1. INTRODUCTION

The Military Health System (MHS) is a global, comprehensive, integrated system that includes combat medical services, peacetime health care delivery, public health services, medical education and training, and medical research and development. The Department of Defense (DoD) aims to ensure that all active and retired members of the military, as well as their families, receive prompt, safe, high-quality care at all times. As one of the largest health care systems in the United States, with total spending of more than $50 billion per year, the MHS includes both a direct care component, composed of DoD-operated and staffed health care facilities, and a purchased care component operated through TRICARE regional contracts.

The MHS shares many features with civilian health care systems. Like every large health care system, it is constantly responding and adapting to changing demographics, shifting policies, evolving standards for access and quality, advances in science and medicine, complex payment and cost considerations, rapidly evolving communications and information technology capabilities, and fluid patient expectations. The MHS serves diverse populations in every imaginable health care setting. It is unique in that it is structured and operationalized through an extensive array of statutory requirements, instructions, policies, and guidelines of DoD, the Military Departments (or Services, to include Army, Navy [including Marine Corps], Air Force), as well as TRICARE, the Department's health care benefits program. Moreover, it does not operate on a traditional reimbursement system as found in the civilian sector, and is subject to congressional authorization and appropriation processes that direct its activities and use of resources.

The MHS has faced multiple distinctive challenges over the past decade, including supporting deployment of a medically ready force fighting two wars, reorganization of governance structure, implementation of enterprise-wide common business processes, and creation of shared services in an integrated delivery system. Against the backdrop of an ever-changing health care landscape are new regulatory stipulations, increased security requirements, budgetary pressures, and base realignment and closure procedures. With each challenge, MHS leadership has responded, taking action to address opportunities and mitigate risks.

All health care systems, including the MHS, are expected to engage in systematic processes that lead to measurable improvement in health care services and the health status of the population served. From a systems perspective, the emphasis in the civilian sector is increasingly on the use of data to drive decision-making by identifying areas of variance and opportunity. In the areas of patient safety, quality, and access, this paradigm revolves around leadership's use of data analysis to drive process improvement. While significant gains have been made across U.S. health care, coordinated efforts are hindered by a lack of comparative data and accepted benchmarks, particularly in the areas of patient safety and access. The challenges inherent in these efforts are further discussed in the sections of this report comparing the MHS with similar civilian systems, but are mentioned here to highlight that the MHS is on the same journey as other top-level health systems in the United States; that is, driving toward the goal of becoming a high-performing, high reliability organization.

The Joint Commission[2] officers Chassin and Loeb describe specific initiatives that health care organizations can take to reduce errors and improve patient safety in a highly reliable fashion. Key components of these efforts include commitment of organizational leadership to patient safety and zero tolerance of harm, development of a functional culture of safety throughout the organization, and widespread deployment of process improvement tools.[3] The MHS continually monitors processes and outcome measures to assess the quality of clinical care provided to enrolled beneficiaries (see Section 4 on Quality of Care for details). Just as the MHS often leads the nation in health education, training, research, and technology, it also must lead in efforts to consistently deliver reliable performance and constantly improve quality and safety with each care experience.

On May 28, 2014, the Secretary of Defense ordered a comprehensive review of the MHS, with a specific focus on health care access, patient safety, and quality of care in both the direct care component and the purchased care component (see Appendix 1.1). The review was conducted by subject matter experts in the Services and the Defense Health Agency (DHA), with input from outside experts in the areas of patient safety and health care quality.

The scope of this review does not include health care provided in support of the Combatant Commands and deployed operational forces. Care provided to the Nation's Armed Forces in the course of military operations is widely considered to be world class and cutting edge and has been the subject of other reviews.[4] Moreover, the policies and organizational structures governing health care provided during military operations differ significantly enough from the nonoperational setting to warrant exclusion from this review. In addition, this review does not include dental care, wounded warrior care (which is subject to several ongoing mandated reviews), or beneficiaries enrolled in TRICARE Standard or Extra.[5]. (See Appendix 1.2 for the Terms of Reference for this review.) Finally, this review does not include the health care system serving our Nation's Veterans, which is administered separately through the Department of Veterans Affairs (see Figure 1.1).

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[2] The Joint Commission accredits and certifies more than 20,500 health care organizations and programs in the United States. Joint Commission accreditation and certification is recognized nationwide as a symbol of quality that reflects an organization's commitment to meeting certain performance standards.

[3] Chassin MR, Loeb JN. High reliability health care: Getting there from here. *The Milbank Quarterly*. 2013; 91(3):459-490.

[4] *See, for example*: U.S. Central Command, Pre-Hospital Trauma Care Assessment Team. *Saving Lives on the Battlefield: A Joint Trauma System Review of Pre-Hospital Trauma Care in Combined Joint Operating Area-Afghanistan (CJOA-A) Final Report.* January 30, 2013; Office of the Surgeon General, Department of the Army, United States of America. *Combat Casualty Care: Lessons Learned from OEF and OIF*. Fort Detrick, Maryland, 2012; Department of Defense. Guidance for the Development of the Force FY 2010-2015.

[5] TRICARE includes a variety of insurance-like arrangements for health care services. Beneficiaries can select which product best meets their needs.

Figure 1.1 Veterans Health Administration

Veterans Health Administration

Some military Veterans are eligible to receive care through a separate health care system than the MHS—the Veterans Health Administration (VHA), part of the Department of Veterans Affairs (VA). A Veteran is someone who has served in the active military, naval, or air service, and was discharged or released from service under conditions other than dishonorable, as specified in 38 U.S.C. 101(2). Active service includes full-time duty in the National Guard or a Reserve component, other than full-time duty for training purposes.

Veterans have a different status than those who retire from military service. A military retiree is any former member of the uniformed services who is entitled, under statute, to retired, retirement, or retainer pay. Examples include, but are not necessarily limited to, spending 20 or more years in the military or permanent retirement by reasons of physical disability. All military retirees are Veterans, but not all Veterans are military retirees. Some military retirees can receive care at VA facilities in addition to MHS facilities.

The number of Veterans who can be enrolled in the VHA health care program is determined by the amount of money Congress provides to VA each year. Since funds are limited, VA established eight priority groups to ensure that certain groups of Veterans can be enrolled before others. For example, highest priority is given to Veterans with Service-connected disabilities rated 50 percent or more and Veterans assigned a total disability rating for compensation based on unemployability.

VHA is an integrated health care system divided into 21 Veterans Integrated Service Networks, or VISNs — regional systems of care working together to better meet local health care needs and provide greater access to care. VHA consists of 150 medical centers, nearly 1,400 community-based outpatient clinics, community living centers, Vet Centers, and Domiciliaries. The combination of VA health care facilities and the more than 53,000 independent licensed health care practitioners who work within them provide comprehensive care to more than 8 million enrolled Veterans each year. The VHA has a medical care budget of more than $55 billion annually.[6]

Goals, Objectives, Methods, and Limitations of the Review

This review was conducted with the goals of assessing three central aspects of a quality health care system and developing recommendations for improved performance across the MHS. Objectives and methods for meeting these goals are summarized below. Greater detail on methods is provided in each of the subsequent sections regarding access, quality, and safety.

[6] U.S. Census Bureau, American Community Survey PUMS, (2011). Prepared by the National Center for Veterans Analysis and Statistics.

Goals

Access to Care: To determine if the MHS provides ready access to medical care as defined by access standards in policies and guidance of the Office of the Assistant Secretary of Defense for Health Affairs (HA) and the military medical departments, and in TRICARE contract specifications.

Quality of Care: To determine if the MHS meets or exceeds benchmarks for health care quality as defined in HA and military medical department policies and guidance, and TRICARE contract specifications, with a particular focus on how the MHS performs relative to known national benchmarks.

Patient Safety: To determine if the MHS has created a culture of safety with effective processes for ensuring safe and reliable care of beneficiaries.

Objectives

1. Assess prior recommendations and findings from relevant internal and external reports, including the last 10 years of Government Accountability Office and DoD Inspector General reports, to determine identified problems, actions taken to remedy the problems, and whether the remedy has been sustained.
2. Review all relevant DoD, Military Department, and TRICARE policy standards and assess the degree to which the policies have been implemented.
3. Evaluate data to assess compliance with existing policy or national standards. Determine how the MHS can consistently exceed these standards. Determine if any variance from the standards is due to data inaccuracy or inconsistency.
4. Review education and training documentation of health care professionals and staff regarding the execution of policies and assess knowledge of existing standards.
5. Compare MHS performance to at least three civilian health systems, where standards are relevant and comparable.
6. Assess the experiences and perceptions of MHS patients regarding access, quality, and safety standards.
7. Determine the effectiveness of governance in policy and system performance.
8. Identify current resources for access, safety, and quality efforts to the extent possible.

Methods

A three-pronged approach was used to meet the goals and objectives listed above, organized around the themes of access, quality, and safety. In the first phase, relevant DoD instructions and Service policies were reviewed and internal and external reports were assessed to understand findings and recommendations made (see Appendix 1.3 for a list of documents reviewed). Additionally, enterprise-wide data were collected and metrics examined to determine the extent to which they align with DoD and Service policies to inform MHS leadership's understanding of MHS quality and performance. Details on the access, quality, and patient safety metrics used in the review can be found in corresponding report sections. The selected metrics were generally readily available from the military Services or DHA, applicable to defined data sources and

validated algorithms, consistent with national standards (where such standards exist), and in use by leading health care systems. The most recent annual data were analyzed, including the current year, when available, and trends for recent years were evaluated where possible.

Second, site visits of a cross section of military treatment facilities (MTFs)[7] were conducted with a primary goal of providing local validation of centrally collected data. An additional goal included review of potential gaps between processes and policy. The facilities chosen represent all three Services (Army, Navy, Air Force) and the National Capital Region Medical Directorate (NCR MD), are of varying size and scope, and have broad geographic distribution, including sites within and outside the continental United States (see Table 1.1). Site-specific data requests included the results of the last two Joint Commission surveys, any other regulatory site visit findings from the last three years, results of internal or external audits, the last two command inspection reports and command climate surveys, materials related to goals or strategic plans and relevant appointment access guidelines. (See Appendix 1.4 for site visit methodology.)

The site visit assessment team consisted of senior Service Flag/General Officers; senior enlisted leaders; subject matter experts for access, quality, and safety representing each Service; and contract support personnel. This team was kept largely intact for all facility visits to provide consistent assessments across all sites. Survey questionnaires were sent to regional Service medical leadership and presented to facility leadership, subject matter experts, health care staff, and patients for independent feedback. Team members met with local MTF leadership and subject matter experts at the sites and conducted walking rounds in order to interview health care staff and patients. Finally, an independent contractor conducted town hall meetings with MTF staff and beneficiaries with the intent to allow unfiltered feedback on facility performance with regard to access, quality, and safety (see Appendix 1.5 for town hall meeting summaries and quantitative analysis). In addition, a website was made available to the public to allow for additional comments to be submitted via e-mail (see Appendix 1.6). These anecdotal comments were analyzed for the report. Overall, the submitted comments mirrored the themes in the town hall meetings. Site visit reports were created with qualitative and quantitative assessments of facility specific performance. The site visit team also provided summaries with operational feedback to the MTFs so the facility could improve and/or sustain any of the areas that were observed during the visit.

[7] The term “military treatment facilities (MTFs)” refers to the medical facilities of the Defense Health Agency and the Departments of the Army, Navy, and Air Force, including: academic medical centers (e.g., Walter Reed National Military Medical Center, Bethesda; San Antonio Military Medical Center); military community hospitals; and military clinics.

Table 1.1 MHS Review Site Visit Locations

Locations
10th Medical Group, Air Force Academy, Colorado Springs, Colorado
48th Medical Group, RAF Lakenheath Air Force Base, Lakenheath, England
Fort Belvoir Community Hospital, Fort Belvoir, Virginia
Madigan Army Medical Center, Joint Base Lewis-McChord, Washington
Naval Health Clinic Patuxent River, Naval Air Station Patuxent River, Maryland
Naval Medical Center San Diego, San Diego, California
Winn Army Community Hospital, Fort Stewart, Georgia

Source: MHS Review Group, July 2014

Third, three high-performing civilian health care systems—Geisinger Health System, Intermountain Healthcare, and Kaiser Permanente —were selected for the purpose of comparing the MHS against health systems with similar structure (providers and health plan), size and scope of care. The comparison was based on relevant and available metrics on access, quality and safety. (See Appendix 1.7 for table of comparison metrics.)

1. Geisinger Health System is an integrated health services organization widely recognized for its innovative use of the electronic health record, and the development and implementation of innovative care models including ProvenHealth Navigator, an advanced medical home model, and ProvenCare program. The system serves more than 3 million residents throughout 44 counties in central and northeastern Pennsylvania.[8] Geisinger Health System includes 11 hospitals (total 1,638 beds), 78 community practice and specialty clinics, 1,683 licensed providers, and 4,370 nurses. Its most recent operating budget was $3.4 billion.

2. Intermountain Healthcare is a nonprofit system of 22 hospitals, a Medical Group with more than 185 physician clinics, and an affiliated health insurance company, SelectHealth. Its 33,000 employees serve 660,000 patients and plan members in Utah and southeastern Idaho. Its most recent operating budget was $5.4 billion.

3. Kaiser Permanente, founded in 1945, is one of the nation's largest not-for-profit health plans, serving approximately 9.3 million members, with headquarters in Oakland, California. It includes providers and a health plan, offering health care in seven U.S. regions through 38 hospitals, 618 medical offices, 17,425 physicians, and 48,701 nurses. Its most recent operating budget was $53.1 billion.

To meet the requirements in the Terms of Reference for independent review, external experts were brought in to review the methodology and findings. The external experts are nationally

[8] Geisinger website: http://www.geisinger.org/about/.

renowned leaders in health care with a wide breadth of education and training. Their collective portfolio includes experience and recognized success with large-scale quality and safety analyses, clinical quality improvement, strategy, and health care informatics. Experts were asked to review either methodology or findings. Originally, the MHS planned to include the external methodology experts during early stages of the review. However, because of the timeline, hiring process, and individual availability, their contributions were limited to a post-hoc evaluation of the methodology. The external experts tasked with reviewing the findings were available to the work groups to discuss the methodology as well as the findings and also were given access to the report of the MHS Review Group. (See Appendix 6.2 for the reports from the external experts.)

Data Analysis and Limitations

Data quality and analysis is a critical component of this review. Robust data analysis includes considerations of the following: variations in how a metric is defined; population demographics such as age and gender distribution; burden of illness in the population; environmental and geographic issues; and other factors influencing analyses and results. Even well-defined metrics may be substantially influenced by factors beyond the control of the medical facility. Without a context, isolated metrics and even groups of metrics may be improperly interpreted, resulting in erroneous conclusions, especially when comparing and ranking performance. External comparisons are often available for established standards or benchmarks of performance that are clearly defined and nationally recognized. Yet, identifying the most appropriate benchmark(s) and appropriately interpreting results given variable local context remains a challenge for many experts.

From a systems perspective, the emphasis in the civilian sector is increasingly on the use of data to drive decision-making by identifying areas of variation and opportunities for improving consistency. In the areas of patient safety, quality, and access, this paradigm revolves around leadership's use of analytics to drive process improvement. While significant gains have been made in this arena across U.S. health care, coordinated efforts are hindered by a lack of comparative data and accepted benchmarks, particularly in the areas of patient safety and access.

The three Services and DHA have varying degrees of analytical capability and resources. In conducting this review, personnel were assembled ad hoc to address the identified questions. The human resources required to perform a "deep dive" into external data related to access, quality, and safety is enormous and costly. In both the analysis of the performance of the MHS for the agreed upon measures, and in the attempt to compare MHS performance against other systems, a significant gap has been identified in the MHS; that is, analytic capability and capacity for systematically and routinely assessing quality and patient safety.

Comparing and contrasting different health care systems is a challenging endeavor. It requires detailed understanding and knowledge of the context and practices of the involved organizations. Even with defined metrics, there are differences in how data are collected and aggregated. If these challenges are surmounted one is still left with the lack of a standardized data set in a health system to globally measure performance. Seemingly identical or similar measures are useful as general indicators of performance, but have limited utility in ranking systems. While it

may be possible, with considerable work, to compare a valid set of metrics between two health systems, that does not translate into the ability to determine which health system has better quality; it only identifies which of the two systems performs better against that specific measure.

In support of this review, three external civilian organizations provided the MHS Review Group with access, quality of care, and patient safety data in an attempt to compare those organizations against the MHS. The effort to complete this task demonstrates the inherent challenges of comparing complex health care systems. Despite tremendous internal work and coordination, plus the willingness, cooperation, support, and effort of external institutions, the degree of data comparability was notably limited due to variations among definitions, processes, and objectives of the institutions. This situation illustrates the potential benefits of increased standardization throughout the health care community. Assessing and improving health care systems requires sufficiently robust, integrated, and coordinated information systems; a broad range of professional knowledge, skills, capabilities; and supportive organizational structures. (See Appendix 1.8 for data analytics summary.)

Organization of the Report

Following this section is an overview of the MHS and its governance, which provides the background context for the review. Next are focused assessments of performance in the MHS with regard to access, quality, and safety, and recommendations related to those findings. Detailed information regarding methodology and data related to each area of performance can be found in the appendix material. In considering the findings and recommendations of this report, important contextual background is necessary. The fundamental mission of the MHS, providing medical support to military operations, is different from that of any other health system in the United States.

2. OVERVIEW OF DOD'S MILITARY HEALTH SYSTEM

Introduction

The Military Health System (MHS) provides a continuum of health services from austere operational environments through remote, fixed medical treatment facilities to major tertiary care medical centers distributed across the United States. Mission-critical aspects of the MHS include the ability to sustain an interdependent and self-supporting, responsive health care team. Force Health Protection is the critical support function of the MHS in providing a worldwide deployable defense force.

The MHS combines health care resources from both the direct and purchased care components to provide access to high-quality health care for the 9.6 million beneficiaries, including Service members of the seven uniformed services, National Guard and Reserve members, retirees and their eligible family members, survivors, certain former spouses, and other individuals, while maintaining the capability to support military operations worldwide (see Table 2.1). The percentage of beneficiaries using MHS services increased from 83.3 percent in Fiscal Year 2011 to 84.9 percent in Fiscal Year 2013.[9]

Where available and as space allows, eligible beneficiaries may obtain health care from military hospitals and clinics, referred to as military treatment facilities (MTFs), or from civilian providers. In Fiscal Year 2013, the MTFs included 56 hospitals, 361 ambulatory care clinics, and 249 dental clinics operating worldwide and employing 60,389 civilians and 86,051 military personnel.[10]

Table 2.1 Average Weekly Statistics in the MHS

MHS Statistics
20,000 inpatient admissions (5,000 direct care; 15,000 purchased care)
1.9 million outpatient visits (834,000 direct care; 1,042,000 purchased care)
2,288 births (943 direct care; 1,345 purchased care)
3.8 million health care claims processed
2.54 million prescriptions filled (926,554 direct care; 1.24 million retail pharmacies; 363,000 home delivery)
343,000 behavioral health outpatient services (61,000 direct care; 282,000 purchased care)
177,000 emergency room visits (28,000 direct care; 149,000 purchased care)

2014 MHS Review Group
Source: Military Health System Mart (M2), January 2014.

[9] *DoD Evaluation of the TRICARE Program: Fiscal Year 2014 Report to Congress*. Accessed: July 28, 2014. Available at: http://www.tricare.mil/tma/congressionalinformation/downloads/TRICARE%20Program%20Effectiveness%20(FY%202014)%201.pdf.

[10] *Ibid*.

Roughly half of health care in the MHS is provided in the direct care component at MTFs by uniformed service personnel, DoD civilians, and/or contracted civilian health care professionals.[11] Supplementing the direct care component, the purchased care component of TRICARE is composed of TRICARE-authorized civilian health care professionals, institutions, pharmacies, and suppliers who have generally entered into a network participation agreement with a TRICARE regional contractor. For Fiscal Year 2013, the purchased care network included 3,310 acute care hospitals and approximately 478,000 participating providers. Non-network care is delivered by TRICARE-authorized providers who may choose to "participate" in TRICARE on a claim-by-claim basis.

The purchased care component of TRICARE includes:

- TRICARE North Region administered by Health Net Federal Services
- TRICARE South Region administered by Humana Military
- TRICARE West Region administered by United Health Care Military and Veterans
- TRICARE Overseas administered by International SOS

The TRICARE Overseas Program (TOP) is DoD's health care program that provides health care support services to approximately 458,000 beneficiaries outside of the 50 States and the District of Columbia. Using discretionary authority, and recognizing the cultural differences in accessing care in host nation countries, the TOP contract requires the contractor to make its best effort to ensure that the TRICARE standards for access—in terms of beneficiary travel time, local community standards, appointment wait time, and office wait time for various categories of services contained in 32 C.F.R. § 199.17—are met for TOP Prime enrollees. Similar to the purchased care program in the 50 States and the District of Columbia, TOP is administered on a regional basis by the TOP Program Office and TRICARE Area Offices (Eurasia-Africa, Pacific, and Latin America/Canada), supported by a health care support contractor.

TRICARE offers beneficiaries a family of health plans, based on three primary options:

- TRICARE Prime is a health benefit similar to a health maintenance organization, offered in many areas. Each enrollee chooses or is assigned a primary care manager, a health care professional who is responsible for helping the patient manage his or her care, promoting preventive health services (e.g., routine exams, immunizations), and arranging for specialty care provider services as appropriate. Access standards apply to waiting times to get an appointment and waiting times in doctors' offices. A point-of-service option permits enrollees to seek care from providers other than their assigned primary care manager without a referral, but with significantly higher deductibles and cost shares than those under TRICARE Standard. Of the 9.6 million eligible DoD beneficiaries, 5.3 million use TRICARE Prime.

[11] *Ibid*.

- TRICARE Standard is the non-network benefit, formerly known as the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), open to all eligible DoD beneficiaries, except active duty Service members. Beneficiaries who are eligible for Medicare Part B are also covered by TRICARE Standard for any services covered by TRICARE but not covered by Medicare. An annual deductible (individual or family) and cost shares are required.

- TRICARE Extra is the network benefit for beneficiaries eligible for TRICARE Standard. When non-enrolled beneficiaries obtain services from TRICARE network professionals, hospitals, and suppliers, they pay the same deductible as TRICARE Standard; however, TRICARE Extra cost shares are reduced by 5 percent. TRICARE Extra is not available overseas.

In addition to TRICARE benefits, some military families also rely on state and other federal programs (e.g., Medicaid, Medicare) to meet specific needs. For some "dual-eligible" beneficiaries, such programs provide home care, disposable supplies, respite care, and equipment that augment TRICARE. For "TRICARE-for-Life" beneficiaries – i.e., those eligible for Medicare who have both Medicare Parts A and B – TRICARE functions generally as a supplement to Medicare. Other non-medical programs available from the Military Departments and community programs provide additional resources for children connected to military families.

Beneficiary Demographics

TRICARE beneficiaries consist of two distinct populations: sponsors and dependents. Sponsors are typically active duty Service members, National Guard/Reserve members, or retired Service members. Thus, the sponsor is the person who is serving or who has served on active duty or in the National Guard or Reserves. "Dependent" is defined in 10 U.S.C. § 1072 and includes a variety of relationships, for example, spouses, children, and certain former spouses who have not remarried.

The Army has the most beneficiaries eligible for Uniformed Services health care benefits, followed (in order) by the Air Force and the Navy (including the Marine Corps)[12] (see Table 2.2). Although retirees and their family members constitute the largest percentage of the eligible population (56 percent) in the United States, active duty personnel (including Guard/Reserve Component members on active duty for at least 30 days) and their family members make up the largest percentage (66 percent) of the eligible population abroad.[13] Mirroring trends in the civilian population, the MHS is confronted with an aging beneficiary population, with roughly 22 percent of beneficiaries over age 65 and an additional 22 percent between the ages of 45 and

[12] *Ibid*.
[13] *Ibid*.

64 in Fiscal Year 2013.[14] There is a roughly even distribution of beneficiaries by sex; 4.88 million male and 4.70 million female.

Table 2.2 Distribution of Beneficiaries across the Military Departments and National Capital Region Medical Directorate

Military Department/Agency	Army	Navy (including Marine Corps)	Air Force	National Capital Region Medical Directorate
Number of beneficiaries	3.9 million	2.81 million	2.61 million	500,000
Number of health care personnel (total/active duty)	95,000/45,000	63,000/40,000	61,000/33,000	10,823/4,494
Number of medical centers	8	2	3	1
Number of hospitals	14	16	10	1
Number of clinics	107 primary care	107	62 primary care	3
Appropriations (Fiscal Year 2013)	$11.7 billion	$9.59 billion	$5.9 billion	$1.3 billion

Source: 2014 MHS Review Group; *DoD Evaluation of the TRICARE Program: Fiscal Year 2014 Report to Congress,* July 2014. Available at: http://www.tricare.mil/tma/congressionalinformation/downloads/TRICARE%20Program%20Effectiveness%20(FY%202014)%201.pdf.

Policies for Priority of Access

Active duty personnel receive top priority access and are entitled to health care in a MTF in accordance with 10 U.S.C. § 1074. Dependents of active duty personnel are "entitled, upon request, to medical and dental care" on a space-available basis at a military medical facility (10 U.S.C. §1076). Further, 10 U.S.C. § 1074 states that "a member or former member of the uniformed services who is entitled to retired or retainer pay may, upon request, be given medical and dental care in any facility of the uniformed service" on a space-available basis. Thus, since 1958 priority has been given to active duty Service members and their dependents in receiving medical and dental care at any facility of the uniformed services over military members who are entitled to receive retired pay and their dependents (Public Law No. 85-861). Subsequent enactments gave priority to TRICARE Prime beneficiaries over TRICARE Standard beneficiaries.

DoD Military Medical Operations

Although not within the scope of this report, it is important to acknowledge that over the past 13 years of military operations, the one constant in the MHS is the importance of health care delivery across the full spectrum of operations in service to our warriors. As of May 2014, there

[14] *Ibid.*

are nearly 1.4 million current members of the Armed Forces. Since the onset of the conflicts in Afghanistan and Iraq, until the end of 2013, 2.6 million troops have been deployed, all of who had to be medically ready, and uniformed medical personnel have deployed in support of combat operations on a continuous basis. Military medicine has achieved unprecedented outcomes despite the lethality of modern combat; the MHS has treated more than 52,000 Service members wounded in action,[15] and the total number of Service members killed in action is just more than 5,300, for a died of wounds rate of approximately 10 percent, the lowest in history.

The overall mortality rates are decreasing as Service members reach higher levels of medical care in a shorter period of time and thus survive longer after injury. Improvements in rapid evacuation from the battlefield and transport through the echelons of care—forward surgical team to combat surgical hospitals to regional medical centers to the continental United States (see Figure 2.1)—have resulted from advances in medical training of and equipment available to first responders and nonmedical personnel and from dramatic improvements in availability and capability of forward-deployed advanced surgical and critical care facilities. In the operational environment, military medicine has remained at the forefront of innovation while sustaining health care delivery practices to achieve desired clinical outcomes while promoting patient safety. Although deployed Forces are employed in remote and/or austere environments, the delivery of health care adheres to evidence-based, outcome-oriented management principles, which is overwhelmingly illustrated by the survival rate of our warriors on the battlefield.

Military medicine often leads in health care innovation and delivery, particularly in times of conflict; recent examples include advances in amputee care and en route critical care. However, as a comprehensive health system, it is influenced by, and must be responsive to, improvements in the civilian health care sector. While the emphasis in medicine must be on the personal interaction of the patient with his or her provider, the modern approach to the delivery of care requires an integrated perspective that incorporates a systems-based strategy to problem solving, while continuing to maintain an individualized approach to the patient. Although this report reviews patient satisfaction data, its main purpose is to evaluate the MHS as a system. This does not minimize the importance of each and every patient encounter; rather, it reflects the realities of time and scope.

[15] Source: http://www.defense.gov/news/casualty.pdf.

Figure 2.1 MHS Global Distribution of MHS Direct Care Platform

Source: 2014 MHS Review Group, July 2014

Overview of Military Health System (MHS) Governance[16]

The MHS can be described as a federated health care system with responsibility for the delivery of safe, high-quality care shared among the Office of the Assistant Secretary of Defense for Health Affairs (ASD(HA)), the Military Departments (Services), and the Defense Health Agency (DHA). This governance structure follows from DoD's overall organizational structure, with the MHS nested within the Department (see Figure 2.2). As demonstrated in Figure 2.2, the ASD(HA) reports to the Under Secretary of Defense for Personnel and Readiness (USD[P&R]), who in turn reports to the Secretary of Defense.

Army, Navy, and Air Force medical commands report through their Service Chiefs to their respective Military Department Secretary and then to the Secretary of Defense. The federated

[16] In this report, terms such as MHS Governance, MHS governing bodies, governance structure, governing committees, and the like refer to the DoD management officials with authority over components or functions of the MHS (e.g., ASD(HA), Secretaries of Military Departments, Surgeons General, Director, DHA) and the governance councils referred to in DoD Directive 5136.13 (para. 5.a(1)) that provide advice and assistance to those officials.

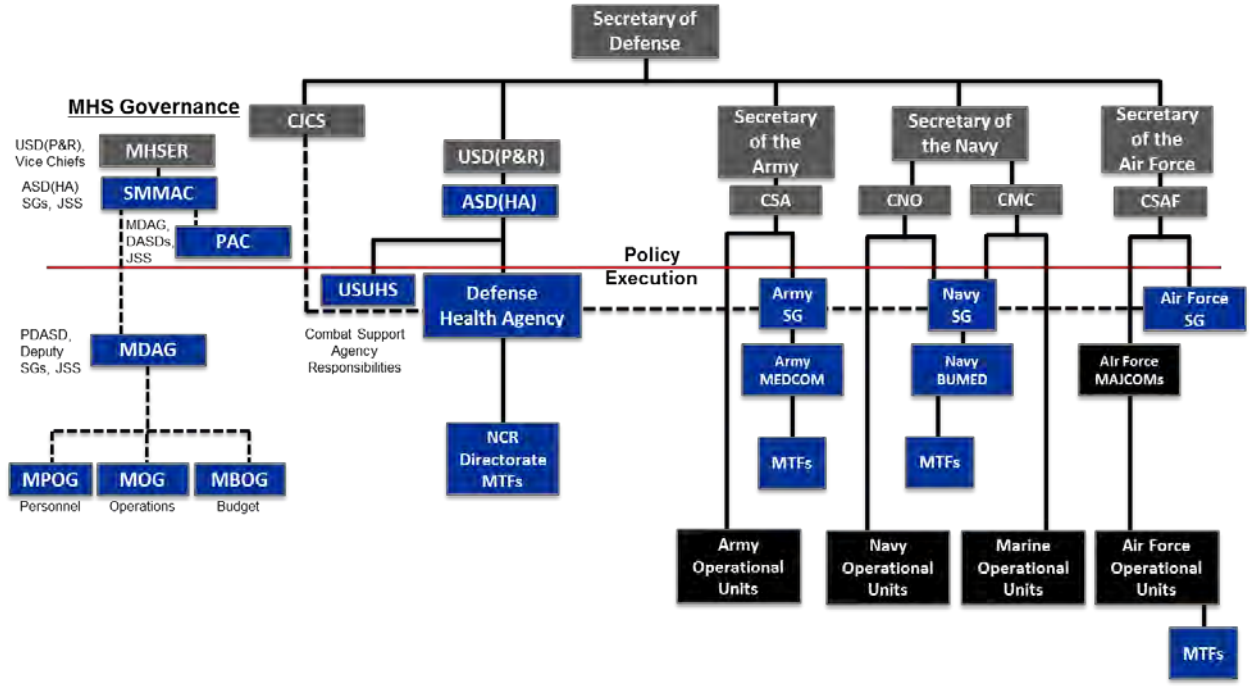
approach with shared responsibilities can be seen all the way to the level of the MTFs. ASD(HA) manages the resources that fund the Service medical departments and thus the MTFs, primarily through the Defense Health Program (DHP) appropriation, but the MTFs are run by military commands, and therefore are under the direction and control of the Services. At the MTF level, the Services maintain responsibility to man, train, and equip those commands to meet mission requirements. At a high level, the MHS collaboratively develops a strategy to meet policy directives and targets, with the Service components and/or the DHA responsible for execution.

In response to the interest in improved coordination of the MHS and in stronger alignment among the Services, other DoD components with a health mission, and ASD(HA), the Deputy Secretary of Defense chartered a MHS Governance Task Force in June 2011 to conduct a review of MHS governance. The Task Force was charged with providing options for governance of the MHS as a whole, of enhanced multi-service medical markets, and of the National Capital Region health system. The Task Force submitted its report in September 2011, resulting in a Deputy Secretary of Defense memorandum of March 2012 ("Implementation of Military Health System Governance Reform"), which provided direction for a new governance structure for the MHS. As part of that effort, the prior governance structure of integrating councils reporting to the Senior Military Medical Action Council (SMMAC) was replaced by the present structure, which separates policy from execution (see Figure 2.2).

The Defense Health Agency (DHA) was established "… to assume responsibility for shared services, functions and activities of the MHS and other common clinical and business processes."[17] The Director of the DHA is required to carry out assigned functions in accordance with direction from the ASD(HA), "adopted with the advice and assistance of governance councils established by the USD(P&R) and ASD(HA), including senior representatives of the Military Departments." This structure has been in place since October 2013 and has already demonstrated significant gains in communication and alignment among HA, the Services, and DHA. The approach taken emphasizes collaborative work at all levels with representation of the Joint Staff and all Service components, greater involvement of General Officers and Senior Executives in leading the effort, closer alignment of DHA and the Services, and leveraging of the Medical Deputies Action Group (MDAG; see Figure 2.2) to provide advice and assistance on tactical management of the MHS.

[17] Deputy Secretary of Defense Memorandum. March 11, 2013. "Implementation of Military Health System Governance Reform." Available at: http://www.ausn.org/Portals/0/pdfs/Deputy%20SECDEF%20Carter%20Memo%20on%20DHA%20-MHS%20Transformation%203-2013.pdf.

Figure 2.2 Organizational Structure of the Military Health System within the Department of Defense



LEGEND

C2 — Coordination & Assistance

ABBREVIATIONS

ASD(HA) – Assistant Secretary of Defense for Health Affairs
BUMED – US Navy Bureau of Medicine and Surgery
CJCS – Chairman of the Joint Chiefs of Staff
CMC – Commandant of the Marine Corps
CNO – Chief of Naval Operations
CSA – Chief of Staff, Army
CSAF – Chief of Staff, Air Force
DASD – Deputy Assistant Secretary of Defense
JSS – Joint Staff Surgeon
MAJCOM – Major Command, Air Force
MBOG –- Medical Business Operations Group
MDAG – Medical Deputies Action Group
MEDCOM – United States Army Medical Command
MHS – Military Health System
MHSER – Military Health System Executive Review
MOG – Medical Operations Group
MPOG – Manpower and Personnel Operations Group
MTF – Military Treatment Facility
NCR – National Capital Region
PAC – Policy Advisory Council
PDASD – Principal Deputy Assistant Secretary of Defense
SG – Surgeon General
SMMAC – Senior Military Medical Action Council
USD(P&R) – Under Secretary of Defense for Personnel and Readiness
USUHS – Uniformed Services University of the Health Sciences

Source: 2014 MHS Review Group, July 2014

The MDAG is chaired by the Principal Deputy Assistant Secretary of Defense for Health Affairs, with representatives from the three Service components, Joint Staff, and HA at the deputy level. It advises and assists in the active management of the system while respecting each entity's authority and responsibilities, as illustrated in the following:

1) ASD(HA) serves as the principal advisor to the Secretary of Defense and USD(P&R) for all DoD health and force health protection policies, programs, and activities, and:
   a. Ensures the effective execution of the DoD medical mission, providing and maintaining readiness for medical services and support to members of the Military Services, including during military operations;
   b. Exercises authority, direction, and control over DoD medical personnel authorizations and policy, facilities, programs, funding and other resources in the DoD;
   c. Serves as resource manager for all DoD health and medical financial and other resources;
   d. Prepares and submits, in the DoD Planning, Programming, Budgeting and Execution process, a DoD Unified Medical Program budget to provide resources for the DoD MHS;
   e. May not direct a change in the structure of the chain of command within a Military Department or with respect to medical personnel assigned to that command.[18]

2) DHA is established as a Defense Agency, under the authority, direction, and control of the USD(P&R), through the ASD(HA) and:
   a. Manages TRICARE;
   b. Manages and executes the Defense Health Program appropriation and DoD MHS funding;
   c. Exercises management responsibility for shared services, functions, and activities of the MHS and its common business and clinical processes;
   d. Supports the effective execution of the DoD medical mission;
   e. Collaborates with the Military Departments to ensure an integrated and standardized TRICARE and health care delivery system[19]

3) Military Service Components are responsible for:
   a. Communicating Service-specific requirements and requests relating to shared services, activities, and functions to the Director, DHA;[20]
   b. Ensuring that the Service medical departments remain accountable for the delivery of patient care, and related medical and health services in facilities under their jurisdiction, consistent with this directive;[21]
   c. Manning, training, and equipping of Service assets to meet mission requirements.[22]

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[18] DoD Directive 5136.01, September 30, 2013. Available at: http://www.dtic.mil/whs/directives/corres/pdf/513601p.pdf.

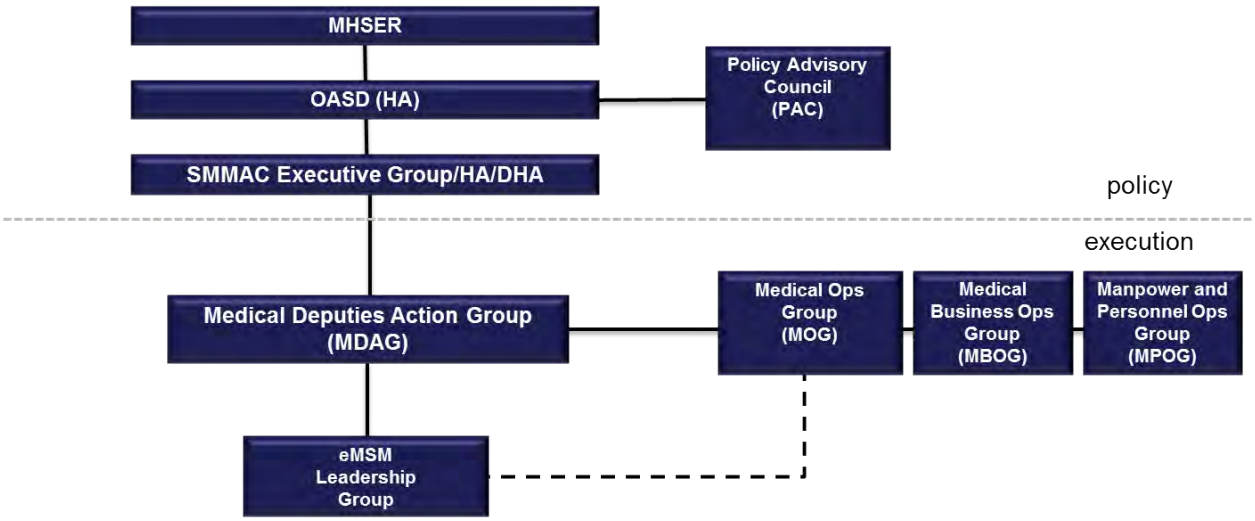
[19] DoD Directive 5136.13, September 30, 2013. Available at: http://www.tricare.mil/tma/ams/downloads/513612p.pdf.

[20] *Ibid.*

[21] *Ibid.*

[22] Title 10, United States Code Sections 3013, 5013, 8013.

Figure 2.3 Governance Structure of the Military Health System



Source: 2014 MHS Review Group, July 2014

Figure 2.3 displays the governance structure within the MHS. The Military Health System Executive Review (MHSER) is comprised of senior-level DoD leadership and charged with providing input on strategic, transitional, and emerging issues in the MHS. It advises the Office of the Secretary of Defense and the Office of the Deputy Secretary of Defense on performance challenges and direction. It is chaired by the USD(P&R), and includes the Principal Deputy Under Secretary of Defense (Personnel and Readiness), the ASD(HA), the Service Vice Chiefs, Military Department Assistant Secretaries for Manpower and Reserve Affairs, the Assistant Commandant of the Marine Corps, the Director of Program Analysis and Evaluation, the Principal Deputy Under Secretary of Defense (Comptroller), the Director of the Joint Staff, and the Surgeons General (as ex-officio members).[23]

The SMMAC is chaired by the ASD(HA), and includes the Principal Deputy Assistant Secretary of Defense (Health Affairs), Military Department Surgeons General, DHA Director, Joint Staff Surgeon, and other attendees as required. The Council presents enterprise-level guidance and operational issues for decision-making by the ASD(HA).

The MDAG reports to the Council, which ensures that actions are coordinated across the MHS and are in alignment with MHS strategy, policies, directives, and initiatives.

Four supporting governing bodies, consisting of Flag/General Officers from the Service medical departments and Senior Executives from DHA, report to the MDAG. Each group has specific roles, but all are focused on sustaining and improving the MHS.

[23] MHSER Charter. March 17, 2004. Available at: ftp://98.130.80.93/HEALTH%20AFFAIRS%20DOD/DOD%20Academic%20Strategy/CASSCELLS%20PAPERS/LIVE_LINK/MHSER%20Charter.pdf

- The Medical Operations Group (MOG) carries out assigned tasks and provides enterprise-wide oversight of the direct and purchased care systems.
- The Medical Business Operations Group (MBOG) provides a forum for providing resource management input on direct and purchased care issues.
- The Manpower and Personnel Operations Workgroup (MPOG) supports centralized, coordinated policy execution and guidance for development of coordinated human resources and manpower policies and procedures for the MHS.
- The Enhanced Multi-Service Markets (eMSM) Leadership Group provides a forum for managers of geographic MHS markets to discuss clinical and business issues, policies, performance standards, and opportunities.

Finally, the ASD(HA) is supported and advised by the Policy Advisory Council (PAC), composed of the Deputy Assistant Secretary of Defense (Health Affairs), the DHA Deputy Director, the Deputy Surgeons General, and a representative of the Joint Staff. The PAC provides a forum for supporting MHS-wide policy development and oversight in a unified manner.

The MTFs, as military commands, are controlled and operated by their respective Military Departments (Army, Navy, and Air Force). Two notable exceptions are Walter Reed National Military Medical Center and Fort Belvoir Community Hospital, which report to DHA and are not military commands. This configuration is the result of MHS governance reform. Coincident with establishment of DHA, the former Joint Task Force National Capital Region Medical transitioned to become the National Capital Region (NCR) Medical Directorate. NCR Medical Directorate (NCR MD) has oversight and responsibility for execution of patient safety and quality programs for the two NCR MD medical facilities.

Governance Reform Related to Performance Improvement

As described above, the major changes in MHS governance are the governance bodies (MHSER, SMMAC, MDAG, MOG, MBOG, MPOG; see Figure 2.3) and the standup of DHA. DHA's mission includes supporting greater integration of DoD's direct and purchased health care delivery systems in order to achieve better medical readiness, improved health, enhanced experience of care, and lower health care costs. It meets this mission through, among other activities, the shared services it provides in support of the MTFs, in the management of the Defense Health Program, and in providing an enterprise-wide view of the MHS for the governing bodies.

As a result of these recent reforms, the MHS is in transition, and work remains to be done in clarifying roles and relationships among the components and in establishing mechanisms to monitor and drive performance as a system. Presently, the overarching goals of the MHS are captured in the Quadruple Aim (concept modified from the Triple Aim of the Institute for Healthcare Improvement):

- Readiness (Goal – Increased Readiness): ensuring that the total military force is medically ready to deploy and that the medical force is ready to deliver health care anytime, anywhere
- Population Health (Goal – Better Health): keep people healthy and reduce the frequency of the visits to hospital and clinics
- Experience of Care (Goal – Better Care): provide a care experience that is safe, timely, effective, efficient, equitable, and patient- and family-centered
- Per Capita Cost (Goal – Lower Cost): create value by focusing on quality, eliminating waste, reducing unwarranted variation

While HA, DHA, and the Service medical departments all use the Quadruple Aim to define the overarching goals on which their respective strategies are based, there are differences in the specific metrics each Service uses to monitor performance in their respective MTFs, and in how measures are defined and how data are collected and reported. This results in challenges in assessing the performance of the MHS as an enterprise. Within MHS governance, the measures are reviewed by multiple committees, which all report to the MOG. (The MOG includes a synopsis of its discussion in its minutes, which are reviewed by the MDAG, whose minutes are in turn reviewed by the SMMAC.)

Governance is beginning to address variability in metrics used, as is evidenced by the adoption of a single dashboard for the enhanced multi-service markets (eMSMs). However, the eMSMs represent only 30 to 40 percent of the MHS and their analytical emphasis is weighted toward business metrics, in keeping with the eMSM focus on management of the market. The MDAG performs quarterly performance reviews of the eMSMs, and a summary of those reviews is then presented to the SMMAC. At the time of this report there were no scheduled reviews by the MHSER of specific MHS quality, patient safety, or access measures.

DHA and the Army, Navy, and Air Force medical departments shape performance improvement goals and align them to their respective strategic plans (see Appendix 2.1 for DHA and Service Performance Improvement activities). Each Service uses a variety of tools and methods throughout the medical department to the level of the MTF. Lean and Six Sigma® are the common frameworks and methodology used for performance improvement. Each of the Services uses a Service-specific web-based portfolio software management system for program management, tracking, and reporting.

The DHA Director has the authority and responsibility to oversee Patient Safety and Quality, as outlined in DoD policy (DoDM 6025.13 and JTF 6025.01 Quality Manual). The Chief Medical Officer, who is also the Director of Health Care Operations in DHA, has responsibility for the programs and offices that support MHS enterprise efforts for improving patient safety and health care quality. Examples of the collaborative efforts in process improvement for patient safety and quality are illustrated below.

The DoD Patient Safety Program (PSP) is established under the Clinical Support Division, DHA. The DoD PSP manages its operations through the Patient Safety Improvement Collaborative (PSIC); PSIC is chaired by the PSP Director and includes representatives from

the three Services, NCR MD, Uniformed Services University, and the TRICARE Regional Offices (TROs). The Patient Safety Analysis Center (PSAC), within the Clinical Support Division, collects, maintains, analyzes, and submits reports on patient safety performance metrics submitted from the DoD MTFs. The PSIC supports the work of the MHS Clinical Quality Forum.

The Clinical Quality Forum (CQF) is a collaborative group with representation from all components of direct and purchased care. It has the responsibility to assess clinical quality across the MHS. CQF assessments are based on relevant clinical performance indicators for health care system performance, including beneficiary and stakeholder perceptions of care and activities focused on quality assurance, patient safety, and risk management events. Function-focused working groups and advisory panels under CQF provide insight, recommendations, and activities to enhance clinical quality and safety.

Additionally, the CQF develops, or may endorse, recommendations for clinical quality improvement for approval by the MOG and/or the MDAG. Each of the Services implements quality improvement efforts at MTFs throughout the world in accord with their organizational structure through Service leadership.

The new governance council structure has facilitated coordination among the Services. It is expected that this will translate into the Services coming to agreement in adopting a single approach in common areas. Examples of where this has already happened include the eMSM dashboard metrics and the patient-centered medical home model.

Component Responsibilities within the Military Health System

In sum, HA is responsible for policy, and the Services for execution. The appropriate level governance committee develops the recommended strategy to meet goals and the metrics used to measure progress toward those goals. If consensus cannot be reached, the issue is elevated to the next level of governance council for consideration, with the expectation that the MHSER is the final MHS forum for issues that cannot be resolved at a lower level. DHA supports governance by monitoring the performance of the enterprise and by providing analyses as requested to a governing body.

Many of the issues identified in this report are generated by differences among the MHS components in the data collected to monitor performance and make decisions. A common set of metrics, with targets that would roll up from the MTFs, through the Services and NCR MD, to MHS and DoD leadership, to include the MHSER and the Military Department Secretaries, would improve MHS's ability to identify variance and track performance as a system. Because measures and metrics are aspects of execution and implementation, the Services, through governance, are responsible for proposing a common set of measures to HA and meeting policy intent and direction. In this endeavor, DHA plays a supporting role. Once the metrics have been approved by HA, the Services and the MHS governing committees would conduct performance reviews.

Similarly, ideally, the Services through governance would generate a strategic plan to meet policy direction, which would then be reviewed and approved by HA, which has an oversight role to ensure that the plan meets the intent of policy. Again, DHA would support this effort with data analysis and administrative support when asked. This is an improvement over past governance, under which the entities responsible for execution of the strategic plan were not responsible for generating that plan.

Resource Support for Patient Quality, Access and Safety

Using Fiscal Year 2013 as a representative year, an analysis was performed to identify MHS resources primarily supporting patient quality, access, and safety. The results indicate that substantial personnel and funding are devoted to these important functions system wide. In aggregate, more than 9,800 full-time-equivalent staff and more than $875 million per year are reported as directly supporting quality, access, and safety efforts. Most of these resources fall within the In House Care Budget Activity Group, which accounts for resources supporting care within the MTFs. Based on FY 2013 actual values, it is estimated that up to 8 percent of In House Care staff—to include military, civilian, and contractors—and up to 11 percent of In House Care financial resources directly support quality, access, and safety initiatives.

Conclusions

The MHS is a unique global health care organization with multiple missions and layers of complexity. Oversight and governance are, by nature, complex given the missions of the Military Departments and DoD's obligations to provide health care for active duty Service members and their families, as well as retirees and their families. The following sections provide assessments of the MHS's performance with regard to access to care, quality of care, and patient safety, measured against its own metrics, as compared to other high-performing health care systems, and compared to national benchmarks. Findings identify successes as well as opportunities for improvement, combined with actionable recommendations.