsibilities

Best Practices

The DHA FD as **owner** has organizational, fiscal, process, program and project execution oversight, and management control over all parts of facility life-cycle management; however, DHA FD does not execute all aspects of life-cycle management. DHA FD, as part of the MHS FSS, has developed business rules and clear roles and responsibilities for team members of the Shared Service. Team members include designated **users** and experienced **Agents** serving the Shared Service in support of MHS enterprise and the unique Service medical missions.

Six industry-leading or government best practices account for the MHS FSS ability to manage capital investments successfully in medical facility design and construction. These best practices are necessary to conduct the business of operating an effective facilities life-cycle management program in support of the MHS.

1. Organizational Structure: Considered an industry best practice, any healthcare system requires an empowered, responsible executive designated as the **owner**, with a supporting organization managing and administering all aspects in the portfolio. The MHS FSS operates a collaborative organizational construct to serve in this capacity. The goals of the MHS FSS are to achieve standardization, improve performance, and deliver better value to the MHS. This system-minded approach at the portfolio (or program) level has a clearly defined “one-stop-shop” management and oversight responsibility, with one responsible executive identified as **owner**. The concept of **owner** is well understood in industry and plays the key role in any commercial or government design and construction transaction.

The MHS FSS is but one of ten Shared Services in support of the MHS mission. The concept of operations for the MHS FSS, organized as shown in Figure 6, was developed in response to organizational streamlining as part of a larger MHS governance effort. Other MHS shared services include: Procurement, Health Plan Management, Pharmacy, Public Health, Research Development and Acquisition, Health IT, Education and Training, Logistics, and Budget and Resource Management.

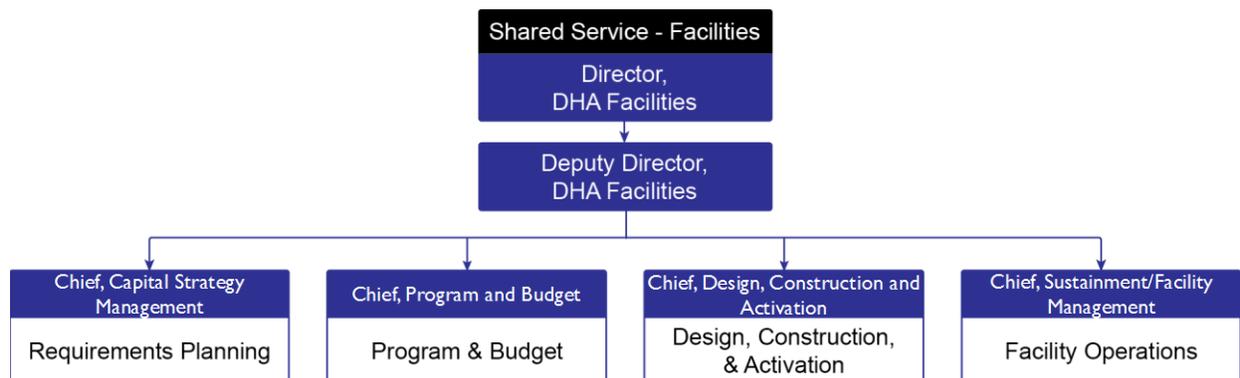


Figure 6 - Defense Health Agency Facilities Division with Key Functions

2016-044 BD 011

Best Practice: Develop and Manage a Shared Service

DHA considers operating under a Shared Service concept with one senior official to direct all life-cycle facility related operations to be a best practice. Shared Services should have a disciplined governance mechanism that supports continuous improvement of criteria, decision-making, mission support, and life-cycle investment management.

Additional features are a chartered governance forum, life-cycle oriented business operating rules, roles, and responsibilities, and a governance structure that supports the business of internal client service and support.

2. Operating Model: Considered a government best practice, the MHS facility life-cycle management program is sanctioned by the authority of DoD Instruction (DoDI 6015.17), which outlines a medical facility life-cycle operating model and articulates roles and responsibilities for process participants at all levels. This Instruction outlines authorities and decision-making responsibility for investing in and sustaining the MHS infrastructure. As part of overall Shared Service governance, the MHS has established a disciplined approach to operation of the Shared Service with a formal charter, a governance structure, and business rules established by the Health Facility Executive Council. Business operations of the Shared Service are further maintained under its Health Facilities Coordinating Council (HFCC). These business councils are comprised of executives and members from DHA and the Army, Navy, and Air Force medical services as **users**, and include the design and construction **Agents**. The HFCC employs various subcommittees responsible for developing and improving criteria and standards and for business process improvement as part of continuous improvement of the MHS Shared Service CONOPS and includes advisors and consultants from other Shared Services as well as from industry. The HFCC also directs engagement with industry and academia in order to improve World Class criteria and standards for the MHS. Figure 7 shows the high level⁶ organizational roles and responsibilities of the Shared Service across the life-cycle.

FLCM Product Lines (PLs)				
	Portfolio Management 	Requirements Planning 	Design, Construction, and Activation 	Facility Operations 
DHA	Maintain / analyze data Shape demand signal Identify gaps Coordinate contracts, research, training	MILCON requirements planning MILCON Prioritization Process (CIDM) RM Coordination	Design and construction on-site oversight for ROB & WRNMMC Program Management for MILCON Provide scope/cost direction and funding to Agents IO&T coordination MILCON Design Review	Program management for sustainment, RM, DMLSS, and asset performance
Develop standards and standardized process; track metrics MHS Facilities Budget / POM authority				
Services	Keep accurate inventory data	RM req. planning Provide facilities demand signal for capital investment	Design and construction for RM Owner/User role on design and construction Execute IO&T	Operate facilities Identify/execute operations & maint. programs and projects
Participate in developing standards and tracking metrics				

Figure 7 - Facilities Shared Service Roles and Responsibilities across Four Major Product Lines

⁶ More details are provided in CONOPS.

Best Practice: Operate a Life-Cycle Business Model

Another DHA best practice involves migrating all parts of the facility management portfolio under a life-cycle management operating model with a supporting organization focused on leadership development, training, research, and technology. Training should include skills of **owner** and **user** representative cadres along the lines of Army HFPA, Air Force HFD, and Navy BUMED Facilities.

3. Healthcare System Planning: Success on any construction project begins with a systems approach to overall healthcare delivery system planning. The MHS FSS has recognized that the investment in early, well-managed, deliberate, system-level planning is essential in managing the downstream acquisition activity. System-level planning mandates examination of the demand signal (Figure 3) through the four important system-level lenses: Clinical and Mission, Operational Readiness, Business, and Facilities. Significantly, system-level planning allows time for the development of alternative scenarios as options that may result in low- or no-cost solutions to satisfy the demand. Planners lead coordination of system-level inputs in order to create a durable and defensible requirement. Early planning with stakeholder and **user** involvement helps mitigate potential costly and disruptive “re-decisioning” later in design and construction (as change orders) when real investment has begun. The MacLeamy Curve, shown in Figure 8, illustrates the concept of value added during early planning against the cost of late decision-making. This curve shows a relationship between the ability to make changes in a project and the impact changes can have on a project at various stages of its life-cycle. The MHS FSS is moving the planning and information curve to the left, in order to better understand and articulate requirements as potential investments and to facilitate the process of proactively dealing with change during the development of the requirement.

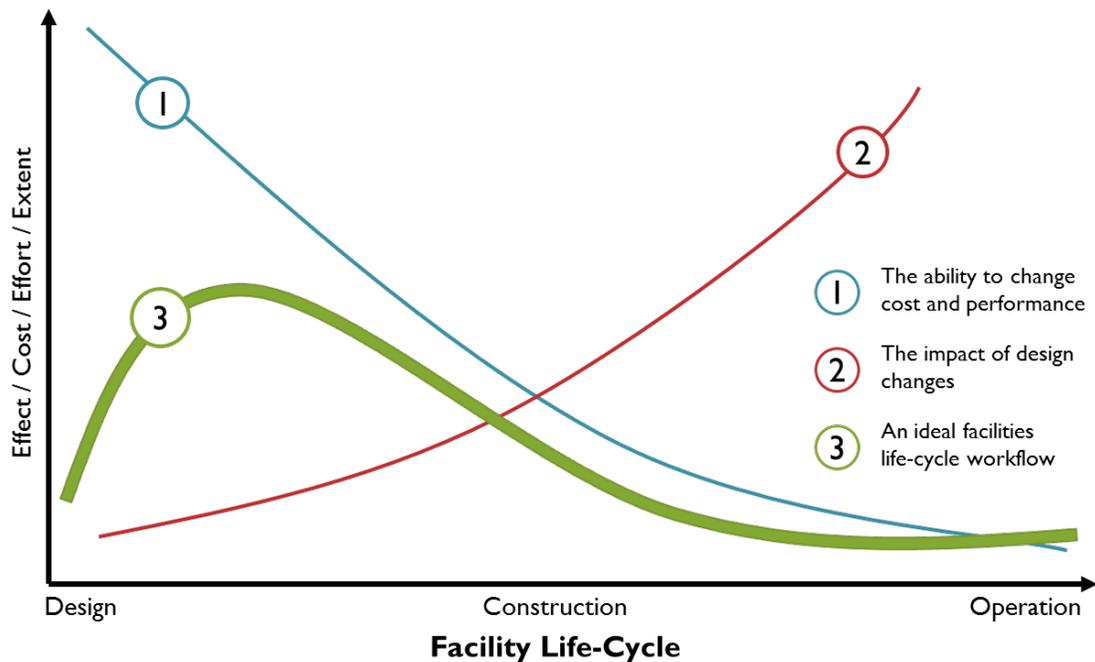


Figure 8 – The MacLeamy Curve

Best Practice: Build Health System Planning Capability

Another DHA best practice involves developing both the processes and expertise to invest in planning as a core business led by a Headquarters (HQ)-level team of qualified system planners, including clinicians, IT specialists, facility planners, biomedical equipment specialists, contracting officers, and construction managers. Health system planners must produce well-developed requirements for decision-support and acquisition-ready projects.

4. Resourcing Model: Appropriate resources necessary to maintain and reinvest in DoD infrastructure are driven by two medical facility-specific financial models that are considered an industry best practice. The DoD’s Facility Sustainment Model and the MHS’ Restoration and Modernization Model are infrastructure-focused fiscal programming tools that apply industry benchmarks for sustainment and recapitalization of DoD infrastructure. Programming, using these models, has been modified for the unique requirements of highly complex medical and research facilities and is applied as a budgeting tool for all facility life-cycle requirements. It is dependent on having complete asset visibility and facility conditions in order to assist in evaluating budget and execution priorities. Using the DoD Facilities Sustainment and Modernization (FSM) model, supplemented by the MHS Facility Restoration (RM) model provides a reliable, predictable flow of funds to address sustainment and recapitalization needs systematically. Use of the combined FS&RM models has improved the overall condition of MHS assets by ensuring that funds are available for proper maintenance and code compliance in the MHS health and research facilities.

Budgeting and oversight for facility needs in support of the MHS is centrally managed by DHA FD. Execution is decentralized to the Service medical departments with support from the design and construction **Agents**. The MHS FSS also centrally programs and oversees execution of outfitting, equipping, and transition into new and renovated facilities, which the MHS terms Initial Outfitting and Transition. As other essential parts of life-cycle management, programmatic control and operational standardization have yielded a higher confidence in execution of outfitting and transition into new or renovated facilities. Standardized contract support, through the design and construction **Agents**, has improved coordination with construction and acquisition activities.

Best Practice: Develop an Industry-Based Resourcing Model

Another best practice involves developing a life-cycle focused financial model and budget programming tool similar to the DoD FSM, supplemented by the MHS RM, customized to the unique conditions and facility inventory. A model should have a single source of truth in a well-established asset inventory based on complete asset visibility.

This also includes developing a comprehensive model for forecasting activations, outfitting, and transition needs in new and renovated facilities.

5. Corporate User Representative: The MHS FSS has developed business rules and established roles and responsibilities for executing facility planning and management using a “Boots on the Ground” concept for major construction projects. This MHS FSS distribution of work (see Figure 7) is accomplished through each Service Surgeon General’s designated

owner/user representatives. Consistent, capable, and highly trained facility **user representatives** in each Service manage the execution of life-cycle program elements, including demand signal identification, facility planning, design participation, transition management, initial outfitting, and facility management. This corporate **user** interface is essential to effective results on any project. As an integral part of MHS FSS, each of the three Service Surgeons General has built a health facilities planning and management capability. HFPA, HFD, and BUMED Facilities are all part of the MHS FSS. Each entity sets operational standards for their respective business unit (Army, Navy, and Air Force Medical Services) and executes investment (project) management and sustainment (facility management) of their respective infrastructures. This execution responsibility includes providing the MHS FSS with a qualified **user** workforce, professional career management and development, inherent capability to deploy expertise to support medical readiness, experienced planning and execution resources, and initial generation of demand signals according to local market demands. Each Service Surgeon General officially designates these organic entities as **user representatives** per the CONOPS⁷ and respective Service policy. They are led by a cadre of senior officials trained as **user** advocates for their respective Service operational missions.

Best Practice: Develop a “Boots on the Ground” Corporate User Representative

DHA also considers it a best practice to develop a life-cycle focused corporate **user** function that acts as primary technical, functional, and operational advocate for all facility planning, acquisition, activation, and facility operations.

This also involves building an activations program office as part of the corporate **user** function. This function could be modeled after the user experts: HFPA, HFD, and BUMED Facilities.

6. Experienced Program Support: The MHS FSS does not have internal organic contracting capability, therefore, it relies on designated design and construction **Agents** to support program execution through all program phases. For MHS FSS these **Agents** are primarily NAVFAC and USACE. Each of the **Agents** has developed a unique capability in response to DHA FD as **owner** and the Services as **users** in management of facilities in the MHS.

Each of the **Agents** supports the Shared Service by operating their program support under authority, funding, and direction of DHA. For DHA, this authority is one of the most important fiscal and program control mechanisms necessary to ensure adherence to budget guidance, scope and program limits, and change order management, especially on major construction projects. Figure 9 illustrates a generic form of a project governance structure that can be used in program and project support. This model ensures management alignment, open communications, a forum for issue resolution, and organizational accountability.

⁷ See Coordinated Concept of Operations (CONOPS) Revision 1

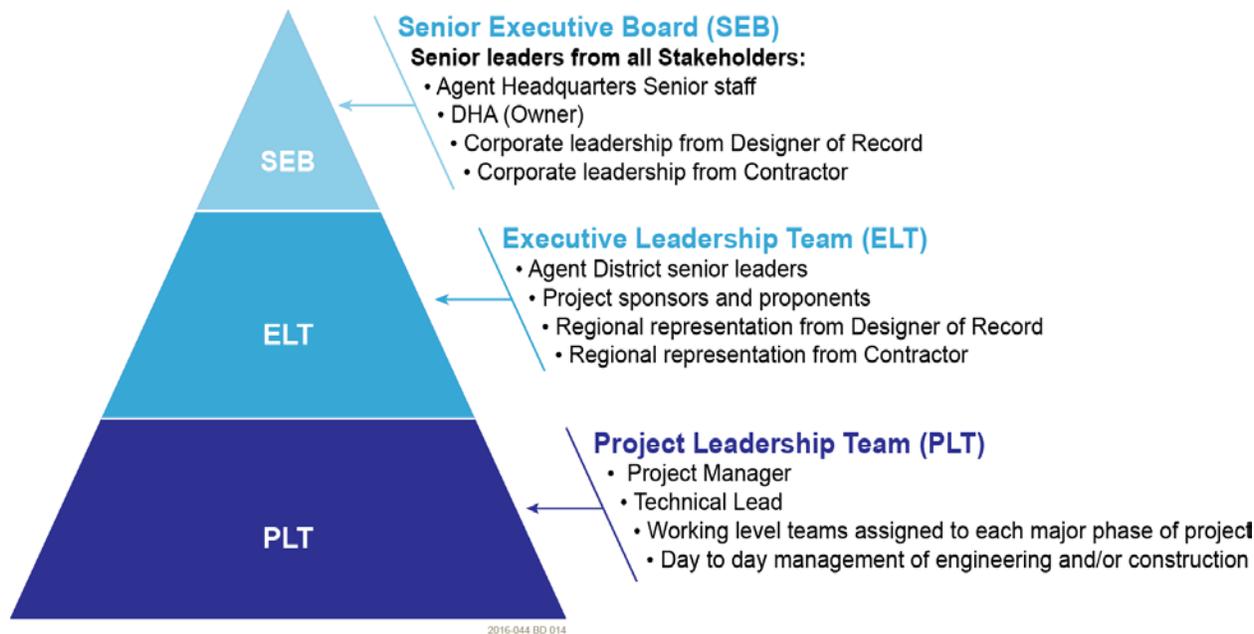


Figure 9 – Notional Project Governance Structure

Each **Agent’s** version of program support and execution oversight (in support of MHS FSS) has inherent strengths. Both **Agents** share a long-standing relationship with the MHS and have over time jointly developed a cadre of medical support personnel that is now part of Shared Services in execution. This aspect of program support is essential due to the unique code and regulatory requirements in medical facility planning, design, construction, and operations (i.e., facility management).

NAVFAC support is organized as a “one-stop-shop” model of the medical program support through their Medical Facilities Design Office located at NAVFAC headquarters in Washington, D.C. This function serves as a designated and dedicated **owner’s** representative. This powerful program support concept provides leadership for program execution organized under one leader at NAVFAC headquarters. This leadership applies consistent headquarters’ oversight for NAVFAC field activities, including funds management and control, change order management, design oversight, construction management oversight, and acquisition and contract activities. Similar to the MHS FSS, NAVFAC assigns a single responsible program executive. These are desirable characteristics in a program support function and can be considered a government best practice. DHA funds the operation of the program support function at NAVFAC.

USACE operates a more distributed model for both program oversight and project execution. Operating a distributed model for project execution, especially on large projects, has evolved to be highly dependent on available expertise at the District, Area, and Project level. Project and program control does not rest with one program executive as in the NAVFAC model.

In support of facility sustainment and operations, and with funding provided by both the DHA and Service Medical Departments, USACE has worked with the MHS FSS to develop Medical Support Teams (MSTs) and a Medical Center of Expertise that serve as technical consultants for program development and as expert consultants during project execution. Centralized, owner-

and user-led control and management of the MSTs has allowed the deliberate development of a cadre of medical program and project practitioners, as well as a mutual understanding of both client requirements and life-cycle support capability.

Other Program Support Best Practices

As part of this report, other examples of government best practices in support of unique and specialized clients were reviewed. The U.S. Intelligence Community (IC) enjoys exclusive, tailored program support in a USACE function called the RSFO (Real Property Services Field Office). This unique program support to the IC has characteristics similar to NAVFAC's support to the MHS FSS. Characteristics of this best practice include independent operating authority under USACE, single executive program leadership, specialized program knowledge, unlimited contract warrant, and life-cycle program and project management expertise. These characteristics are a government best practice and are a preferred option in designing effective program support.

Best Practice: Dedicated Facility Life-Cycle Program Support

Another best practice involves, as part of a shared service business operating model, developing proper business rules to engage design and construction **Agents**, both those in-house and those hired from outside. This support should be led by an executive, who is accountable to the **owner/user** and who leads a dedicated, trained, reliable, informed, and fiscally accountable program support function with authority over project and program controls.

This may also include establishing a combined, customized healthcare facility program support function resembling the NAVFAC and USACE/RSFO best practices model with the following characteristics:

- A single, dedicated program executive accountable to the **owner and user**;
- Dedicated, HQ-level account managers with authority;
- Program directors with medical experience responsible for field operations;
- Oversight and controls at both program and project level;
- Disciplined change management processes;
- Unlimited contract warrant with requisite legal and administrative experts;
- Expert medical and technical project managers that can be deployed; and
- Support for all phases of healthcare planning and medical facility life-cycle management.

Some elements or characteristics of ideal program and project support exist in both USACE and NAVFAC. Combining expertise to support both DoD and VA medical facility programs would allow shared expertise and potential program management economies. Tailored program support as described above would be considered a best practice if implemented.

Conclusions

DoD, more specifically the MHS, is a publicly-funded, appropriations-driven program management activity that supports a worldwide health system. As a federal entity it is bound by certain competitive authorities. The MHS FSS is a business entity and an organizational construct designed to manage the entire life-cycle of facilities support for the MHS and apply the best federal and industry practices in satisfying its mission.

Even though the shared service concept has been in place for only two years, elements of facility life-cycle expertise have been operating in DoD for well over 30 years. The MHS Shared Service continues to mature in support of a constantly evolving health system requiring a high degree of organizational adaptability to accommodate change. The FSS is also a learning organization that embraces a flexible approach in responding to the changing demands of the MHS and the U.S. health system writ large.

Key to the success of the FSS is the cadre of leaders, planners, clinicians, engineers, architects, logisticians, and technicians with a clear set of operating instructions and clearly defined roles and responsibilities. These experienced facility planners are focused in two major business areas: (1) disciplined system planning resulting in well-articulated requirements, and (2) management control of projects and facility operations once investments are identified and approved.

MHS FSS-sponsored studies conducted to improve business processes include: planning, accommodating change, evidence-based design, project management, information and technology management, project delivery, and facility management. These studies add to the body of knowledge and help the MHS maintain and improve World Class facility criteria. DoD also enjoys financial programming tools and an investment validation process that allows the MHS to invest the right resources where needed. Success in managing the total life-cycle of facility activities yields better requirements definition during the planning process and a higher degree of management confidence during execution. Program and project controls developed over time, along with program support from the **Agents**, have achieved success in program management and change order control during planning, design, and acquisition. Support continues to evolve in the provision of contract services and expertise for all phases of the life-cycle. On behalf of the Shared Service, the **Agents** hire industry's leading subject matter experts and design and construction firms qualified to conduct work for the MHS. The orchestrated involvement of **users** throughout the acquisition and outfitting and training process ensures a greater probability of success as the asset transitions to use.

There are major differences between the DoD and VA health system missions. Different patient populations, health benefit design, locations, operating methods, and infrastructure needs preclude a direct comparison of the two systems. There are also best practices worth noting in VA facility management that include a highly dedicated professional staff, excellent business processes, a government-leading leasing program, and a superior in-house engineering workforce.

The MHS FSS model for accommodating facility and infrastructure needs is not completely transferrable to VA, but certain elements of the MHS FSS model could be considered. These elements include: development of a corporate **user** (primarily in the Veterans Health Administration), development of a VA-specific financial model for infrastructure investment, and maturation of the VA relationship with their design and construction **Agents**. **Agent** program support to both DoD and VA could be designed to take advantage of program efficiencies, leadership, and expertise specific to their unique facility types.

The intent of this report is to identify best practices in managing a medical infrastructure, including the management of capital projects. It has provided both DoD and VA a shared learning opportunity with the prospect of continued dialogue between facility officials from both Departments. It is also an opportunity to include and involve their respective design and construction **Agents**, where that forum for improved mutual support may apply. As part of this dialogue, there may be value in establishing a joint **owner** forum (DHA FD & VA) with the design and construction **Agents**.

The Department and DHA FD look forward to further discussing best practices with VA. Continuing the dialogue is expected to benefit both DoD and VA and, more importantly, the Service members, dependents, and Veterans served by each system.

Best Practices Summary

There is no ideal state for excellence in federal facility program management, especially in large, geographically dispersed and complex portfolios. Both DoD and VA have the added complexity of serving the ever-changing health and research needs of their respective health systems, creating the need for a flexible infrastructure response. This dynamic constantly alters the demand signal through changing patient demographics, technology, medical practice, benefit design, and the provisioning of staff and services necessary to provide proper accommodation. The need for continuous assessment of the mission (planning) against the asset base (life-cycle management) drives the need for an organization that must continue to evolve and improve, based on changing needs for its facilities.

Planning for the system is the cornerstone for an effective facility life-cycle approach. Capital development is an important and intense activity, but is only one part of facility management. To get ahead and stay ahead, an organization dedicated to planning for the system is essential for success. Disciplined planning improves understanding of the dynamic nature of accommodation of the needs of the system, not just facility needs. Managing system requirements as potential investments helps leadership focus on better investment decisions that better serve their customers. Once decisions for investment are made, a well-trained and disciplined capital execution team can be employed to manage the acquisition, and then transfer that asset to use as part of its life-cycle.

Based on best practices identified in this report, the MHS FSS offers the following best practices in development of a business operation necessary to plan, design, build, and maintain a federal healthcare facility portfolio. They are arrayed in the priority considered most likely to ensure future success.

1. **Organization and Leadership**

A best practice includes reviewing current organizational construct and adopting a Shared Service concept with one senior official to direct all life-cycle facility related operations. Shared Services should have a disciplined governance mechanism that supports continuous improvement of criteria, decision-making, mission support, and life-cycle investment management.

2. **Governance**

A best practice includes developing a chartered governance forum, life-cycle oriented business operating rules, roles and responsibilities, and a governance structure that supports the business of internal client service and support.

3. **“Boots on the Ground” Corporate User Representative**

A best practice includes developing a life-cycle focused corporate **user** function that acts as primary technical, functional, and operational advocate for all facility planning, acquisition, activation, and facility operations. An additional best practice includes building an activations program office as part of the corporate **user** function. This function could be modeled after the MHS user representative organizations: HFPA, HFD, and BUMED Facilities.

4. Health System Planning Capability

A best practice includes developing both the processes and expertise to invest in planning as a core business led by a HQ-level team of qualified system planners, including clinicians, IT specialists, facility planners, biomedical equipment specialists, contracting officers, and construction managers. Health system planners must produce well-developed requirements for decision-support and acquisition-ready projects.

5. Industry-Based Resourcing Model

A best practice includes developing a life-cycle focused financial model and budget programming tool similar to the DoD FSM, supplemented by the MHS RM, customized to unique conditions and facility inventory. A model should have a single source of truth in a well-established asset inventory based on complete asset visibility. Another best practice includes developing a comprehensive model for forecasting activations, outfitting, and transition needs in new and renovated facilities.

6. Life-Cycle Business Operating Model

A best practice includes migrating all parts of the facility management portfolio under a life-cycle management operating model similar to the MHS FSS with supporting organizations focused on leadership development, training, research, and technology. Training should include skills of **owner** and **user** representative cadres along the lines of Army HFPA, Air Force HFD, and Navy BUMED Facilities.

7. Dedicated Agent Facility Life-Cycle Program Support

As part of shared service operations, a best practice includes developing business rules to engage the design and construction **Agents** (both those in-house and those hired from outside) through alignment of program support best practices (as described in Best Practices No. 6 Experienced Program Support). This effort should be coordinated with the **Agent** to establish a dedicated program support capability.

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National Institute of Building Sciences, September 30, 2011

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National Institute of Building Sciences, December 31, 2010 final draft

Appendix B: List of Interviews and Information Exchanges

DHA Report to Congress Interview and Information Exchange List			
Organization	Official	Title	Date
DoD			
DHA Facilities	John Becker	Director DHA Facilities	January 15, 2016
DHA Facilities	Col Scot Spann	Deputy Director Facilities	January 15, 2016
DHA Facilities	LtCol Amy Woosley	Chief, Capital Asset Optimization	January 15, 2016
DHA Facilities	Bruce Greenland	Senior Financial Analyst	January 15, 2016
DHA Facilities	LtCol(S) Chris Pechacek	Chief, Criteria and Standards	January 15, 2016
DHA Facilities	Clay Boenecke	Chief, Portfolio Management	January 15, 2016
DHA Facilities	CAPT Gil Manalo	Chief, Design, Construction and Activation	January 15, 2016
DHA Facilities	Harold Sherman	Chief Capital Investment Strategy Management	January 15, 2016
DHA Facilities	Gerard Rutkowski	Chief, MILCON Program and Budget	January 15, 2016
DHA Facilities	CDR Joe Kascak	Chief, Project Development	January 15, 2016
DHA Facilities	LtCol Rick Evors	Chief, Design, Construction and Activation Team	January 15, 2016
DHA Facilities	Susan Baker	Chief, Staff and Administration	January 15, 2016
USACE	Eric Eldridge	Senior Program Manager, Interagency and International Services	March 13, 2016
USACE	Ray Alexander, SES	Chief, Interagency and International Services	March 13, 2016
USACE	Phil Hoge	COC Senior Fire Protection Engineer, MX	March 23, 2016
USACE	Tony Travia	Chief, Medical Facilities Mandatory Center of Expertise and Standardization (MX)	March 23, 2016
USACE	Gerry Boyle	DoDEA National Program Manager	March 30, 2016
USACE	Steve Robinson	Deputy DoDEA National Program Manager	March 30, 2016
DHA Facilities	COL Judy Salmon	Chief, Portfolio/Planning	April 12, 2016
DHA	Mike Bouchard	Director, DoD/VA Program Coordination Office	April 12, 2016
USACE	Patrick Findlay	Chief, Real Property Services Field Office, Baltimore District	April 18, 2016
USACE	Jimmy Patel	Deputy Chief, Real Property Services Field Office	April 18, 2016
NAVFAC	Joanne Krause	Director, Medical Facilities Design Office	April 20, 2016
USAF	LtCol Jennifer Gruenwald	Chief, Planning and Portfolio Management	April 21, 2016
USAF	LtCol Matt Sakal	Chief, Planning Design and Construction	April 21, 2016
USAF	John Wrockloff	Senior Program Manager	April 21, 2016
BUMED	Paul S McComb, P.E.	Chief, Health Facilities Division	April 21, 2016
BUMED	CDR Karlton Dodson	Head, Capital Asset Planning	April 21, 2016
US Army	COL Mike Brennan	Commander, Health Facility Planning Agency	April 21, 2016
US Army	LTC Ross Davidson	Director, Project Execution Division, Health Facility Planning Agency	April 21, 2016
USACE	Stacey Hirata, SES	Chief, Installation Support	April 21, 2016
USACE	Alan Williams	Deputy Chief, Installation Support	April 21, 2016
USACE	David Leach, SES	Acting Deputy Director of Military Programs	April 25, 2016
USACE	Lloyd Caldwell, SES	Director of Military Programs	May 24, 2016
VA			
CFM	Ed Saldie, SES	Associate Executive Director, Programs and Plans	March 1, 2016
CFM	George Sczwarzman, SES	Associate Executive Director, Facilities Acquisition	March 1, 2016
CFM	Lloyd Siegel, SES	Associate Executive Director, Facilities Planning	March 1, 2016
CFM	Rose Quicker, SES	Associate Executive Director, Resource Management	March 1, 2016
CFM	Dennis Milsten, SES	Associate Executive Director, Operations	March 4, 2016
OPP	Scott Blackburn	Director, MyVA Taskforce	March 21, 2016
OALC	Greg Giddens, SES	Executive Director	March 28, 2016
CFM	Stella Fiotes, SES	Executive Director	March 28, 2016
OM	Jim Sullivan, SES	Director, Asset Enterprise Management	March 28, 2016
VHA	Regan Crump, SES	Assistant Deputy Undersecretary of Health for Policy and Planning	March 28, 2016
OPP	John Medve, SES	Executive Director, VA-DoD Collaboration Service	March 30, 2016
VHA	Dr. David Shullin	Undersecretary for Health	April 15, 2016
VHA	Dr. Richard Stone	Principal Deputy Undersecretary for Health	April 15, 2016
VHA	Ed Litvin	Director, Office of Capital Asset Management and Engineering Services	April 15, 2016
VHA	Gene Migliaccio	Deputy Chief Business Officer for Purchased Care	April 15, 2016
VHA	Mark Henius	Manager and Program Analyst, Interagency Health Affairs VA/DOD	April 15, 2016
VHA	Rachel Mitchell, SES	Deputy Chief Financial Officer	April 15, 2016
VHA	Dr. Deborah Dort	Deputy Principal Deputy Undersecretary for Health	April 22, 2016
VHA	Steve Young, SES	Principal Deputy Undersecretary for Health Operations and Management	April 22, 2016
VA	Tom Muir	Director of Support Services, MyVA	June 15, 2016
Other			
VA Commission on Care	Susan Webman	Executive Director	December 22, 2015
Medstar Health	Steve Wooldridge	Vice President for Facilities and Real Estate	April 18, 2016
SmithGroupJJR	Phillip Tobey, FAIA	President of Smith Group; Member, DOD Independent Review Panel	April 18, 2016
HDR	Doug McAneny	Vice President for Federal Programs	April 21, 2016

Appendix C: Committee Report Language

This initiative was requested by Senate Committee Report 114-57 to House Resolution 2029, Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2016, dated December 16, 2015, pages 15 and 16, which reads in part:

Defense Health Agency. The Defense Health Agency [DHA] employs a comprehensive approach to hospital construction, working closely with the military services and monitoring the process as military hospitals are planned, built, maintained, and replaced. Military hospital construction projects are managed by the Army Corps of Engineers or the Naval Facilities Engineering Command [NAVFAC], both of which have extensive experience and expertise in managing large construction projects. DHA consults with the Corps and NAVFAC throughout the planning, design, and construction phases of a project to help manage project execution and change orders. Notably, DHA also accepts input from clinicians early on in the design process, but maintains control of the project after that point, which serves as a limiting factor on costly and time-consuming change orders. The close coordination among DHA, the Corps of Engineers, and NAVFAC enables DHA to more efficiently manage the design and construction of large-scale medical facilities, while containing cost and schedule overruns. Given the massive cost overruns and lengthy delays in recent Department of Veterans Affairs' hospital construction projects, the Committee directs DHA to consult with VA on best practices in hospital design and construction. Further, the Committee directs DHA to submit a report to the Committees on Appropriations of both Houses of Congress within 180 days of enactment of this act regarding steps DHA has taken to fulfill this directive.



Calendar No. 98

114TH CONGRESS } 1st Session }	SENATE	{ REPORT 114-57
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MILITARY CONSTRUCTION, VETERANS AFFAIRS, AND
RELATED AGENCIES APPROPRIATION BILL, 2016

MAY 21, 2015.—Ordered to be printed

Mr. KIRK, from the Committee on Appropriations,
submitted the following

REPORT

[To accompany H.R. 2029]

The Committee on Appropriations, to which was referred the bill (H.R. 2029) making appropriations for military construction, the Department of Veterans Affairs, and related agencies for the fiscal year ending September 30, 2016, and for other purposes, reports the same to the Senate with an amendment, and recommends that the bill as amended do pass.

Amounts in new budget authority

Total of bill as reported to the Senate	\$280,711,140,000
Amount of 2015 appropriations	169,188,368,000
Amount of 2016 budget estimate	281,923,122,000
Amount of House allowance	279,725,640,000
Bill as recommended to Senate compared to—	
2015 appropriations	+ 111,522,772,000
2016 budget estimate	- 1,211,982,000
House allowance	+ 985,500,000

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\$49,540,000 below the budget request. Further detail of the Committee’s recommendation is provided in the State table at the end of this report.

Camp Pendleton Water Pipeline.—The budget request proposed \$44,540,000 for a raw water pipeline from Camp Pendleton to the City of Fallbrook to upgrade the Camp Pendleton water system and allow the city to access water from the Santa Margarita watershed. The Committee is aware that the Navy and the Fallbrook Public Utility District are under a Federal Court Order to reach a settlement over water rights from the Santa Margarita River and that negotiations to reach such a settlement are ongoing. The Committee believes that an agreement among all the parties should be finalized and approved by the Court before initiating construction on this project. Therefore, the Committee has not provided funding for the project and directs the Navy to identify and report the project cost allocation between the Department of Defense and civilian entities.

MILITARY CONSTRUCTION, AIR FORCE

Appropriations, 2015	\$811,774,000
Budget estimate, 2016	1,389,185,000
House allowance	1,237,055,000
Committee recommendation	1,389,185,000

COMMITTEE RECOMMENDATION

The Committee recommends \$1,389,185,000 for the Air Force in fiscal year 2016. This amount is \$577,411,000 above the fiscal year 2015 enacted level, and equal to the budget request. Further detail of the Committee’s recommendation is provided in the State table at the end of this report.

MILITARY CONSTRUCTION, DEFENSE-WIDE

(INCLUDING TRANSFER OF FUNDS)

Appropriations, 2015	\$1,991,690,000
Budget estimate, 2016	2,300,767,000
House allowance	1,931,456,000
Committee recommendation	2,290,767,000

COMMITTEE RECOMMENDATION

The Committee recommends \$2,290,767,000 for projects considered within the Defense-Wide account in fiscal year 2016. This amount is \$299,077,000 above the fiscal year 2015 enacted level and \$10,000,000 below the budget request. Further detail of the Committee’s recommendation is provided in the State table at the end of this report.

Defense Health Agency.—The Defense Health Agency [DHA] employs a comprehensive approach to hospital construction, working closely with the military services and monitoring the process as military hospitals are planned, built, maintained, and replaced. Military hospital construction projects are managed by the Army Corps of Engineers or the Naval Facilities Engineering Command [NAVFAC], both of which have extensive experience and expertise in managing large construction projects. DHA consults with the

Corps and NAVFAC throughout the planning, design, and construction phases of a project to help manage project execution and change orders. Notably, DHA also accepts input from clinicians early on in the design process, but maintains control of the project after that point, which serves as a limiting factor on costly and time-consuming change orders. The close coordination among DHA, the Corps of Engineers, and NAVFAC enables DHA to more efficiently manage the design and construction of large-scale medical facilities, while containing cost and schedule overruns. Given the massive cost overruns and lengthy delays in recent Department of Veterans Affairs' hospital construction projects, the Committee directs DHA to consult with VA on best practices in hospital design and construction. Further, the Committee directs DHA to submit a report to the Committees on Appropriations of both Houses of Congress within 180 days of enactment of this act regarding steps DHA has taken to fulfill this directive.

Medical Military Construction.—The Committee provides funding for seven projects to renovate or build new medical treatment facilities within the Department of Defense. The medical military construction budget submissions for fiscal years 2015 and 2016 are the lowest levels of investment in 7 years. As a result, planned projects continue to be deferred indefinitely in the Future Years Defense Program [FYDP]. For example, the Fort Leonard Wood, Missouri, hospital replacement originally planned for fiscal year 2016 is once again deferred until fiscal year 2021 or later. The Committee notes the Surgeon General of the United States Army testified before the Senate Appropriations Subcommittee on Defense on March 25, 2015, that this hospital replacement project remains the Army's top medical military construction priority. The existing hospital last underwent a major renovation nearly 40 years ago. Due to the quality of life importance of this and other medical facilities like it, the Committee strongly encourages the Department to prioritize and restore medical military construction projects within the FYDP submitted for fiscal year 2017. In addition, the Committee encourages the Department to continue collaborating with the Department of Veterans Affairs to pursue Joint DOD/VA medical facility projects.

MILITARY CONSTRUCTION, ARMY NATIONAL GUARD

Appropriations, 2015	\$128,920,000
Budget estimate, 2016	197,237,000
House allowance	167,437,000
Committee recommendation	197,237,000

COMMITTEE RECOMMENDATION

The Committee recommends \$197,237,000 for Military Construction, Army National Guard for fiscal year 2016. This amount is \$68,317,000 above the fiscal year 2015 enacted level, and equal to the budget request. Further detail of the Committee's recommendation is provided in the State table at the end of this report.

National Guard Military Construction.—Declining military construction investments resulting from current budget constraints are negatively impacting all branches of the Department of Defense. However, for the National Guard, securing military construction

Appendix D: List of Figures

Figure 1 – Facility Shared Service Value Proposition in the Military Health System

Figure 2 – Facility Life-Cycle Management (FLCM) considers the entire life-cycle of a facility, from its design, through its construction and operation, to its eventual disposal

Figure 3 – Demand Signal Process Flow, Quadruple Aim, and Planning Lenses

Figure 4 – Project Oversight, Authorities, Coordination, and Control

Figure 5 – MHS Facilities Shared Service Program Support Roles and Responsibilities

Figure 6 – Defense Health Agency Facilities Division with Key Functions

Figure 7 – Facilities Shared Service Roles and Responsibilities across Four Major Product Lines

Figure 8 – The MacLeamy Curve

Figure 9 – Notional Project Governance Structure

Appendix E: Glossary, List of Acronyms

- (Design and Construction) Agent – An approved group or organization assigned the design or construction execution responsibilities associated with a project, or program execution responsibilities associated with a construction program.
- Owner – An individual or entity with exclusive legal right to possession, improvement, or financial responsibility for, or in possession of a title for property or assets.
- Owner Representative – An entity that acts on behalf of the owner.
- User – The occupant. An entity receiving the benefit of an asset. Can be a lessee/tenant or, in some cases, the owner of the asset.
- User Representative – An entity that acts on behalf of the user.

- BUMED – Navy Bureau of Medicine and Surgery
- CFM – VA’s Office of Construction and Facilities Management
- CIDM – Capital Investment Decision Model
- CMS – Center for Medicare and Medicaid Services
- CONOPS – MHS Shared Services Concept of Operations
- DHA – Defense Health Agency
- DoD – Department of Defense
- DoDI – Department of Defense Instruction
- ELT – Executive Leadership Team
- FD – Facilities Division
- FLCM – Facilities Life-Cycle Management
- FSM – Facilities Sustainment and Modernization
- FSS – Facility Shared Service
- HFCC – Health Facilities Coordinating Council
- HFD – Air Force Health Facilities Division
- HFPA – Army Health Facilities Planning Agency
- HQ – Headquarters
- IC – Intelligence Community
- IT – information technology
- MHS – Military Health System
- MILCON – Military Construction
- MST – Medical Support Team
- NAVFAC – Naval Facilities Engineering Command
- NIBS – National Institute of Building Sciences
- PLT – Project Leadership Team
- RM – Facility Restoration
- SEB – Senior Executive Board
- UFC – Unified Facilities Criteria
- USACE – US Army Corps of Engineers
- VA – Department of Veterans Affairs
- VAFM – VA Facilities Management