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MILITARY PERSONNEL

Enhanced Collaboration and Process Improvements Needed for Determining Military Treatment Facility Medical Personnel Requirements



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Highlights of [GAO-10-696](#), a report to congressional committees

Why GAO Did This Study

Military medical personnel, who are essential to maintaining one of the largest and most complex health systems in the nation, are in great demand due to the need to treat injured or ill servicemembers, and advances in technology that require specialized personnel. To determine how well the Department of Defense (DOD) and the services are developing their medical and dental personnel requirements, GAO evaluated (1) the extent to which the services have incorporated cross-service collaboration in their medical personnel requirement processes, and (2) the service-specific processes for determining their requirements for military and civilian medical personnel. To conduct this review, GAO evaluated manpower policies, analyzed the services' requirements data and determination processes, and interviewed officials from the Office of the Secretary of Defense (OSD) and each of the services.

What GAO Recommends

GAO recommends that OSD and the services emphasize a long-term joint approach to medical personnel requirements determination by identifying the common medical capabilities shared across the services and developing cross-service medical manpower standards, where applicable; and that the services take actions to improve their respective medical requirements determination processes. In written comments to a draft of this report, DOD generally concurred with these recommendations.

[View GAO-10-696](#) or [key components](#). For more information, contact Brenda S. Farrell at (202) 512-3604 or farrellb@gao.gov.

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What GAO Found

While DOD's 2007 *Military Health System Human Capital Strategic Plan* emphasizes developing human capital solutions across the services to enable departmentwide decision making and analyses, the services' collaborative planning efforts regarding requirements determination for medical personnel working in fixed military treatment facilities have been limited. In one effort to integrate operations, DOD is consolidating medical facilities in the Washington, D.C., area under a joint task force that calls for joint staffing of the military treatment facilities in the region. However, officials have faced challenges in developing the manpower requirements for the joint facilities due to the use of outdated planning assumptions. Separately, the Office of the Secretary of Defense (OSD) sponsored another joint medical effort to develop a cross-service medical manpower standard for mental health personnel. This standard is being used to determine the amount of personnel needed to meet common, day-to-day psychological health needs of eligible beneficiaries across the services. However, to date, this standard is the only one of its kind, and OSD officials said that no other similar efforts currently exist. The services' continued focus on separate medical personnel requirements processes may not be consistent with the DOD strategic plan's vision of a more integrated approach, and the services may have missed opportunities to collaborate and develop cross-service manpower standards for common medical capabilities that are shared across military treatment facilities. Sustained and committed leadership emphasis on developing more effective ways of doing business, such as the use of cross-service medical manpower standards, is key to successful, collaborative human capital strategic planning.

To the extent that the services need to maintain separate processes, GAO also found that their requirements processes are not, in all cases, validated and verifiable, as DOD policy requires. Selected specialty modules in the Army's model contain some outdated assumptions, such as the level of care currently being provided, and only a portion of the modules have been completely validated. While the Navy has employed an approach that uses current manning as a baseline and adjusts its requirements based on emerging needs or major changes to missions, the approach is not validated or verified as required by DOD guidance. The Air Force said it may not know its true medical requirements as the model it has relied on also is not currently validated or verified. Each of the services has recognized the need to have processes that can be validated and verified, and has taken steps to address these issues in recent years. However, without processes that are validated and verifiable, the services cannot be certain they are determining their medical personnel requirements in the most effective and efficient manner. Also, the services do not centrally manage their processes for their civilian medical personnel requirements. While local commanders determine these requirements, the services may be missing the opportunity to make a strategic determination of how many civilian medical professionals are needed to carry out their expected workloads.

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Abbreviations

BRAC	Base Realignment and Closure
DOD	Department of Defense
GAO	Government Accountability Office
OSD	Office of the Secretary of Defense
PHRAMS	Psychological Health Risk-Adjusted Model for Staffing

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United States Government Accountability Office
Washington, DC 20548

July 29, 2010

Congressional Committees

The physicians, dentists, nurses, and other health care personnel who work for the Department of Defense (DOD) are in great demand due to projected nationwide medical personnel shortages over the next decade and are essential to maintaining DOD's substantial health care delivery capability, which provides a full range of medical care to active duty military personnel and all other eligible beneficiaries sometimes at no cost.¹ With more than 9.6 million eligible beneficiaries receiving care from DOD's 59 inpatient medical facilities, 364 health clinics, and, at times, private-sector providers, the cost of DOD's medical system has risen from \$17.4 billion in fiscal year 2000² to approximately \$50 billion in fiscal year 2010, and it currently represents more than 9 percent of the DOD budget. Moreover, health care costs are expected to continue to escalate in the future. Because this amount does not include the cost of health care that is needed overseas to support two concurrent wars, or the costs to recruit and retain military personnel, the total amount DOD is spending on military health care is even higher. U.S. forces are expected to continue operations in Iraq and Afghanistan and, as a result, add to the workload of military treatment facilities for servicemembers who become injured or ill. Although tremendous advances in military medicine have led to reduced mortality rates among U.S. servicemembers, these patients may require lengthy hospital stays and extensive rehabilitation with highly trained staff to meet their medical care needs. A higher demand for health care personnel is also anticipated due to the increased numbers of overall personnel in both the Army and the Marine Corps from an effort known as Grow the Force. Key in its efforts to address the challenge of managing the medical forces across the services and determining the right number and

¹DOD provides medical care for its active duty servicemembers, retirees, and their eligible dependents through its TRICARE program. TRICARE brings together the health care resources of the Army, Navy, and Air Force and supplements them with networks of civilian health care providers. TRICARE offers three options—Prime, Extra, and Standard. Depending on which option is chosen, active duty servicemembers and their families may pay no enrollment fees and may have little or no deductibles or cost shares. Retirees (under 65), their families, and all other beneficiaries may have to pay annual enrollment fees and/or cost shares based on where they receive care.

²Amount in fiscal year 2000 dollars. Using medical cost conversion factors, this amount would equal \$30.8 billion in fiscal year 2010 dollars.

mix of medical personnel to meet the various needs of the Military Health System is DOD's plan to promote collaboration and integration in human capital management, while simultaneously respecting service-specific doctrine. Further, DOD's implementation of several strategic initiatives, such as Base Realignment and Closure decisions and the development of several joint ventures under its evolving framework for a Joint/Unified Medical Command, have forced the department to undertake steps designed to re-examine, among other things, its medical personnel requirements.

Our previous work has highlighted a range of long-standing issues surrounding DOD's Military Health System. For example, we reported in March 1995 that interservice rivalries and conflicting responsibilities hindered Military Health System improvement efforts.³ We noted in that report that the services have historically resisted efforts to change, preferring to maintain their own health care systems, primarily on the grounds that each service has unique medical activities and requirements. In our February 2005 report on challenges facing the U.S. government in the 21st century, we identified DOD's health care system as an area in which DOD could achieve economies of scale and improve delivery by combining, realigning, or otherwise changing selected support functions.⁴ That report noted that although DOD's civilian and military leaders appear committed to reform, DOD must overcome cultural resistance in the individual services, as well as the inertia of various organizations, policies, and practices (such as "stovepiping" or compartmentalizing of information or functions) that became well rooted in the Cold War era. In October 2007, we reported that DOD had taken incremental steps toward improving efficiencies within its Military Health System by establishing a joint medical effort in the National Capital Region, as well as the Joint Medical Education and Training Center in San Antonio, Texas.⁵ While we recognized that incremental improvements are sometimes appropriate, we recommended that DOD take steps to measure whether its efforts were meeting the goal of eliminating unnecessary duplication. DOD concurred

³GAO, *Defense Health Care: Issues and Challenges Confronting Military Medicine*, [GAO/HEHS-95-104](#) (Washington, D.C.: March 22, 1995).

⁴GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, [GAO-05-325SP](#) (Washington, D.C.: February 2005).

⁵GAO, *Defense Health Care: DOD Needs to Address the Expected Benefits, Costs, and Risks for Its Newly Approved Medical Command Structure*, [GAO-08-122](#) (Washington, D.C.: Oct. 12, 2007).

with this recommendation and has identified the steps that the department has taken to address it. Further, DOD's April 2006 *Quadrennial Defense Review Roadmap for Medical Transformation* recognized the department's need to transform its Military Health System, and the 2010 *Quadrennial Defense Review* acknowledged that DOD needs to reform the way in which it does business and to eliminate challenges that hinder its success.

The Senate Armed Services Committee, in its report accompanying the National Defense Authorization Act for Fiscal Year 2009, directed GAO to report to congressional defense committees on medical and dental personnel requirements of the Departments of the Army, Navy, and Air Force, including their reserve components, in order to, among other things, meet their medical missions in support of contingency operations and deliver high quality health care to eligible beneficiaries.⁶ In April 2009, we responded to that mandate in a published briefing to the defense committees on personnel authorizations and end strengths, by medical specialty.⁷ Subsequently, we agreed with congressional defense committees to undertake additional related work and initiated two reviews on issues related to military medical and dental personnel requirements in support of (1) fixed military treatment facilities and (2) contingency operations in Iraq and Afghanistan.⁸ For this report, we focused on medical and dental personnel requirements in support of DOD's fixed military treatment facilities. We evaluated (1) the extent to which the services have incorporated cross-service collaboration in their planning efforts for determining their medical personnel requirements, and (2) the service-specific processes for determining their requirements for military and civilian medical personnel.

For our first objective, we analyzed DOD and Army, Navy, and Air Force policies, directives, and other relevant strategic planning documents. We also obtained and analyzed memoranda and other documents related to DOD and the services' ongoing collaborative efforts. Further, we interviewed various officials from the Office of the Assistant Secretary of

⁶S. Rep. No 110-335, at 353 (2008).

⁷GAO, *Military Personnel: Status of Accession, Retention, and End Strength for Military Medical Officers and Preliminary Observations Regarding Accession and Retention Challenges*, [GAO-09-469R](#) (Washington, D.C.: April 16, 2009).

⁸We anticipate issuing a report on medical personnel requirements in support of contingency operations in Iraq and Afghanistan later this year.

Defense for Health Affairs and each of the services to obtain a more detailed understanding of the history, objectives, status, and challenges of their ongoing cross-service medical efforts. For our second objective, we analyzed instructions concerning personnel management procedures from each of the services. We also obtained and examined personnel requirements and authorized positions data for selected medical specialties for fiscal year 2009 and evaluated the reliability of the data we obtained and analyzed. We found it sufficiently reliable for the purposes of this audit. Additionally, we obtained and analyzed existing service requirements models in use and interviewed officials from each of the services in order to understand the processes they implement to determine their specific service's medical personnel requirements. For more detailed information on our scope and methodology, see appendix I.

We conducted this performance audit from August 2009 through July 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DOD's medical mission is twofold in that it maintains a readiness mission and a benefits mission. The readiness mission requires DOD to maintain the needed availability of its uniformed medical personnel in order to support the armed forces during military operations. The benefits mission provides servicemembers, retirees, and their dependents with access to health care at its military hospitals and clinics throughout the United States and overseas. Military medical personnel are essential to maintaining DOD's large and complex health system and are in great demand because of the need to treat injured or ill servicemembers and due to advances in medical technologies that require specialized personnel. They simultaneously support contingency operations, military operations that are more routine in nature, medical research efforts, and the delivery of beneficiary health care to patients across the globe.

The management organization of DOD's Military Health System comprises many levels. The Assistant Secretary of Defense for Health Affairs⁹ is the

⁹For purposes of this report, the Assistant Secretary of Defense for Health Affairs will be referred to as Health Affairs.

principal advisor for all DOD health policies, programs, and force health protection activities, and this official reports to the Under Secretary of Defense for Personnel and Readiness, who in turn reports to the Secretary of Defense. Health Affairs issues policies, procedures, and standards that govern DOD medical programs and has the authority to issue DOD instructions, publications, and directive-type memoranda that implement policy approved by the Secretary of Defense. It integrates the services' submissions and prepares, presents, and justifies a unified medical budget that provides resources for the Military Health System. Health Affairs is also authorized to communicate directly with the heads of DOD components regarding these issues.¹⁰ Additionally, Health Affairs develops policies and standards to ensure effective and efficient results through the approved joint process for joint medical capabilities integration, clinical standardization, and operational validation of all medical material.

The Secretaries of the Departments of the Army, Navy, and Air Force are responsible (subject to the authority, direction, and control of the Secretary of Defense) for the operation and efficiency of their departments. In addition, the service secretaries issue implementation instructions to their departments based on policies that Health Affairs develops. By law, the service secretaries are also responsible (again, subject to the authority, direction, and control of the Secretary of Defense) for promoting cooperation and coordination among the military departments and defense agencies to provide effective, efficient, and economical administration, and to eliminate duplication.¹¹

The Army, Navy, and Air Force have their own Surgeons General who have overall responsibility for medical operations within their respective departments.¹² Within the Army, the Army Surgeon General simultaneously heads the Army Medical Department and the Army Medical Command. In leading the Army Medical Department, the Surgeon General serves as the primary advisor to the Secretary of the Army on all health and medical issues. In addition, the Army Surgeon General has overall responsibility for the Armywide health services system to include development, policy direction, organization, and management of the system through such

¹⁰Department of Defense Directive 5136.01, *Assistant Secretary of Defense for Health Affairs* (Jun. 4, 2008).

¹¹10 U.S.C. § 3013(c)(5), 10 U.S.C. § 5013(c)(5), and 10 U.S.C. § 8013(c)(5).

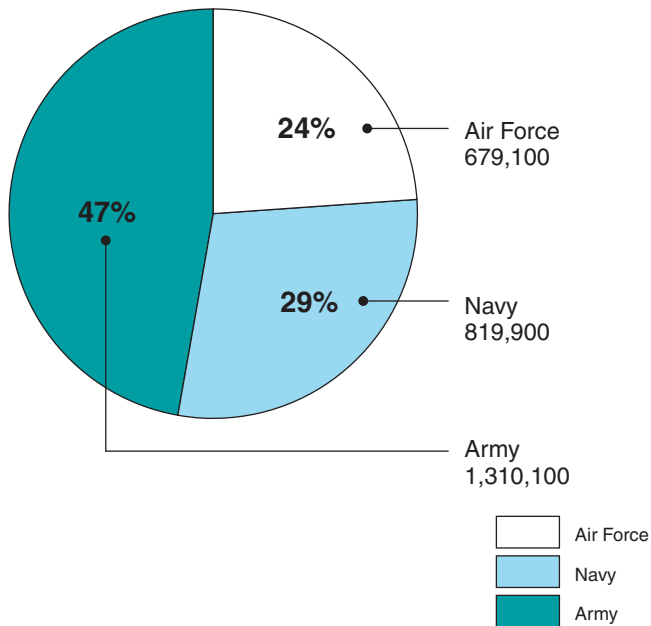
¹²The U.S. Navy provides all of the medical care for the U.S. Marine Corps.

activities as recruiting, organizing, equipping, supplying, and training, as assigned by the Secretary of the Army. As the Commanding General of the Army Medical Command, the Surgeon General leads five regional medical commands and their fixed military treatment facilities, and other Army Medical Department agencies. The Navy Surgeon General serves as the Director of Naval Medicine and is the Chief of the Navy Bureau of Medicine and Surgery. As the director of Naval Medicine, the Surgeon General is the principal advisor to the Chief of Naval Operations on health care service programs for the Department of the Navy, and develops and issues health care policies and directions. As the chief of the Navy Bureau of Medicine and Surgery, the Surgeon General oversees the delivery of health care in the Navy and Marine Corps and commands the Navy shore medical facilities. The Air Force Surgeon General is that service's most senior medical officer and head of the Air Force Medical Service. The Air Force Surgeon General is responsible for guidance, direction, and oversight for all matters pertaining to the formulation, review, and execution of plans, policies, programs, and budgets related to carrying out the mission of the Air Force Medical System to provide for the health care of Air Force personnel and their families.

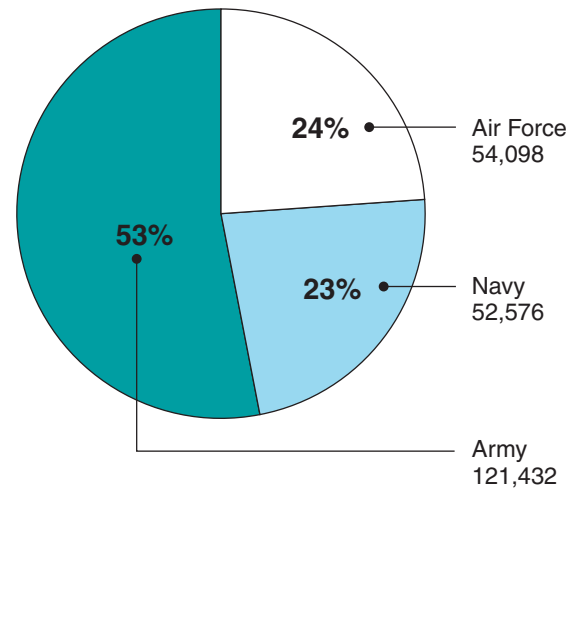
The service medical components contribute to the Military Health System missions by operating military treatment facilities throughout the United States and the world. These facilities consist of 59 hospitals capable of providing diagnostic, therapeutic, and inpatient care, as well as hundreds of clinics that primarily handle health screenings and ambulatory care. The Army, Navy, and Air Force staff their military treatment facilities with active duty, reserve, and civilian personnel. Contractors also play a role in the execution of the Military Health System mission by providing medical, clinical, and administrative staff and support services within both the military treatment facilities and the network of private hospitals and providers in the community. Reliance on contractors in the medical community varies by location and need. DOD is not required by law to include the number of medical contractors it employs in its annual *Defense Manpower Requirements Report*; therefore, the number of medical contractors onboard at any point in time is not readily available. DOD's medical force is comprised of approximately 228,000 personnel, including about 116,000 active duty personnel, 67,000 reserve component personnel, and 45,000 civilians. As seen in figure 1, the distribution of the medical workforce is fairly proportional to the distribution of the total workforce for each of the three services.

Figure 1: Distribution of Active Duty, Reserve, and Civilian Workforce in Total and Specifically for Medical Workforce, by Service

Distribution of total workforce



Distribution of total medical workforce



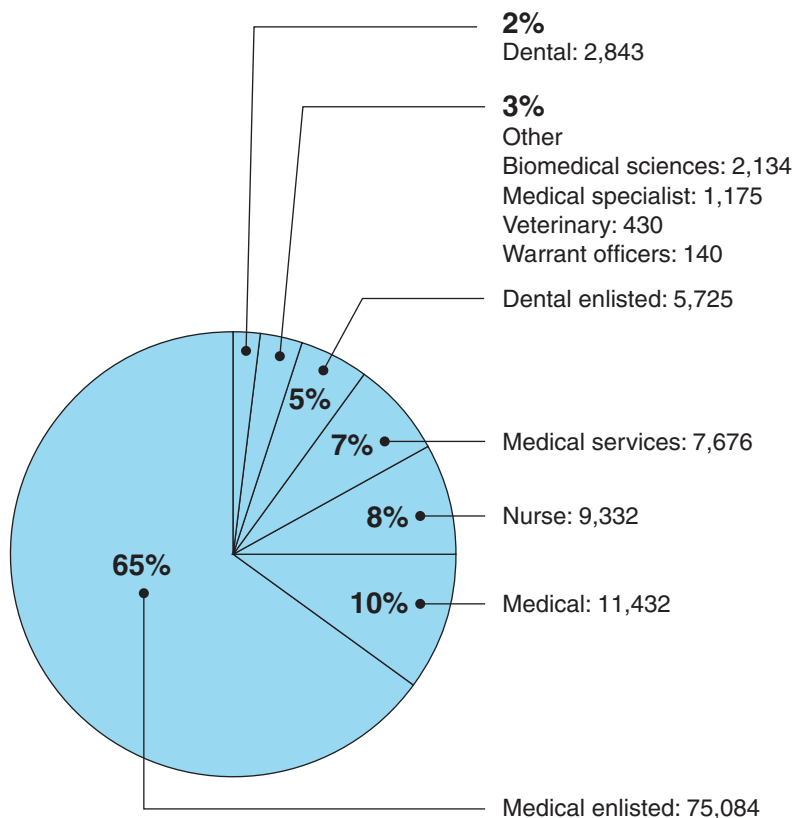
Source: Fiscal Year 2009 Defense Manpower Requirements Report.

Although the personnel distribution varies by service, collectively the active duty and reserve workforces make up approximately 80 percent of the medical force, with the active duty comprising about 51 percent and the reserves 29 percent. Civilians comprise 20 percent of the medical workforce. In providing technical comments to a draft of this report, DOD noted that among the military services, the Army has the highest percentage of civilians. For example, within the Army Medical Command, 58 percent of its fiscal year 2011 medical workforce is projected to be comprised of Army civilians.

According to the 2007 *Military Health System Human Capital Strategic Plan*, the medical workforce is comprised of several specialty medical corps, including Medical, Dental, Nurse, Medical Service, Medical Specialist, Biomedical Sciences, Veterinary, Warrant Officers, Medical Enlisted, and Dental Enlisted. This plan also states that the largest corps is the active duty Medical Enlisted Corps, which consists of about 75,000 individuals and makes up about 65 percent of DOD's active duty medical

force. Figure 2 represents the distribution of active duty medical personnel by specialty.

Figure 2: Distribution of Active Duty Medical Personnel by Specialty



Source: Fiscal Year 2009 Defense Manpower Requirements Report.

A more detailed breakout of each of the services' medical specialty personnel levels is presented in appendix II. That appendix shows, for fiscal year 2009, how each of the services allocated its positions within each of its medical specialties based on identified needs, financial resources, and personnel availability.

DOD's Policy Emphasizes Jointness, although the Services' Collaborative Efforts in Determining Medical Personnel Requirements Have Been Limited

While DOD has emphasized jointness and undertaken joint initiatives across the department, the extent to which the services have incorporated cross-service collaboration in their planning efforts for determining their medical personnel requirements has been limited. The 2007 *Military Health System Human Capital Strategic Plan 2008-2013* emphasizes the importance of planning, coordinating, collaborating, and developing human capital solutions across the services to enable departmentwide decision making.¹³ Additionally, a DOD directive requires developing plans and procedures and pursuing common and cross-cutting modeling tools and data.¹⁴ Furthermore, DOD is moving toward having joint medical regions in which DOD-operated medical treatment facilities are staffed using personnel from across the service such as the consolidation of the military treatment facilities in the Washington, D.C., area. Also, DOD established a cross-service, baseline medical manpower standard for mental health providers, which was released in January 2010. While these efforts represent progress by the services in working collaboratively, the services have encountered challenges in their implementation.

DOD Emphasizes Jointness in Its Strategic Plan and Quadrennial Defense Review

Issued in November 2007, DOD's medical personnel strategic plan—the *Military Health System Human Capital Strategic Plan 2008-2013*—emphasizes coordination and collaboration across the services. This plan sets forth a vision, guiding principles, goals, and objectives for the management of the Military Health System's medical personnel. The strategic plan articulates a vision of an interoperable and agile total medical force that meets the missions defined by National Security Strategy requirements. Emphasized throughout this strategic plan is the premise that the mission of the Military Health System can be better met by increasing emphasis on planning, coordinating, collaborating, and developing human capital solutions across the services. More specifically, this strategic plan states that the Military Health System cannot continue to recruit, develop, train, reward, and retain its workforce solely through each service independently, as mission requirements demand that they work together to achieve interoperability and agility.

The 2007 *Military Health System Human Capital Strategic Plan* also aligns with critical areas on medical transformation initially presented in

¹³*Military Health System Human Capital Strategic Plan for 2008-2013* (Nov. 2007).

¹⁴Department of Defense Directive 5000.59, *DOD Modeling and Simulation Management*, § 5.7.3 (Aug. 8, 2007).

the April 2006 *Quadrennial Defense Review Roadmap for Medical Transformation*, which encouraged the Military Health System to create standardized processes, tools, and resources to improve efficiency and eliminate redundancies across the services. This goal is reiterated by a specific DOD directive requiring the services to maximize commonality, reuse, interoperability, efficiencies, and effectiveness of component-specific modeling data and tools. The *Military Health System Strategic Plan* is also cited in the 2010 *Quadrennial Defense Review*, which generally observes that DOD needs to reform the way in which it does business to address challenges—such as parochial interests and sometimes adversarial relationships within the Pentagon and with other parts of government—that are hindering its success.

Joint Medical Effort in the Washington, D.C., Area Represents Cross-Service Collaboration but Has Encountered Challenges in Developing Its Military Medical Personnel Requirements

To eliminate redundancies in medical operations, integrate services, and achieve better economies of scale, DOD is implementing a joint medical effort in the National Capital Region of Washington, D.C., known as Joint Task Force National Capital Region Medical. This effort stems from a 2005 Base Realignment and Closure (BRAC) Commission recommendation to relocate patient care activities from the Walter Reed Army Medical Center Washington, D.C., to the National Naval Medical Center, Bethesda, Maryland, and to a new community hospital at Fort Belvoir, Virginia. The BRAC Commission presented its list of final recommendations to the President of the United States, which included a cost/savings estimate for this joint medical effort. The President approved the recommendations in their entirety and subsequently forwarded them to Congress, and they became effective in November 2005. Our analysis of DOD fiscal year 2010 BRAC budget showed that the cost to implement this realignment is estimated to be \$2.4 billion, consisting primarily of \$1.7 billion in construction costs. That analysis also showed that DOD projects its net annual recurring savings of this effort to be \$172 million.¹⁵

In September 2007, the Deputy Secretary of Defense issued a memorandum that formally established Joint Task Force National Capital Region Medical. One of its two facilities, the new Walter Reed National Military Medical Center, will be located on the Bethesda campus, and according to the Deputy Secretary of Defense, is expected to deliver

¹⁵*Military Base Realignments and Closures: Estimated Costs Have Increased While Savings Estimates Have Decreased Since Fiscal Year 2009*, GAO-10-98R (Washington, D.C.: November 13, 2009).

effective and efficient, world-class military health care, as well as consolidate and realign military health care in the region. Its medical services will include primary care, secondary care (that is, care provided by a consulting physician at the request of a primary physician), and tertiary care (that is, very specialized care performed by physicians with facilities and skills for special investigation and medical treatment). DOD plans to close the current Walter Reed Army Medical Center facility by September 2011. The second facility at Fort Belvoir, Virginia, is being expanded to provide comprehensive primary and secondary patient care services. Joint Task Force National Capital Region Medical's vision, mission, and principles include as a key priority the establishment of common standards and processes, and calls for interoperability. According to a statement in the 2010 *Comprehensive Master Plan for the Nation Capital Region Medical*, this medical realignment represents a merger of nearly 10,000 healthcare and support staff. The document also states that the department has currently determined an active duty personnel distribution between the new Walter Reed National Military Medical Center in Bethesda and the Fort Belvoir Community Hospital, and that the services have identified the resources to meet the manning requirements. Joint Task Force National Capital Region Medical, which reached fully operational capability status on September 30, 2008, represents an important initiative within the Military Health System because, if successful, Joint Task Force officials believe it will be a model for the future of military medicine. Officials also noted to us that this joint medical effort in Washington, D.C., is a new process and, Joint Task Force officials are working with the services to work through details to achieve joint medical commands in the National Capital Region.

Officials, however, have faced challenges in consolidating and realigning the medical manpower portion of this newly formed joint medical effort within the National Capital Region. Additionally, according to officials we spoke with, several assumptions used throughout the development of the joint manning document—that (1) the population served would remain static from 2004, (2) the clinical workload to be met would be based on that of 2004, and (3) the 2004 medical missions would remain constant—have become outdated. According to officials, the military treatment facilities in the National Capital Region have seen a significant increase in their clinical workload over 2004 levels as a result of injuries sustained by servicemembers following the acceleration in overseas operations in Iraq that was announced in 2007. Further, they said these injuries entail additional medical missions that the Joint Task Force officials have not been able to fully incorporate into the clinical workload or the personnel requirements determination. Such additional missions include an

increased need for advanced limb and wound care, and traumatic brain injury care. Also, in order to develop the joint manning document for the newly formed and jointly staffed facilities, officials had to fuse the results of the services' dissimilar medical personnel requirements determination processes. In doing so, they found that the services' official manning documents contained inaccuracies. Several civilian and military Joint Task Force officials, who analyzed manpower documents to determine the levels of medical personnel currently on board for each service, told us that the services had employed civilian and contract personnel at their facilities but not recorded them on the manpower documents upon which these officials based the development of the joint manning document. For these various reasons, the joint task force officials have encountered significant challenges in developing an accurate, complete, and realistic joint manning document that lays out the medical requirements by specialty for the newly formed joint facilities.

DOD officials attribute the problems to formative, early stage development issues, and acknowledged that, if service manpower determination processes had used similar language, nomenclatures, and approaches, the creation of the joint manning document would have been a more straightforward process. Officials also told us, however, that while the collaboration encountered to date has been challenging, it has been beneficial in building the relationship among the medical components and operational components of the services. These officials stated that with continued collaboration among the services and future operational experience, the Joint Task Force's leadership intends to identify data-driven refinements to projected manpower requirements that would better capture efficiencies, enhance service quality, and build on selected strategic interests.

DOD and the Services Collaborated to Develop a Recently Released Cross-Service Medical Manpower Standard for Mental Health Providers

A second joint medical personnel effort, quite different from that of the realignment previously described, is DOD and the services' ongoing development and implementation of a cross-service medical manpower standard known as the Psychological Health Risk-Adjusted Model for Staffing (PHRAMS). PHRAMS represents the culmination of a collaborative manpower requirements effort to develop a standardized, more consistent approach across the services for determining mental health personnel requirements. Health Affairs sponsored the development of the cross-service PHRAMS manpower standard to address the growth in demand for mental health services, as well as to give the services a standard by which to develop mental health requirements needed to meet the common, day-to-day psychological health needs of eligible

beneficiaries across the services. The model projects mental health medical requirements over a 5-year planning horizon and provides a gap analysis for the first year, in order to assist the services in addressing near-term personnel shortages. It also provides a consistent staffing standard containing several fixed parameters, such as the size of the beneficiary population and utilization rates, which Health Affairs will re-evaluate annually when the model is updated. Finally, the model contains variables that can change at the services' discretion, such as the number of patients seen annually by a provider and an adjustment rate to reflect increased deployments for servicemembers in the hospital's area of responsibility. Health Affairs released the final model to the services in January 2010. Currently, the Army, Navy, and Air Force are using PHRAMS to generate mental health staffing requirements at their military treatment facilities that are to be incorporated into the fiscal year 2012 budget submission later this year and because the model was only recently released to the services, the effect of its implementation on cost savings or requirement numbers is still unknown. Additionally, Health Affairs officials said that the services will continue to assess potential applications of PHRAMS. While the services are not specifically required to use PHRAMS or to develop more models, Health Affairs officials told us that the publishing of the *Military Health System Human Capital Strategic Plan* has encouraged dialogue among the services on collaboration, and such dialogue may facilitate the identification of further opportunities for development of manpower requirements models.

Service-Specific Medical Requirements Determination Processes Are Not Consistent with Collaborative Planning

To the extent that PHRAMS represents a positive collaborative initiative, to date it is the only model of its kind. The services are responsible for organizing, equipping, and training their respective forces, and service officials assert that their respective needs are sufficiently different to warrant maintaining service-unique processes for requirement determination. While each of the services has unique operational medical capabilities, such as Army veterinary medicine, Navy undersea medicine, and Air Force aerospace medicine, the day-to-day operations at military medical treatment facilities are very similar across the services, and they could advantageously be more collaboratively managed. A DOD directive requires the respective heads of the services to maximize the commonality, reuse, interoperability, efficiencies, and effectiveness of component-specific modeling data and tools,¹⁶ but Health Affairs officials

¹⁶Department of Defense Directive 5000.59, § 5.7.3 (Aug. 8, 2007).

said that no other current collaboration efforts for determining medical personnel requirements or developing medical manpower standards, other than PHRAMS, are currently under way. Committed and effective leadership is a critical aspect of enhancing collaboration. Committed leadership by those involved in collaborative efforts from all levels of the organization is needed to overcome the many barriers to working across boundaries. Key organizational issues, like strategic workforce planning, are most likely to succeed if, at their outset, top program and human capital leaders set the direction, pace, and tone and provide a clear, consistent rationale for the transformation. With leadership emphasis and expectations that the services will continue to explore opportunities to develop cross-service medical manpower standards, such as PHRAMS, and consistent management focus on collaboration within DOD's Military Health System, the services will have more opportunities to develop collaborative work force planning efforts for common medical capabilities that they share throughout their military treatment facilities—an approach that is consistent with the *Military Health System Human Capital Strategic Plan's* vision of a more integrated approach across service lines.¹⁷

¹⁷In providing technical comments to a draft of this report, DOD noted it has made progress in the past few years towards joint unitization of personnel, such as tri-service staffed hospitals in Kuwait and Iraq; the establishment of a human capital office at the Health Affairs level for providing coordination and assistance to the services in establishing a joint human capital strategy for civilian personnel; tri-service team to develop special pay structures for medical professionals; and the development of two information management systems used by all three military departments to establish more standardized data and data sharing among the services. While we recognize these efforts as examples of cross-service collaboration, they are not directly related to the medical personnel requirements determination process for fixed military treatment facilities, which is the focus of this report.

The Services' Respective Processes for Developing Requirements Are Not Validated and Verifiable in All Cases and Do Not Centrally Account for Civilian Personnel Requirements

While a need exists for the services to work more collaboratively to determine their medical personnel requirements, the services' also maintain processes to address service-specific needs. In accordance with a DOD directive,¹⁸ personnel requirements are to be established according to workload at the minimum levels necessary to accomplish mission and performance objectives. Additionally, a DOD instruction¹⁹ calls for the models and associated data used to support DOD processes and decisions to be validated and verified throughout their life cycles, and accredited for the model's intended purpose. While all of the services currently are taking steps to update and refine their medical personnel requirement processes, these processes, however, are not yet fully validated or verifiable. Further, the services do not centrally manage their civilian medical personnel requirements.

Army's Model Contains Some Outdated Information and Is in the Process of Being Updated and Validated

The Army uses its Automated Staffing Assessment Model to determine manpower requirements for Army fixed military treatment facility and other Army Medical Command organizations. This model is based primarily on approved population and workload data, but it also incorporates industry performance data to determine manpower requirements for the various medical specialties. The Automated Staffing Assessment Model consists of over 240 modules for determining essential medical requirements for many medical specialties such as physicians, nurses, dentists, medical service corps, and veterinarians, to name a few, at the work center level across Army fixed military treatment facilities. The model uses the current population of the various military treatment facilities as the major determinant of the number of medical personnel needed at each facility. In addition, a number of key, workload-based assumptions inform the model, including patient care hours, population projections, provider-to-patient ratio, and provider-to-support technician ratio. However, in certain cases, our analyses of selected modules revealed areas that need improvement. For example, our analyses of the inpatient nursing and dental modules revealed the use of some obsolete assumptions. Specifically, we found that the Army's nursing requirements

¹⁸Department of Defense Directive 1100.4, *Guidance for Manpower Management*, § 3.2 (Feb. 12, 2005).

¹⁹Department of Defense Instruction 5000.61, *DOD Modeling and Simulation Verification, Validation, and Accreditation* (Dec. 9, 2009).

module had not been updated or used since 2005 to determine nursing requirements. Further, according to dental command officials, the dental module in use is an Army legacy model that is over 40 years old and does not reflect the more advanced level of dental care currently being provided, such as the increased need for complex dental repair work rather than simple extractions. DOD noted in technical comments on a draft of this report that the nursing and dental modules were recently updated and submitted for validation.

According to Army officials, updates to Army medical manpower models are subject to a review process by the U.S. Army Manpower Analysis Agency, and to final approval by the Office of the Assistant Secretary of the Army for Manpower and Reserve Affairs. A module can be approved for 3 years if it is determined to be logical, analytical, verifiable, and based on accurate data sources. However, if a module is based solely on data provided by subject matter experts and functional estimates of the primary tasks associated with the specialty, the model will be approved for 1 year—as is the case for the recently validated veterinary specialty module. According to Army officials, prior to 2008, the Army required a random sample of 2 percent of the requirements models to be validated for reasonableness; however, currently, it uses a more stringent approach that requires all models to be validated. Army documents show that the Army's manpower analysis agency completed validation of 4 of the 240 modules in 2009 and 2 more so far in 2010. In addition, 12 more modules have either been submitted for review and approval or are nearing submission. In technical comments to a draft of this report, DOD noted that the Army believes the number of requirements covered by its staffing assessment model is more important than the number of modules as we have discussed. As such, the Army noted that nearly 20 percent of its medical personnel requirements have been updated and about another 20 percent of its requirements have been submitted for validation however are pending approvals. Moreover, Army Medical Command officials have been working with representatives from the Army Manpower Analysis Agency to develop a specific time line and priorities for validation of the remaining modules, but currently no definitive schedule has been set yet for completing the validation.

Army officials recognized that the approach to model validation that they had been using, including its previous reliance on sampling methods, was not providing the Army with complete and sufficient information. With committed and sustained leadership emphasis to complete and maintain the validation of all the modules, the Army will be in a better position to be

certain it is determining its medical personnel requirements in an effective and efficient manner.

Navy Does Not Have a Validated and Verifiable Process but Is Moving toward a Validated Model

The Navy has not used a model to determine the medical personnel requirements for its fixed military treatment facilities. Instead, Navy officials explained that, the Navy's process is to use current manning as a baseline and adjust the figure based on emerging needs or major changes in its medical mission. Additionally, Navy officials explained that local military treatment facility commanders prepare annual business plans for their medical facilities and include proposed changes to the facilities' personnel requirements based on such information as enrolled population, utilization rates, and on expert functional knowledge at the military treatment facility. These business case analyses are then submitted and reviewed through the chain of command and approved by the Navy Surgeon General as medical resources allow. While the Navy routinely employs this approach to determine its medical personnel requirements, it is not a validated or verified methodology as required by DOD guidance.

To better assess its medical personnel requirement needs at the medical specialty level, the Navy is beginning to develop medical manpower standards which officials indicate will be used as the basis for future requirements determination. According to Navy officials, they plan to use the Navy Medicine Benchmark Model for its 93 medical functional areas. As this model will determine the benchmark for the number of personnel needed in a medical specialty at a military treatment facility, the model will be used to identify surpluses or shortages in personnel at each facility and identifying the optimal military, civilian, and contractor mix. DOD noted in technical comments responding to a draft of this report that the Navy Bureau of Medicine and Surgery Headquarters is the approval authority for determining whether a medical personnel requirements model or process is valid and verifiable. Navy medical officials explained that they are still in the process of determining the model's validity for each of its medical specialty areas, and they did not provide a time schedule as to when this would be completed. Although the Navy is implementing this model to help determine its medical personnel requirements, Navy officials asserted to us that the Navy does not have any unmet requirements, as it uses private-sector medical care when military treatment facilities are unable to provide the care.

Navy officials recognized the business case analysis process did not provide the validated and verifiable approach needed to determine their medical manpower requirements. With committed and sustained leadership emphasis to implement and maintain a fully validated

benchmark model, the Navy similarly will be in a better position to be certain it is determining its medical personnel requirements in an effective and efficient manner.

Air Force Currently Uses a Nonvalidated, Nonverifiable Model and Other Information to Determine Its Medical Requirements but Has Begun Developing a Newer Model

In 2002, the Air Force Surgeon General collaborated with the private sector to design the Product Line Analysis and Transformation Tool that produced medical manpower staffing models utilizing industry standards and research and the experiences of Air Force medical personnel. While the models were presented in 2003 for validation and approval, the Air Force leadership did not approve this model for determining manpower standards for its medical specialties because the models were not based on objectively quantifiable data sources. Although the Air Force considered any medical requirements developed using the model as unverifiable, it allowed Air Force medical officials to continue to use the models as a part of its requirements determination process. Currently, Air Force medical officials use, in addition to the model, historical workload, historical and like-size facility manning, industry models, functional models, and statistical analysis of variance by facility to generate their medical personnel requirements. The current requirements development process can be performed using either a top-down or a bottom-up approach. The top-down approach begins with Air Force leadership, usually at the rank of general, determining that a military treatment facility has a need for new requirements. The bottom-up approach occurs when officials at a military treatment facility identify a need for a new requirement and then work through the major commands to change or alter its current requirements. The major commands then work with the Air Force Medical Operations Agency to bring a request for new or changed requirements to the Air Force Surgeon General. The new or changed requirements undergo a vetting process that ranges from the military treatment facility to the Chief of Staff before they are approved. Any changes to requirements are based on identified need as experts in functional areas obtain new data or refined standards.

To establish the feasibility of providing a verifiable means of medical manpower standards development support to the Air Force medical community, the Air Force Medical Service and the Air Force Manpower Agency signed a Memorandum of Agreement whereby the Air Force Manpower Agency will develop new manpower standards for all Air Force medical specialties, based on data that have been collected for each. According to officials, this effort began in January 2010, and they hope to have completed developing all of the manpower standards by 2015. In order to do so, the Air Force Manpower Agency is planning to hire

15 officials—10 civilians and 5 military—to research, develop, and validate the new manpower standards. This effort will include such tasks as developing the data collection approach, performing the analysis on all of the data, developing the manpower models, and identifying process improvement opportunities.

Air Force officials recognized that their recent efforts to develop medical manpower standards stem from the Air Force's need for a validated and verifiable manpower requirements determination process. With committed and sustained leadership emphasis on maintaining validated medical manpower models, the Air Force is in a similar position as the other services in that it would be in a better position to know its true medical needs by medical specialty and to be certain it is determining its medical personnel requirements in a more effective and efficient manner.

The Services Do Not Centrally Account for Civilian Personnel Requirements

DOD's efforts to determine its medical personnel requirements at military treatment facilities are further limited by the fact that the services have not fully incorporated into their requirements processes the use of civilians who deliver health care at the same stage in the process where they determine their military medical personnel requirements. A DOD directive requires that, for areas employing both military and civilian personnel, manpower requirements shall be determined in total and designated as either military or civilian, but not both, as an active, reserve, or civilian determination must be made for each requirement.²⁰ The *Military Health System Human Capital Strategic Plan* also asserts that more efforts should be made to have the optimal mix of medical personnel. However, while civilian personnel constitute about 20 percent of the services' medical workforce, the services' current requirements processes are generic in nature and do not differentiate positions as military or civilian.²¹ We found that all three services first determine their collective requirements. Then, at the local level, after all of the positions at a military treatment facility are staffed with the available military personnel, the commander of the local military treatment facility

²⁰Department of Defense Directive 1100.4, § 3.2.3 (Feb. 12, 2005).

²¹Section 721 of the National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181 (2008) (as amended by section 701 of the National Defense Authorization Act for Fiscal Year 2010, Pub. L. No. 111-84 (2009)) prohibits the secretaries of the military departments from converting any military medical positions to civilian medical positions during the period beginning on or after October 1, 2007.

determines whether a position will be designated as civilian or contractor. In making determinations to use civilian personnel, local commanders use several factors, such as whether the position is military essential—to support readiness or operational missions—or inherently governmental—which would require the position be filled with a government employee. Additionally, commanders consider financial resources and the availability of civilian or contractor personnel in the local area. In technical comments provided in response to a draft of this report, DOD officials disagreed with our statement that the services do not centrally account for civilian personnel requirements. DOD noted that workload generated by civilians is captured and depicted in a centralized information management system. However, based on the explanation of this system given by DOD, we note that this system captures the number of civilian personnel already on board and the areas in which they are employed. It does not identify the number of civilian personnel needed and required by each service to meet the missions of fixed military treatment facilities, nor does it centrally account for civilian personnel requirements. In addition, several military treatment facility personnel told us that more direction or centralized guidance would aid them, in many cases, in their management of their civilian personnel. DOD's 2009 update to its Civilian Human Capital Strategic Plan²² lists global civilian end strength numbers for five mission critical medical occupational series—medical officers, nurses, pharmacists, clinical psychologists, and licensed clinical social workers. This update also gives projected accession and recruiting goals needed to reach those global end strength numbers. However, the update does not project any civilian end strength numbers at the medical specialty levels within these occupational series nor does it indicate the military treatment facilities at which these civilians are needed. If the services do not identify civilian personnel requirements for military treatment facilities in the overall requirements planning process, the services may be missing the opportunity to make a strategic determination of how many medical professionals—military or civilian—are needed in total to carry out their expected missions and workloads. The services assume added risk if their medical requirements are not completely met, and if the requirements are unknown, the extent of that risk cannot be estimated. If risk is unknown, the services cannot develop appropriate risk-mitigation strategies for their unmet medical personnel requirements.

²²*The Department of Defense's Fiscal Year 2009 Status Report on the Implementation of the Department's Strategic Civilian Human Capital Plan 2006-2010*, March 31, 2010.

Conclusions

To achieve a military health system that can respond to our country's changing national security needs by using both the right numbers and the right mix of forces, DOD has emphasized the need for collaboration of efforts in the medical arena, and committed and sustained leadership emphasis is key to successful collaboration. The efforts taken to date by OSD and the services to develop and implement specific cross-service manpower related programs have been a step in the right direction for building a collaborative approach to determining military medical personnel requirements. As such, it is important that the services continue to focus on developing programs, solutions, and measures for managing medical personnel requirements across the services and focus on the long-term, broader picture. By doing so, OSD and the services will have more opportunities to create departmentwide benefits and would more fully support the Military Health System's strategic planning goal of collaboration. Also, as the services work toward a joint approach, it is important for them to have sound medical personnel requirement determination processes in place, to enable them to identify the personnel numbers and mix they need to fully perform their medical missions. If the services are to effectively and efficiently provide daily care to active duty and retired servicemembers and their dependents in their fixed medical facilities, it is important that each of their medical personnel requirement processes reflects currency, validation, and verification. Areas of improvement exist within the services' medical requirements processes, and until these processes are up-to-date, fully validated, and verifiable, it is not clear whether the services can be certain they are determining their medical personnel requirements in an effective and efficient manner.

Recommendations for Executive Action

Consistent with DOD emphasis on developing human capital solutions across the services to enable departmentwide decision making and analyses within its Military Health System, we recommend that the Secretary of Defense direct the Assistant Secretary of Defense for Health Affairs and the Service Secretaries to take the following two actions.

- Identify the common medical capabilities that are shared across the services in their military treatment facilities that would benefit from the development of cross-service medical manpower standards; and
- Where applicable, develop and implement cross-service medical manpower standards for those common medical capabilities.

To improve the Army's current medical personnel requirements determination process, we recommend that the Secretary of the Army direct the Army Surgeon General to take the following three actions.

- Update assumptions and other key data elements contained within specialty modules of the Automated Staffing Assessment Model;
- Develop and implement a definitive revalidation schedule for the specialty modules of the Automated Staffing Assessment Model; and
- Include its reliance on civilian medical personnel in its assumptions as it updates and validates their medical personnel requirements determination modules.

To improve the Navy's current medical personnel requirements determination process, we recommend that the Secretary of the Navy direct the Navy Surgeon General to take the following two actions.

- Develop a validated and verifiable process to determine its medical manpower requirements; and
- Include its reliance on civilian medical personnel in its assumptions as it develops, and then validates, its medical personnel requirements determination model.

To improve the Air Force's current medical personnel requirements determination process, we recommend that the Secretary of the Air Force direct the Air Force Surgeon General to take the following two actions.

- Develop a validated and verifiable process to determine its medical manpower requirements; and
- Include its reliance on civilian medical personnel in its assumptions as it develops, and then validates, its medical personnel requirements determination model.

Agency Comments and our Evaluation

In written comments provided in response to a draft of this report, DOD concurred or partially concurred with all of our recommendations. DOD's written comments are reprinted in appendix III of this report. Additionally, DOD provided technical comments that we have incorporated where appropriate.

In concurring with our recommendations regarding identifying, developing, and implementing cross-service medical manpower standards for medical capabilities that are shared across the services, DOD noted that a cost-benefit analysis must precede a review of shared capabilities to ensure that there is a significant, measurable benefit in cost, quality, or access to medical care before department medical funds are expended.

We agree that this course of action would constitute a reasonable part of a process to identify which specialties would benefit from such efforts.

In concurring with our recommendations to improve the Army's current medical personnel requirements determination process by updating assumptions, developing and implementing a revalidation schedule, and including its reliance on civilian medical personnel in its assumptions, DOD stated that the Army will continue to update assumptions and other key data elements within the Army Automated Staffing Assessment Model as our recommendation suggested and will closely coordinate efforts between Army Medical Command and the U.S. Army Manpower Analysis Agency to implement a revalidation schedule for the medical personnel requirements determination models. DOD further noted in its response to a draft of this report that the Army will continue to capture civilian contribution to the generation of medical workload in its Automated Staffing Assessment Model, and that 58 percent of Army Medical Command's workforce is civilian. Although we believe Army's efforts to capture civilian contribution is important to understanding its workforce, the intent of our recommendation is for the Army to better delineate military versus civilian personnel requirements during the requirements determination process as called for in DOD Directive 1100.4.

In its partial concurrence with our recommendations for the Navy to develop a validated and verifiable process to determine its medical manpower requirements and to include its reliance upon civilian medical personnel in its assumptions, DOD noted that the Navy initiated a comprehensive effort to redefine how medical manpower requirements are determined, the results of which are expected by fall 2010. We note this effort in our report, and it is in line with the intent of our recommendation, but we continue to assert the need for this effort to be completed. Further, DOD noted that the Navy Surgeon General has always taken and will continue to emphasize a total force approach in future planning and programming for medical personnel. We note, however, that while we recognize the value of such an approach, our recommendation concerns, as with the Army, the need for the Navy to delineate military versus civilian personnel requirements during the requirements determination process as called for in DOD Directive 1100.4.

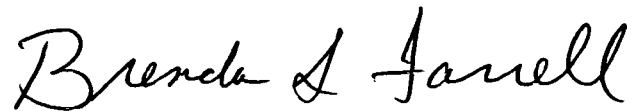
In concurring with our recommendations that the Air Force Surgeon General develop a validated and verifiable process to determine medical manpower requirements and include its reliance on civilian medical personnel in its assumptions, DOD noted that the Air Force is in the process of developing new manpower standards for its medical specialties,

having finalized a Memorandum of Agreement between the Air Force Medical Service and Air Force Manpower Agency in May 2010. We note the potential of this effort as a strong step toward fulfilling this recommendation. Further, DOD noted that the new Air Force manpower standards will include the identification of civilian equivalents for those positions not deemed military essential, and that civilian requirements are also reviewed and determined through the Inherently Governmental / Commercial Activity process. We agree that Air Force's new medical requirements determination standards, to include civilians, will have the potential to address the intent of our recommendation. The Inherently Governmental / Commercial Activity process, however, does not completely address the need to delineate military versus civilian personnel requirements during the requirements determination process as our recommendation suggests and as called for in DOD Directive 1100.4.

Additionally, one of DOD's technical comments concerns our recommendations regarding the services' need to include their reliance on civilian medical personnel in their assumptions when developing and validating their medical personnel requirements determination models. In this technical comment, DOD suggested that we delete the section of our report headed by the statement "The Services Do Not Centrally Account for Civilian Personnel Requirements." DOD noted that all three services use a reporting system that captures and depicts workload generated by civilians in a centralized information management system. However, we note that the workload generated by civilians constitutes an after-the-fact status of assignments rather than a consideration in generating the requirements before these civilians are assigned to fill a requirement. Thus, we continue to believe the validity of our aforementioned heading reflecting our findings in this area has merit.

Finally, DOD provided in its technical comments to a draft of this report a table that they believe illustrates recent collaborative efforts. Two of the six examples—Psychological Health Risk-Adjusted Model for Staffing and Joint Task Force National Capital Region Medical—are discussed extensively in this report. DOD noted four more examples to illustrate recent collaborative efforts, such as proposed legislation for financial assistance to provide scholarships to civilian medical providers, that we did not include in our report because we believe that these examples are not directly related to the development of cross-service manpower standards or medical personnel requirements, which is the focus of this report. We have, however, reprinted DOD's table in appendix III.

We are sending copies of this report to the Secretary of Defense and the Secretaries of the Army, Navy, and Air Force. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>. If you or your staff have any questions on the information discussed in this report, please contact me at (202) 512-3604 or farrellb@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VI.



Brenda S. Farrell
Director
Defense Capabilities and Management

List of Committees

The Honorable Carl Levin
Chairman
The Honorable John McCain
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Daniel K. Inouye
Chairman
The Honorable Thad Cochran
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Ike Skelton
Chairman
The Honorable Howard P. McKeon
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Norman D. Dicks
Chairman
The Honorable C.W. Bill Young
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

This engagement examines the processes used by the military services to determine their medical personnel requirements for staffing, to include the number and specialty mix of military and civilian employees, at fixed medical treatment facilities. We interviewed officials and, where appropriate, obtained documentation at the following locations:

- Office of the Assistant Secretary of Defense for Health Affairs, Washington, D.C.;
- Army Medical Command, San Antonio, Texas;
- United States Army Manpower Analysis Agency, Fort Belvoir, Virginia;
- Brooke Army Medical Center, San Antonio, Texas;
- Navy Bureau of Medicine and Surgery, Washington, D.C.;
- Navy Medical Support Group, Jacksonville, Florida;
- Naval Medical Center Portsmouth, Portsmouth, Virginia;
- Air Force Medical Service, Washington, D.C.;
- Air Force Manpower Agency, San Antonio, Texas; and,
- 12th Medical Group—Randolph Air Force Base Clinic, San Antonio, Texas.

To evaluate the extent to which the services have collaborated in their strategic planning efforts for the determination of their medical personnel requirements, we reviewed manpower, personnel, and Military Health System policies and plans for the Department of Defense and the services. Especially pertinent were Department of Defense Directive 5000.59, on Modeling and Simulation management, and the *Military Health System Human Capital Strategic Plan for Fiscal Years 2008 - 2013*. We compared the guidance, goals, and strategies in those documents with the ongoing medical personnel requirements determination processes used by the services, which we determined by analyzing documentation and interviewing officials from each of the locations listed. We also analyzed documentation and interviewed officials from Joint Task Force National Capital Region Medical and the San Antonio Military Medical Center to learn about joint medical operations that are being developed and implemented. Further, we met with officials from the Center for Naval Analyses who are currently working under a contract with the Office of the Assistant Secretary of Defense for Health Affairs to develop a cross-service medical manpower standard for behavioral health specialties known as the Psychological Health Risk-Adjusted Model for Staffing.

To evaluate the service-specific processes for determining their requirements for military and civilian medical personnel, we reviewed documentation provided to us by officials, whom we then interviewed, from each of the offices previously cited. We obtained and reviewed the Army's Automated Staffing Assessment Model for four medical specialties:

physicians, dentists, nurses, and mental health care. We interviewed agency officials who operate the models for each of these specialties to understand how these models are used, how accurate the data are, and whether the models had been validated by the Army's Manpower Analysis Agency. We additionally interviewed officials from the Navy Bureau of Medicine and Surgery and the Air Force Medical Service regarding the processes they use to determine their medical manpower requirements. We also collected data on medical personnel requirements, authorized positions, and end strengths for fiscal year 2009 from each of the services' medical departments and from the Defense Manpower Data Center's *Health Manpower Statistics Report*. The Army is the only service that provided service-specific data, while the Air Force and Navy deferred to the Defense Manpower Data Center's *Health Manpower Statistics Report*. We coordinated our analysis and our results with a methodologist from GAO's Applied Research and Methods team. Additionally, with guidance from the methodologist, we also evaluated the reliability of the data we obtained and found it sufficiently reliable for the purposes of this audit.

We conducted this performance audit from August 2009 through July 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Summary of Fiscal Year 2009 Active Duty Medical Personnel Levels

The following data show the results of service-specific medical personnel requirement processes (where available) in comparison with funded and filled positions.

Table 1: Fiscal Year 2009 Requirements, Authorized Positions, and End Strengths by Service and Specialty

Specialty	Army			Navy			Air Force		
	Req	Auth	Str	Req ^a	Auth	Str	Req ^b	Auth	Str
Allergy/Immunology	32	29	39	-	5	3	-	13	20
Anesthesiology	158	137	162	-	123	142	-	80	91
Aviation/Aerospace Medicine	76	56	29	-	0	0	-	213	182
Aviation/Aerospace Medicine Non-Residency Trained	-	-	-	-	215	219	-	151	189
Aviation/Aerospace Medicine Residency Trained	-	-	-	-	64	47	-	264	47
Cardiac/Thoracic Surgery	20	19	19	-	15	8	-	7	8
Cardiology	69	65	80	-	30	34	-	26	30
Colon/Rectal Surgery	-	-	-	-	9	13	-	7	7
Critical Care/Trauma Medicine	12	12	9	-	28	1	-	0	1
Critical Care/Trauma Surgery	-	-	-	-	19	17	-	17	17
Dermatology	71	67	91	-	31	33	-	25	25
Emergency Medicine	189	162	218	-	117	140	-	94	139
Endocrinology	17	16	20	-	8	10	-	6	8
Executive Medicine ^c	105	96	0	-	58	0	-	123	0
Family Practice	575	458	432	-	359	362	-	435	473
Gastroenterology	54	52	57	-	18	21	-	20	16
General Medicine	0 ^d	0 ^d	160 ^d	-	461	263	-	3	56
General Surgery	246	229	274	-	109	108	-	83	87
Graduate Medical Education (Post Graduate All Years)	-	-	-	-	1053	1072	-	896	903
Hematology/Oncology	41	40	43	-	12	17	-	18	14
Infectious Disease	63	59	62	-	29	34	-	16	17
Internal Medicine	315 ^e	254 ^e	277 ^e	-	69	117	-	110	142
Nephrology	20	18	20	-	9	8	-	10	13
Neurological Surgery	25	22	17	-	14	21	-	9	9
Neurology	64 ^f	61 ^f	63 ^f	-	22	27	-	20	29
Nuclear Medicine	29	24	21	-	1	0	-	1	1
Obstetrics/Gynecology	209	190	219	-	98	120	-	81	106
Occupational Medicine	26	24	24	-	34	33	-	7	13
Oncology Surgery	-	-	-	-	5	10	-	4	3

**Appendix II: Summary of Fiscal Year 2009
Active Duty Medical Personnel Levels**

Specialty	Army			Navy			Air Force		
	Req	Auth	Str	Req ^a	Auth	Str	Req ^b	Auth	Str
Ophthalmology	90	82	100	-	40	48	-	26	38
Orthopedic Surgery	225	213	243	-	117	117	-	83	104
Otorhinolaryngology	78	75	87	-	42	56	-	21	41
Pathology	134	108	118	-	57	65	-	53	58
Pediatric Surgery	-	-	-	-	6	4	-	1	1
Pediatrics, General	189	175	165	-	56	67	-	146	171
Pediatrics, Subspecialties	82	80	129	-	58	65	-	36	66
Peripheral Vascular Surgery	17	15	20	-	10	10	-	6	7
Physical Rehabilitation Medicine	40	40	52	-	3	3	-	0	1
Plastic Surgery	16	15	18	-	9	10	-	11	9
Preventive Medicine	105	92	84	-	47	38	-	20	25
Psychiatry	205 ^g	188 ^g	180 ^g	-	90	94	-	91	102
Pulmonary Disease	48	45	44	-	18	34	-	23	26
Radiology, Diagnostic	223	184	222	-	86	99	-	89	135
Radiology, Therapeutic	10	10	18	-	8	11	-	8	12
Rheumatology	13	12	15	-	5	7	-	8	9
Undersea Medicine	-	-	-	-	88	94	-	0	0
Urology	75	65	71	-	28	27	-	18	24
Comprehensive Dentistry	204	200	204	-	124	139	-	233	230
Endodontics	48	48	61	-	41	43	-	24	28
Executive Dentistry ^o	68	60	0	-	13	0	-	31	0
General Dentistry	282	272	247	-	578	496	-	296	335
Graduate Dental Education	-	-	-	-	131	110	-	163	166
Oral Maxillofacial Surgery	78	77	99	-	77	74	-	39	45
Oral Pathology	11	11	11	-	17	16	-	5	5
Orthodontics	30	30	35	-	15	16	-	31	34
Pedodontics	24	24	22	-	11	16	-	15	20
Periodontics	47	46	54	-	41	47	-	50	51
Prosthodontics	55	54	72	-	64	56	-	49	48
Public Health Dentistry	5	4	5	-	3	6	-	2	3
Community Health Nurse	89	87	119	-	0	21	-	0	0
Critical Care Nurse	426	419	442	-	311	297	-	345	416
Emergency/Trauma Nurse	111	107	142	-	161	201	-	189	227
Family Nurse Practitioner	156	145	143	-	78	87	-	64	63
Flight Nurse	-	-	-	-	4	2	-	190	100
General Nursing	143	131	0	-	1240	479	-	0	0

**Appendix II: Summary of Fiscal Year 2009
Active Duty Medical Personnel Levels**

Specialty	Army			Navy			Air Force		
	Req	Auth	Str	Req ^a	Auth	Str	Req ^b	Auth	Str
Medical/Surgical Nurse	1141	1047	1654	-	437	619	-	1516	1560
Mental Health Nurse	55	47	61	-	43	63	-	30	32
Mental Health Nurse Practitioner	22	21	27	-	9	17	-	15	16
Neonatal Intensive Care Unit Nurse	-	-	-	-	29	23	-	66	52
Nurse Anesthetist	249	225	140	-	205	203	-	130	135
Nurse Education	-	-	-	-	64	46	-	71	53
Nurse Midwife	41	38	36	-	26	29	-	20	20
Nurse Service Administration	-	-	-	-	59	212	-	225	0
Obstetrics Nurse	176	152	173	-	133	239	-	250	277
Operating Room Nurse	266	259	249	-	274	237	-	237	219
Pediatric Nurse Practitioner	-	-	-	-	28	28	-	34	25
Women's Health Nurse Practitioner	-	-	-	-	13	11	-	69	81
Veterinary	327	304	361	-	0	0	-	0	0
Audiology and Speech	36	32	31	-	18	18	-	40	41
Biochemistry	85	58	84	-	33	36	-	7	2
Bioenvironmental Engineering	-	-	-	-	0	0	-	352	362
Clinical Laboratory	79	73	111	-	67	78	-	153	177
Dietician	105	90	133	-	22	30	-	41	58
Entomology	46	40	44	-	33	38	-	14	16
Environmental Health	88	84	142	-	80	78	-	189	182
Health Services Administration	1033	827	700	-	1263	988	-	1027	1030
Industrial Hygiene	-	-	-	-	102	116	-	14	7
Microbiology	62	46	75	-	43	50	-	10	9
Nuclear Medical Science	46	43	43	-	64	71	-	10	1
Occupational Therapy	59	50	83	-	19	21	-	19	16
Optometry	86	83	107	-	106	115	-	133	132
Other Biomedical Officer	61	53		-	0	0	-	100	0
Pharmacy	139	123	130	-	116	115	-	253	233
Physical Therapy	157	142	214	-	67	78	-	133	145
Physician Assistant	184	151	278	-	212	166	-	277	292
Physiology	-	-	-	-	91	108	-	115	120
Podiatry	24	20	24	-	20	15	-	17	15
Psychology, Clinical	76	66	131	-	133	129	-	255	215
Psychology, Non-Clinical	23	17	19	-	45	47	-	0	0
Social Work	109	97	131	-	27	22	-	191	213

Source: DOD data.

**Appendix II: Summary of Fiscal Year 2009
Active Duty Medical Personnel Levels**

^aNavy does not have a validated process for developing medical personnel requirements, so GAO is not reporting requirements for Navy.

^bAir Force does not currently have medical personnel requirements by specialty but is developing manpower standards for future use.

^cExecutive positions are administrative and are filled by personnel from the other specialties listed.

^dArmy's general medical personnel are no longer tracked on manning documents. End strength represents interns filling the specialty.

^eNavy and Air Force calculated Internal Medicine by adding Internist and Clinical Pharmacologist; we have done the same with Army's data.

^fNavy and Air Force calculated Neurology by adding Neurologist and Child Neurologist; we have done the same with Army's data.

^gNavy and Air Force calculated Psychiatry by adding Psychiatrist and Child Psychiatrist; we have done the same with Army's data.

Appendix III: Comments from the Department of Defense



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

JUL 19 2010

HEALTH AFFAIRS

Ms. Brenda S. Farrell
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G. Street, N.W.
Washington, DC 20548

Dear Ms. Farrell:

This is the Department of Defense response to GAO #351382 Draft Report "MILITARY PERSONNEL: Enhanced Collaboration and Process Improvements Needed for Determining Military Treatment Facility Medical Personnel Requirement," (GAO-10-696, GAO Code #351382) dated June 18, 2010.

We agree with the GAO findings and recommendations discussed in the report. We have provided suggested technical corrections which we feel should be included in the final version. The present personnel requirements system, while not perfect and not uniform across all three Military Departments, does allow new requirements to be developed and adequately reflects each Military Department's needs.

Thank you for the opportunity to review and comment on the Draft Report and for meeting with Mr. Middleton and senior representatives on June 29, 2010. Our comments on the recommendations and some technical corrections are addressed in the attached.

My points of contact on this issue are Mr. Michael Hopper (Functional) at (703) 681-1698 and Mr. Gunther Zimmerman (Audit Liaison) at (703) 681-4360.

Sincerely,

Charles L. Rice, M.D.
President, Uniformed Services University of
the Health Sciences
Performing the Duties of the
Assistant Secretary of Defense
(Health Affairs)

Enclosures:
As stated

**GAO DRAFT REPORT – DATED 18 JUNE 2010
(GAO CODE-351382/GAO-10-696)**

**“MILITARY PERSONNEL: ENHANCED COLLABORATION AND PROCESS
IMPROVEMENTS NEED FOR DETERMINING MILITARY TREATMENT FACILITY
MEDICAL PERSONNEL REQUIREMENTS”**

**DEPARTMENT OF DEFENSE RESPONSE
TO THE RECOMMENDATIONS**

Consistent with DoD emphasis on developing human capital solutions across the services to enable department wide decision making and analyses within its Military Health System, we recommend that the Secretary of Defense direct the Assistant Secretary of Defense for Health Affairs and the Service Secretaries to:

RECOMMENDATION 1: Identify the common medical capabilities that are shared across the services in their military treatment facilities that would benefit from the development of cross-service medical manpower standards.

DoD RESPONSE: Partially Concur. This review can be accomplished however must include a cost-benefit analysis before making any determination to develop cross-Service medical manpower standards. If there is not a significant, measurable benefit in cost, quality or access to medical care, then it would not be prudent to expend Department medical funds on such activities.

RECOMMENDATION 2: Where applicable, develop and implement cross-service medical manpower standards for those common medical capabilities.

DoD RESPONSE: Concur. Developing cross-Service manpower standards in specific medical functional areas, where there is measurable benefit to the Department and/or the patient, makes good sense. This is what has been done in Mental Health, for instance.

RECOMMENDATION 3: The GAO recommends that the Secretary of the Army direct the Army Surgeon General to update assumptions and other key data elements contained within specialty modules of the Army Staffing Assessment model. (See page 21/GAO Draft Report.)

DoD RESPONSE: Concur. Army will continue to update the Automated Staffing Assessment Model (ASAM).

RECOMMENDATION 4: The GAO recommends that the Secretary of the Army direct the Army Surgeon General to develop and implement a definitive re-validation schedule for the specialty modules of the Army Staffing Assessment model. (See page 21/GAO Draft Report.)

DoD RESPONSE: Concur. This will be closely coordinated between MEDCOM and the US Army Manpower Analysis Agency.

RECOMMENDATION 5: The GAO recommends that the Secretary of the Army direct the Army Surgeon General to include its reliance on civilian medical personnel in its assumptions as

it updates and validates their medical personnel requirements determination modules. (See page 21/GAO Draft Report.)

DoD RESPONSE: Partially Concur. 58% of MEDCOM's workforce is civilian. Civilian contribution to the generation of medical workload will continue to be captured by the ASAM to ensure accurate medical manpower requirements determination in Army military treatment facilities.

RECOMMENDATION 6: The GAO recommends that the Secretary of the Navy direct the Navy Surgeon General to develop a validated and verifiable process to determine its medical manpower requirements. (See page 21/GAO Draft Report.)

DoD RESPONSE: Partially concur. Approximately two years ago Navy Medicine initiated a comprehensive effort to address and redefine how medical manpower requirements were determined to meet the operational and MTF requirements. In conjunction with this effort the Navy Surgeon General directed the development and validation of a requirements model. Initial delivery of the prototype model for testing and validation is expected by Fall 2010 and validation & verification efforts will commence at that time.

RECOMMENDATION 7: The GAO recommends that the Secretary of the Navy direct the Navy Surgeon General to include its reliance on civilian medical personnel in its assumptions as it develops, and then validates, its medical personnel requirements determination model. (See page 21/GAO Draft Report.)

DoD RESPONSE: Partially concur. The Navy Surgeon General, in evaluating medical personnel requirements, has always taken a Total Force approach to include not just Active Duty, but also Reserve, Civilian and Contract Personnel. The Navy Surgeon General will continue with this emphasis in all future planning and programming for medical personnel.

RECOMMENDATION 8: The GAO recommends that the Secretary of the Air Force direct the Air Force Surgeon General to develop a validated and verifiable process to determine its medical manpower requirements. (See page 21/GAO Draft Report.)

DoD RESPONSE: Concur. On 10 May 2010, a Memorandum of Agreement between the Air Force Medical Service (AFMS) and the Air Force Manpower Agency (AFMA) was finalized whereby AFMA will develop new manpower standards for all AFMS product lines. The AFMA Flight that will develop these standards activates on 1 July 2010 and will initiate the first manpower studies on or about 1 August 2010. This flight will be collocated with the Air Force Medical Operations Agency (AFMOA) ensuring that manpower engineers obtain the most current information from those subject matter experts in the specific area of study.

RECOMMENDATION 9: The GAO recommends that the Secretary of the Air Force direct the Air Force Surgeon General to include its reliance on civilian medical personnel in its assumptions as it develops, and then validates, its medical personnel requirements determination model. (See page 21/GAO Draft Report.)

DoD RESPONSE: Partially Concur. AFMS manpower standards being developed by AFMA include the identification of civilian equivalents for those positions that are not deemed military essential. This allows the AFMS to substitute civilians based on requirements and is based on

Critical Operational Readiness Requirement (CORR). Civilian requirements are also reviewed and determined through the Inherently Governmental/Commercial Activity process. The AFMS recently modified the Family Practice manpower model where civilian medical personnel are an integral part of the mission which is the case for each work center throughout the AFMS.

**TABLE 1 -STRATEGIC COLLABORATION
ON
MEDICAL PERSONNEL REQUIREMENTS**

<p>The Military Health System (MHS) strategic intention in workforce planning is to improve integration and interoperability between the human capital functions of the Services and HA/TMA by providing collaborative human capital direction. The 2007 MHS Human Capital Strategic Plan states “we maintain and respect our Service specific doctrines, we support joint missions and need to continue to develop our workplace capabilities to succeed in those environments.” The Human Capital Strategic Plan remains a key document; a refresh will be released July 2010. The following examples illustrate recent collaborative efforts.</p>
<ul style="list-style-type: none"> • Patient-Centered Medical Home (PCMH). PCMH is a collaboratively developed model of Primary Care to improve continuity of care and enhance access through patient-centered care. There have been transparent discussions on staffing ratios, enrollment ratios and other planning factors.
<ul style="list-style-type: none"> • Psychological Health Risk-Adjusted Model for Staffing (PHRAMS). The culmination of a collaborative manpower requirements effort from Army, Air Force, and Navy and ASD/HA and TMA, PHRAMS is a standardized evidence-based staffing model to ensure consistency in mental health staffing. The PHRAMS application will be used by the Services for program and workforce planning for the FY 2012-2017 Program Objective Memorandum.
<ul style="list-style-type: none"> • Joint Task Force Capital Medicine (JTF CAPMED). The JTF CAPMED is a collaborative effort to transform, realign, and significantly enhance military healthcare in the National Capital Region (NCR) today and in the future by establishing jointly manned medical facilities. There is a unique opportunity to integrate processes to achieve economies of scale, eliminate redundancies, enhance clinical care and improve other functions and capabilities.
<ul style="list-style-type: none"> • Strategic Analysis Working Group (SAWG). The SAWG is a collaborative forum for planning and programming medical requirements for operational missions. The SAWG, with each Service and Combatant Command Representative as members, supports both the planning and programming processes. The SAWG encourages the use of similar tools, data, software and models to determine operational medical requirements.
<ul style="list-style-type: none"> • Proposed legislation for Financial Assistance for Health Professions-Civilian. This proposed legislation was developed collaboratively with the Services to provide scholarships to civilian medical providers, similar to the highly successful scholarship program in-place for military providers. The goal is to improve recruiting and retention of civilian medical providers in the military healthcare system.
<ul style="list-style-type: none"> • Title 38 Task Force. With the repeal of the National Security Personnel System (NSPS), DoD needs pay flexibility and ability to offer competitive salaries to adequately recruit and compensate civilian employees in critical healthcare occupations. Collaborative efforts across the Services and HA/TMA resulted in commitment to use Title 38 authorities to facilitate the transition of 30 healthcare occupations out of NSPS by 31 December, 2011

Appendix IV: GAO Contacts and Staff Acknowledgments

GAO Contact

Brenda S. Farrell, (202) 512-3604 or farrellb@gao.gov

Acknowledgments

In addition to the individual named above, David Moser (Assistant Director), Rebecca Beale, Chaneé Gaskin, Randy Neice, Cheryl Weissman, Michael Willems, and Elizabeth Wood made key contributions to this report.

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