



**DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010**

APR 23 2010

The Honorable Carl Levin
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Section 2714(a) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2010 requires the Department to develop and implement a Comprehensive Master Plan to provide sufficient world-class military medical facilities and an integrated system of healthcare delivery for the National Capital Region (NCR). Section 2714(b) of the law requires the Department to submit this plan to Congress. In addition, page 368 of the Explanatory Statement accompanying the Defense Appropriations Act for FY 2010 Committee Print requests the Department to provide the implementation status of the findings and recommendations identified by the NCR Base Realignment and Closure (BRAC) Health Systems Advisory Subcommittee of the Defense Health Board's (DHB) independent review of DoD's plans for the new Walter Reed National Military Medical Center (WRNMMC), Bethesda and Fort Belvoir Community Hospital (FBCH), provided in July 2009.

Military medicine in the NCR incorporates many of the world-class attributes and capabilities as defined in the DHB panel's recently established standard. Today, the Walter Reed Army Medical Center (WRAMC) and the National Naval Medical Center (NNMC) provide an exceptional quality of care, particularly to our nation's wounded returning from war. The majority of these transit through the NCR, and the most seriously injured receive inpatient care and rehabilitation within the NCR Military Treatment Facilities (MTFs).

The Department is grateful for the DHB panel's efforts in 2009 to define the attributes of a world-class medical facility and endorsed the specific recommendations the panel made for WRNMMC, Bethesda and FBCH to achieve this newly-defined standard in its October 15, 2009 submission to Congress. With few exceptions, the DHB panel found the plans for FBCH to meet the new world-class medical facility standard and the Department has made substantial progress in addressing the panel's recommendations for WRNMMC, Bethesda.

Letters sent to the Department from the Chairs and Ranking Members of the House Armed Services Committee Military Personnel and Readiness Subcommittees on January 22, 2010 and the Chair and Ranking Member of the House Appropriations Subcommittee on Defense on September 16, 2009 and November 17, 2009 expressed concern over the lack of a master plan that would achieve the standard defined in the NDAA for FY 2010. Since its October 15, 2009 submission, DoD has engaged in a Master Facilities Planning effort as part of its Comprehensive Master Plan for the National Capital Region Medical (CMP-NCRM) to refine and execute requirements to incorporate additional world-class capabilities.

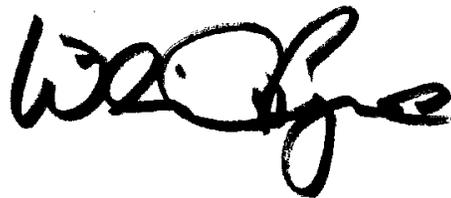


The CMP-NCRM is a roadmap to achieve the additional world-class attributes the DHB panel identified, as incorporated in the NDAA for FY 2010 and Defense Appropriation Act for FY 2010 committee print. Among other items, the CMP-NCRM estimates the total cost of newly identified requirements associated with achieving the standard at Bethesda to be approximately \$781M. Cost estimates have been developed by applying standard DoD construction cost factors and continue to be refined and integrated with the current NNMC Master Facility Plan.

The DHB panel identified authorities issues as “foundational” and recommended that “one official should be empowered with singular organizational and budgetary authority.” The Department recognizes that it is essential to align command and control authorities, particularly as they relate to the assignment of Operational Control (OPCON) of Military Health System assets in the NCR, to allow the Commander, Joint Task Force National Capital Region Medical to effectively oversee the transformation and realignment in the region. The Department will provide OPCON of the WRAMC, NNMC and DeWitt Army Community Hospital (DACH) to the JTF CAPMED, and will provide JTF CAPMED with appropriate financial management controls. The CMP-NCRM defines the WRNMMC, Bethesda facilities and the relationship between the installation, Naval Support Activity Bethesda, and the Medical Center to ensure appropriate mission support.

The Department also provides two required certifications. It certifies that the new WRNMMC, Bethesda and FBCH construction will meet Joint Commission standards, as required by the NDAA for FY 2010. It also re-certifies that the closure of WRAMC will not result in a net loss of capacity in the NCR, as required under Section 1674(c) of the NDAA for FY 2008.

The Department expresses its appreciation to Congress for the steadfast interest and support throughout the transformation of military medicine in the NCR. Congressional oversight and actions have helped the Department with this complex process and have made immeasurable contributions to its ability to provide world-class healthcare. Next to the war itself, our Nation’s wounded warfighters remain my top priority.



Enclosures
As stated

cc:
The Honorable John McCain
Ranking Member



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

The Honorable James H. Webb
Chairman, Subcommittee on Personnel
Committee on Armed Services
United States Senate
Washington, DC 20510

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Enclosures
As stated

cc:
The Honorable Lindsey O. Graham
Ranking Member



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

The Honorable Ike Skelton
Chairman, Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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Enclosures
As stated

cc:
The Honorable Howard P. “Buck” McKeon
Ranking Member





DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

The Honorable Susan Davis
Chairwoman, Subcommittee on Military Personnel
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Madam Chairwoman:

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Enclosures
As stated

cc:
The Honorable Joe Wilson
Ranking Member



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1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

The Honorable Daniel K. Inouye
Chairman, Committee on Appropriations
United States Senate
Washington, DC 20510

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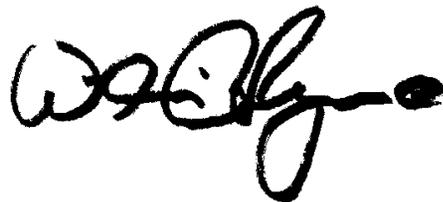


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Enclosures
As stated

cc:
The Honorable Thad Cochran
Ranking Member



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1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

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

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cc:
The Honorable Jerry Lewis
Ranking Member



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 23 2010

The Honorable Norman Dicks
Chairman, Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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As stated

cc:
The Honorable C.W. Bill Young
Ranking Member

Comprehensive Master Plan for the National Capital Region Medical

Department of Defense

Creating a World-Class, Integrated Healthcare Delivery System In the National Capital Region



Comprehensive Master Plan for the National Capital Region Medical

Department of Defense

**Creating a World-Class,
Integrated Healthcare Delivery System
in the National Capital Region**

April 2010

This report responds to Section 2714(b) of the National Defense Authorization Act for Fiscal Year 2010 and Page 368 of the Explanatory Statement accompanying the Defense Appropriations Act for Fiscal Year 2010 Committee Print

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1.0 EXECUTIVE SUMMARY

Section 2714(a) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2010 requires the Department of Defense (DoD) to develop and implement a comprehensive master plan to provide sufficient world-class military medical facilities and an integrated system of healthcare delivery for the National Capital Region (NCR). Section 2714(b) of the law requires the Department to submit this plan to Congress. In addition, page 368 of the Explanatory Statement accompanying the Defense Appropriations Act for FY 2010 Committee Print requests the Department to provide the implementation status of the findings and recommendations identified by the NCR Base Realignment and Closure (BRAC) Health Systems Advisory Subcommittee of the Defense Health Board's (DHB) independent review of the DoD's plans for the new Walter Reed National Military Medical Center (WRNMMC), Bethesda and Fort Belvoir Community Hospital (FBCH) provided in July 2009.

Military medicine in the NCR already incorporates many of the world-class attributes and capabilities as defined in the DHB panel's recently established standard, which was codified in the NDAA for FY 2010. The panel's definition has six domains, one of which discusses facilities, while the others focus on leadership and culture, processes of care, performance, knowledge management, and community and social responsibility. Today, Walter Reed Army Medical Center (WRAMC) and National Naval Medical Center (NMMC) provide an exceptional quality of care to all beneficiaries, including our nation's wounded returning from war, the majority of whom transit the NCR and the most seriously injured of whom receive inpatient care and rehabilitation at the NCR Medical Treatment Facilities (MTFs).

The 2005 BRAC recommendation that realigned operations from WRAMC to WRNMMC, Bethesda and FBCH was the Department's first step in a larger effort to transform, realign, and significantly enhance the way it delivers healthcare in the NCR today and in the future. Taking into account the recommendations of the DoD's 2007 Independent Review Group and the President's Commission on Care for America's Returning Wounded Warriors (Dole-Shalala), the DoD Senior Oversight Council recommended, and the Department established, the Joint Task Force National Capital Region Medical (JTF CAPMED) as a Standing JTF to oversee these efforts, as well as the NCR Medical BRAC recommendations. Reporting to the Secretary of Defense through the Deputy Secretary of Defense, JTF CAPMED is an integral part of the DoD's commitment to provide the best healthcare available in the NCR for the Nation's Service members, their families, and military retirees.

The Department is grateful for the DHB panel's efforts in 2009 to define the attributes of a world-class medical facility and endorsed the specific recommendations the panel made for WRNMMC, Bethesda and FBCH to achieve this newly defined standard in its 15 October 2009 submission to Congress. With few exceptions, the DHB panel found the plans for FBCH to meet the new statutory, world-class medical facility standard. The Department has made substantial progress in addressing the panel's recommendations for WRNMMC, Bethesda since the DHB

panel's review. The remaining recommendations related to the current BRAC construction and the alignment of authorities in the NCR will be addressed by 15 September 2011.

By the completion of Medical BRAC construction in the NCR, WRNMMC, Bethesda and FBCH will be fully operational hospitals with many of the attributes necessary to meet the new statutory, world-class standard. Regarding current facility construction at WRNMMC, Bethesda, DoD has provided \$65M of funding in FY 2010 to expand the existing operating rooms (ORs) at the NNMC to achieve the new world-class standard and has also realigned \$125M in additional FY 2010 BRAC funding for WRNMMC, Bethesda to address many other recommendations of the DHB panel, including the incorporation of input from clinicians and end users. Moreover, DoD has requested \$80M in the FY 2011 President's Budget to expand Americans with Disabilities Act (ADA) compliant Warrior lodging and parking on the Bethesda installation. Once the BRAC renovations are finished, conversion to single-patient rooms (one of the newly established world-class standards) will be more than 50 percent complete at WRNMMC, Bethesda.

Letters sent to the Department by the Chairs and Ranking Members of the House Armed Services Committee Military Personnel and Readiness Subcommittees (HASC-MILPERS/HASC-Readiness) on 22 January 2010 and the Chair and Ranking Member of the House Appropriations Subcommittee on Defense (HAC-D) on 16 September 2009 and 17 November 2009 expressed concern over the lack of a master plan that would achieve the standard defined in the NDAA for FY 2010. Since its 15 October 2009 submission, DoD has initiated a master facilities planning process to refine and execute the requirements as part of its Comprehensive Master Plan for the NCR Medical (CMP-NCRM).

The Department's CMP-NCRM is a road map to achieve the additional world-class attributes that were not part of the BRAC that the DHB panel identified for the NCR hospitals and which were incorporated in the NDAA for FY 2010. The CMP-NCRM provides the framework and specific action plans for world-class military medical hospitals and an integrated system of healthcare delivery for the NCR. Details related to the CMP-NCRM, particularly specific facility projects, continue to be refined and integrated into the current NNMC Master Facility Plan.

The CMP-NCRM certifies that hospital designs have been modified and, where required, additional funding has been secured to ensure that construction will conform to Joint Commission standards. It also provides a plan for projects associated with achieving the new world-class standard. Based on the capacity at Naval Support Activity (NSA) Bethesda to simultaneously support additional non-BRAC construction while continuing to provide world-class patient care, completion of the BRAC projects and the new non-BRAC projects associated with achieving the world-class standard must be sequential, but interrelated efforts. The Department has begun to synchronize these efforts to maintain patient care and de-conflict proposed capital investments. An example is the recent coordinating effort to achieve world-class ORs at WRNMMC, Bethesda by combining BRAC and special projects funds into an integrated solution. The Department will refine the plan to optimize ongoing patient care in the context of achieving the new world-class facility standards.

DoD estimates the total cost of requirements associated with achieving the newly defined world-class standard at WRNMMC, Bethesda to be approximately \$781M. The projects, which

include completing conversion to single-patient rooms and replacing and renovating older infrastructure on the campus, require a mix of Military Construction (MILCON) and Operation and Maintenance (O&M) funding. These projects will achieve the additional attributes of world-class, as identified by the DHB panel and required by the law, while enhancing existing capabilities, such as expanding and coordinating women's health services. These requirements are not expected to bring additional personnel or new capabilities onto the installation, but they will replace and renovate existing aging infrastructure and organize medical functions for the benefit of patients. The phasing and timelines for execution of these requirements will be predicated by the National Environmental Policy Act (NEPA) process, community concerns, and other factors. The Department has initiated the development of a medical Master Facility Plan (MFP) for WRNMMC, scheduled for completion by 31 December 2010, which must be integrated with the current NNMC Master Facility Plan.

The Department recognizes that it is essential to align command and control authorities particularly as they relate to the current distribution of Operational Control (OPCON) of Military Health System (MHS) assets in the NCR, to allow the Commander, JTF CAPMED (CJTF) to more effectively oversee the transformation and realignment in the region. To support necessary transition and equipment outfitting activities, the Department has assigned OPCON of WRAMC, NNMC, and DeWitt Army Community Hospital (DACH) to CJTF no later than 1 June 2010. In January 2009, DoD directed that WRNMMC, Bethesda and FBCH be joint commands that report directly to JTF CAPMED so that CJTF will have OPCON over these facilities when established.

At Bethesda, DoD has determined what buildings will constitute the new WRNMMC, Bethesda and how the Bethesda installation (NSA Bethesda) will support the hospital mission, through an Installation Support Agreement (ISA), to provide patients with a seamless and robust network of recovery and support services that also align to the new world-class standard.

As currently structured, the Services provide separate allocations to NCR MTFs, a practice that can create delays in coordinating integrated projects. The Assistant Secretary of Defense for Health Affairs (ASD/HA) will provide JTF CAPMED with the most effective authority to manage assigned resources. By 30 June 2010, the Department will provide more detail on this in its submission of the construction schedule for the world-class requirements identified in this plan, as required under section 2714(c) of the NDAA for FY 2010.

Integrating services for retaining the skilled civilian workforce in the NCR is imperative to operating the new WRNMMC, Bethesda and FBCH. The realignment in the NCR represents an unprecedented Tri-Service merger of nearly 10,000 healthcare and support staff. A Joint manning solution coupled with a comprehensive human capital strategy (see Appendix E, Human Capital Strategy) will allow the Department to incorporate the rich legacies of both WRAMC and NNMC as national icons into the new WRNMMC, Bethesda. The Department has determined an Active Duty force mix distribution between the new WRNMMC, Bethesda and FBCH, and the Services have identified the resources to meet the defined manning requirements. Utilizing a workforce mapping model to execute a Guaranteed Placement Program (GPP), the Department will be able to place the vast majority of WRAMC government civilians at their desired work locations performing the work they want to do. This placement will provide reassignment and career progression opportunities that do not exist today. Assignment offers will be made to permanent government civilians of their future work locations at WRNMMC,

Bethesda or FBCH, as well as other placement program opportunities, by 1 July 2010. Government civilians will transition to a DoD civilian manning model and will incur no loss in pay as a result of the transition.

Efforts underway to develop world-class simulation laboratories and the latest state-of-the-art information technologies, such as smart rooms, smart beds, Real Time Location System (RTLS), and wireless capability, are included in the plan and will be supported by the WRNMMC, Bethesda internal infrastructure. External infrastructure will provide synchronous optical networking, top-level architecture equipment, and other world-class capabilities.

Change is difficult. The Department understands the challenge of integrating the established cultures of the Service components and hospitals. To actively address this reality, an integrated organizational culture is being established. It will be Joint and necessarily interoperable with the Service medical departments. A structured and comprehensive cultural integration plan to assist with the formation of an integrated delivery system has been initiated.

The CMP-NCRM also includes the Department's vision for integrating the NCR healthcare delivery system. The NCR presents the Department with a unique opportunity to integrate the components of a dense multi-Service military healthcare market to provide better integration of care and access for patients. As chartered by the Department, JTF CAPMED is overseeing the consolidation and realignment of military healthcare delivery in the NCR JOA. DoD has already used JTF CAPMED to successfully integrate a variety of functions and operating plans across the NCR while coordinating with the NCR medical components of the Army, Navy, and Air Force to ensure the best utilization of resources available. The Department will measure the effectiveness of the evolving NCR integrated delivery system (IDS).

In their 16 September 2009 letter, the Chair and Ranking Member of the HAC-D also expressed concern that no analysis had been performed to determine the future healthcare needs of beneficiaries in the NCR. In 2009, in preparation for IDS planning and as discussed in the NDAA for FY 2010, the Department undertook an in-depth market analysis of the NCR. The objectives of the market analysis included the following: 1) determining the reliant population; 2) estimating workload demand; 3) understanding market dynamics; and 4) projecting future demand given current trends. In broad terms, the results of this market analysis replicate the findings of several prior studies and indicate that the population and overall demand for medical care services is significant and will require robust inpatient and outpatient healthcare delivery initiatives for the foreseeable future. The baseline that this study provides demonstrates that the facilities at WRNMMC, Bethesda, FBCH, and Joint Base Andrews have the capability to respond to current demand and to prepare for future needs near the populations both in the North and South portions of the NCR. DoD recertifies that the transition of operations from WRAMC will not result in a net loss of capacity in the NCR, as it stated to Congress in its response to Section 1650 of the NDAA for FY 2008 in August 2008.

The Department expresses its appreciation to Congress for its steadfast interest and support throughout the transformation of military medicine in the NCR. Congressional oversight has helped the Department throughout this process and has made immeasurable contributions to its ability to provide world-class healthcare.

2.0 INTRODUCTION AND OVERVIEW

Section 2714(a) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2010 requires the Department to develop and implement a comprehensive master plan to provide sufficient world-class military medical facilities and an integrated system of healthcare delivery for the National Capital Region (NCR). Section 2714(b) of the law requires the Department to submit this plan to Congress. In addition, page 368 of the Explanatory Statement accompanying the Defense Appropriations Act for FY 2010 Committee Print requests the Department to provide the implementation status of the findings and recommendations identified by the NCR Base Realignment and Closure (BRAC) Health Systems Advisory Subcommittee of the Defense Health Board's (DHB) independent review of the Department of Defense's (DoD) plans for the new Walter Reed National Military Medical Center (WRNMMC), Bethesda and Fort Belvoir Community Hospital (FBCH) provided in July 2009.

Today, the Walter Reed Army Medical Center (WRAMC), the National Naval Medical Center (NMMC) and Malcolm Grow Medical Center (MGMC) provide among the best healthcare and recovery services available. The hospitals already achieve many attributes of the DHB panel's newly defined world-class standard and provide an exceptional standard of care.

The capabilities at WRAMC for amputee care are already world class and in fact lead the world in transformations in prosthetics care and rehabilitation; the National Naval Medical Center's (NMMC) expertise in open Traumatic Brain Injury (TBI) is renowned worldwide; and the state-of-the-art aeromedical staging facility at Joint Base Andrews provides a medically capable and caring atmosphere for our returning wounded warriors, the vast majority of whom transit the NCR, even if they do not receive care in the region. The quality of care at the new WRNMMC, Bethesda and the FBCH will retain this degree of excellence and those attributes of world-class care provided today in the region and will further enhance areas of care to achieve additional world-class attributes.

The 2005 Walter Reed BRAC recommendation was the Department's first step in a larger effort to transform, realign, and significantly enhance functions in the NCR to achieve capabilities and levels of interoperability at the new WRNMMC, Bethesda and FBCH that do not exist in the region today. Recognizing the complexity and significance of executing this task while continuing to provide wounded warrior care, as well as taking into account the DoD's 2007 Independent Review Group and the President's Commission on Care for America's Returning Wounded Warriors (Dole-Shalala), the DoD Senior Oversight Council recommended, and the Department established, the Joint Task Force National Capital Region Medical (JTF CAPMED) in October 2007 to oversee these efforts. Reporting to the Secretary of Defense through the Deputy Secretary of Defense, JTF CAPMED, as a Standing JTF, is an integral part of its commitment to providing the best healthcare available in the NCR for the Nation's Service members, their families, and military retirees.

The completion of the NCR Medical BRAC projects at Bethesda and FBCH will represent an important achievement for military medicine in the region. WRNMMC, Bethesda and FBCH will be established as the Department's first Joint hospitals and will report directly to JTF CAPMED. The construction projects will yield over 3 million square feet of new and renovated world-class facilities. Both the Bethesda and Fort Belvoir installations will sustain a state-of-the-art network of warrior transition services to support the nation's wounded warriors and their families. The integration of processes across the new joint hospitals will achieve a greater level of synergy, which will in turn improve resource utilization. When WRNMMC, Bethesda and FBCH achieve Full Operating Capability (FOC), they will provide integrated care and an array of world-class capabilities that will more efficiently and effectively provide healthcare to all patients in the region.

The Department appreciates the ground-breaking efforts of the DHB panel in defining a world-class medical facility standard, which has been codified in the NDAA for FY 2010. While the definition discusses facility standards as one of six domains, the Department is also incorporating the other five domains in the NCR, which include leadership and culture, processes of care, performance, knowledge management, and community and social responsibility. As is stated in its 15 October 2009 submission to Congress, DoD endorses the specific recommendations that the DHB panel laid out to achieve the new standard at WRNMMC, Bethesda and FBCH. With few exceptions, the DHB panel found the plans for FBCH to meet the new world-class medical facility standard and the Department has made substantial progress in addressing the panel's specific recommendations for WRNMMC, Bethesda since the panel's review was provided in July 2009. The remaining recommendations related to the current BRAC construction and the alignment of authorities in the NCR will be addressed by 15 September 2011. Furthermore, where physical and infrastructure capacity on the Bethesda installation may limit the execution of additional construction to address certain DHB panel recommendations, such as the planned conversion to single-patient rooms, the Department is committed to achieving them as expeditiously as possible following the completion of the BRAC projects.

Letters sent to the Department by the Chairs and Ranking Members of the House Armed Services Committee Military Personnel and Readiness Subcommittees (HASC-MILPERS/HASC-Readiness) on 22 January 2010 and the Chair and Ranking Member of the House Appropriations Subcommittee on Defense (HAC-D) on 16 September 2009 and 17 November 2009 expressed concern over the lack of a master plan that would achieve this standard at WRNMMC, Bethesda specifically. Since its 15 October 2009 submission, DoD has institutionalized even greater requirements than the DHB report outlined and has initiated a master facilities planning process to refine and execute these requirements as part of its Comprehensive Master Plan for the NCR Medical (CMP-NCRM).

The Department's CMP-NCRM is a road map to achieve the additional world-class attributes that were not part of BRAC that the DHB panel identified for the NCR hospitals and that were incorporated into the NDAA for FY 2010 and the Defense Appropriations Act for FY 2010 Committee Print. It provides the framework and specific action plans for sufficient world-class military medical facilities and an integrated system of healthcare delivery for the NCR. Details related to the CMP-NCRM, particularly specific facility projects, continue to be refined and integrated into the current NNMC Master Facility Plan.

3.0 RESPONDING TO THE NEEDS OF THE DEPARTMENT'S PATIENT POPULATION IN THE NCR

3.1 The unique needs of members of the Armed Forces and retired members of the Armed Forces and their families (2714(a)(1)(A))

Today, the Military Health System (MHS) provides the best healthcare available to warfighters in a variety of complex and dangerous environments. On the battlefield, warriors sustain the most serious types of injuries, many of which can result in long-term mental and physical impairment to Service members and can have a profound effect on their families. The MHS is the only health system in the nation that provides a continuum of care for warriors: it delivers comprehensive world-class care from the point of injury anywhere in the world throughout the healing and recovery process.

In the NCR, and throughout the MHS, the Army, Navy, and Air Force provide healthcare and recovery services that address the specific healthcare needs of members of the Armed Forces, retirees, and their families. Surveys continue to show high levels of patient satisfaction with the MHS and other benefits and support services that the Department provides. As a dense multi-service healthcare market, the NCR provides the Department with a unique opportunity to transform and realign MHS assets and organizational structures within the NCR to more effectively and seamlessly provide these services. The majority of the casualties returning from the war transit the NCR, even if they do not receive care in the region. The Department is committed to a philosophy of continual improvement in providing healthcare and recovery services in the NCR.

The facilities that are under development in the NCR are essential to the BRAC-directed consolidation of four inpatient MTFs into two and the Department initiated formation of a Joint command, JTF CAPMED, to oversee them. At the same time, the Department regards as fundamental the need for delivery of focused, compassionate, and world-class healthcare to its patients. The needs of this specific population—Active Duty, their families, and retirees—is driving the overall infrastructure planning and future evolution. It is important to recognize and describe this patient population in order to set the context of facilities planning. This population includes Active Duty; Wounded, Ill, and Injured (WII) Service members; eligible family members; and eligible retirees and their family members (see Appendix B, Healthcare Market Analysis).

WRNMMC, Bethesda and FBCH will serve as an integral transition point for Veterans within the NCR, as healthcare can be accessed for ongoing rehabilitation of combat-related injuries and coordinated with local Veterans health facilities as well. While Veteran care is not expected to be a substantial portion of care delivered to the local beneficiary population, both hospitals will serve as an important transition point from Active Duty to Veteran-centric care in the region.

WRNMMC, Bethesda will pilot several Health Information Technology (HIT) initiatives that will enable better service and transition of Active Duty Service members to the Department of Veterans Affairs (VA) system. Among these initiatives is the Virtual Lifetime Electronic Record (VLER) that will keep an electronic record of all major inputs from a Service member's military career, including health data pertinent to care both in the field and within a civilian setting. The VLER record is intended to maintain a single, accessible record for quick and accurate determination of a Service member's military standing, health status, and coordination of Service member benefits. (For more information on HIT and VLER, see Appendix G, Section G.2, Health Information Technology.)

Like Active Duty Service members, military family members and retirees are eligible for care in the MHS. The number of current Active Duty Family Members (ADFM) in the NCR exceeds 100,000. These beneficiaries require a spectrum of medical care closer to that of the general population. WRNMMC, Bethesda and FBCH will be world-class providers of both the general and specialized care services needed to fulfill the obligation of care to ADFMs in the NCR.

3.2 The care, management, and transition of seriously ill and injured members of the Armed Forces and their families (2714(a)(1)(B))

Next to the war itself, casualty care remains the Department's top priority. The MHS, as well as the DoD's MTFs in the NCR, will continue to provide the best healthcare and recovery services for warfighters and their families. The new WRNMMC, Bethesda and FBCH will anchor this effort in the NCR.

Creating optimal healing environments for inpatients and outpatients is integral to the renewal of spiritual, physical, and psychological wellness. To provide a full range of wellness and healing services, the Services have identified the levels of support required for their respective Wounded Warrior Programs at the new WRNMMC, Bethesda, and the Department has been actively engaged in coordinating and planning for all necessary support including medical, WII programs, and installation requirements. Warriors will not be moved from WRAMC until recovery, support, and management services at WRNMMC, Bethesda and FBCH are in place. Degradation in services and support would be unacceptable.

An assessment has been made with all Military Services of their non-medical requirements. From that, a foot print has been established in a Warrior complex to accommodate each of these requirements. For the benefit of all Warriors, the center will operate similarly to how a Soldier and Family Assistance Center operates today. JTF CAPMED is working with the Bethesda and Fort Belvoir installations to detail hours of operation, management of personnel, etc from which the details of the tactical aspects of operations will then be refined. Meanwhile, each node of the continuum of care is being broken down including reception, inpatient, and transition to outpatient to identify any secondary gaps. A Warrior and Family Coordination Center CONOPS, which provides for the common operating platform to ensure functions and responsibilities of the Services, Installation, and MTF support to Warriors and Families, is near completion.

Nonetheless, it is important to realize that the care of this population is on a continuum that includes the administrative support, the clinical support, the medical regulation of the

patients, and the management of gifts and donations. The Department is actively engaging all component members and expects that the consolidated concept of operations for all items associated with the care of wounded, ill, and injured service members will be completed by June 2010. Currently, 11% of the WII population in the JOA are combat injured and it is expected that due to the severity of their injuries they will be assigned to the WRNMMC, Bethesda campus for care and support. This population fits comfortably within the planned 350 WII on the Bethesda campus, which will support the most severely injured casualties including all amputees, open traumatic brain injury and complex trauma cases. At a 07 April 2010 Army Rehearsal of Capabilities Drill, which included discussion with the Vice Chief of Staff of the Army, the unity of effort and collaboration from all stakeholders on these issues was apparent. This venue provided the imperative inertia to complete the necessary actions to weave all the operational plans together.

Regarding healthcare specifically, Warriors have unique needs and characteristics that have shaped the Department's medical facilities plan for WRNMMC, Bethesda. Many of these war-induced specific needs include, but are not limited to, trauma-focused injuries, post-traumatic stress, physical and mental rehabilitation, brain injury, spinal injury and amputations (see Appendix F, Section F.4.2 Wounded, Ill, and Injured Warriors).

To address these unique healthcare needs of wounded warriors, the MHS has developed several specialty Centers of Excellence (CoEs), as well as robust partnerships with other government and private agencies, such as the VA. Severely injured Service members are unique in that they often require extensive rehabilitative care before a decision can be made as to whether they are medically able to return to Active Duty. The development of these CoEs is a direct response to this long-term rehabilitative reality of many patients within the MHS in the NCR. (More information on the NCR CoEs can be found in Appendix F, Section F.6.3 Developing CoEs.)

The MHS is also dedicated to ensuring that Service members are provided with the best clinical care and streamlined administrative processes to return them to duty status or to transition them from MHS care to the VA healthcare system in a timely manner. As the Department continues to integrate healthcare operations in the NCR via JTF CAPMED and to develop a robust electronic medical record, processes for providing this care and warrior transition support in the NCR will become more seamless and effective.

On both the Bethesda and Belvoir installations, construction is underway or planned for dedicated wounded warrior lodging to support extended outpatient medical treatment. Common wounded warrior transition services pivotal to recovery—such as finance, education opportunities, family advocacy, child and youth services, Defense Eligibility Enrollment Reporting System (DEERS) enrollment, legal assistance, travel assistance, and others—will be incorporated into resource centers at both the Bethesda and Belvoir installations. These centers will be manned with dedicated and knowledgeable staff for warriors and family members from all Services. The overarching goal of this multi-purpose resource is to provide “one-stop-shop” convenience to ease the often complex journey facing warriors and families during the recovery and rehabilitation process. Service liaisons will also be embedded to enhance efficiencies, streamline issue resolution, and reduce the potential inconveniences for warriors and families.

A complementary effort is underway for the provision of on-base lodging for wounded warriors, Non-Medical Attendants (NMAs), and family members at both Bethesda and Fort Belvoir. Available lodging capacity at Bethesda and Fort Belvoir will exceed that of WRAMC and the region today. This is discussed in greater detail in Sec 6.1.1 Warrior Lodging of this report.

3.3 The missions of the branch or branches of the Armed Forces served (2714(a)(1)(C))

The Department will continue to employ medical readiness programs and provide world-class healthcare to effectively support the missions of the military Services, as well as other DoD missions, such as those of the Combatant Commanders (CCDRs). To achieve this vision, the MHS will continue to provide the finest healthcare available and ensure high levels of readiness for all warfighters and military medical personnel in the NCR. The medical transformation in the NCR, as well as the realignment of organizational and budgetary authorities this plan provides, will significantly enhance these capabilities in the region by streamlining processes to allow for required levels of readiness and the most effective provision of care.

Nonetheless, forces assigned to JTF CAPMED, to include those that will form the new WRNMMC, Bethesda and FBCH, may also serve a dual function in support of Service (Army, Navy, Marine Corps, and Air Force) medical requirements. This could result in competing demand signals between JTF CAPMED and Service responsibility. To rectify this potential conflict, the DoD directed JTF CAPMED to enter into an agreement with the Services through a Memorandum of Understanding (MOU) to address and clarify those responsibilities.

The MOU will address both requests for forces from CCDRs and from the individual Services. CCDR requests will be sourced and adjudicated through the existing Global Force Management (GFM) process. In cases where the GFM process isn't applicable, e.g. a Service specific training or unique requirement, the MOU will address and balance joint and Service equities. The MOU will provide step by step procedures on how requests will be submitted, processed, and if necessary, adjudicated to ensure the readiness of the medical force balanced with the need to maintain medical capability in this critical region. The MOU is near completion and will be approved by the Department soon.

4.0 THE INTEGRATED HEALTHCARE DELIVERY SYSTEM IN THE NCR

4.1 Performance expectations for the future integrated health care delivery system including: (2714(a)(1)(D))

4.1.1 Healthcare Market Analysis

Over the past several years, DoD conducted studies in the NCR to identify the healthcare needs of DoD beneficiaries and to guide coordination and integration of the medical services provided. These studies have been conducted and directed by the individual Services, the Multi-Service Market Office (MSMO), JTF CAPMED, and the Assistant Secretary of Defense for Health Affairs (ASD/HA).

A 2003 Market Review showed that the greatest number of NCR patients in all categories lived in Virginia, closer to DeWitt Army Community Hospital (DACH), and this review additionally predicted the migration trend to that part of the area would continue. The review noted a poor fit between demand and effective use of direct care resources for emergency room services and inpatient and specialty care, especially in the southern I-95 corridor. This conclusion contributed to the rationale for the 2005 BRAC recommendation to transition WRAMC to WRNMMC, Bethesda and FBCH. (For more information on the 2003 Market Review, see Appendix B, Section B.1.1 Multi-service Market Office Business Plan.)

In 2005, the MSMO identified strengths and challenges in the NCR MHS. While quality healthcare was being delivered to beneficiaries, care was not fully optimized due to overlapping catchment areas, inefficiencies in systems, lack of productivity standards, and poor coordination between Services and facilities, even though the NCR had an abundance of medical expertise that served as a worldwide referral center for specialty care and clinical services. Beneficiaries residing in the southern submarket of the NCR, often due to affordability issues in the north, had long distances and travel times to reach tertiary MTFs for specialty care. Given population demographics and patterns of vehicular congestion in the area, significant access issues continued to worsen. The MSMO proposed an aggressive plan to develop integrated healthcare service line plans coordinated across the NCR that would address productivity standards, data collection, data integrity issues, optimization of the direct care system, recapture of non-enrollee care, and optimization of the Graduate Medical Education (GME).

In a letter the Department received from the Chair and Ranking Member of the HAC-D on 16 September 2009, the committee stated it was concerned that no analysis had been performed to determine the future healthcare needs of beneficiaries in the NCR. The Department commissioned a study in 2009 to identify the MHS NCR population, to estimate future workload and service demand, and to identify prevailing market dynamics. The study used the historical catchment area rules governing TRICARE eligibility/enrollment—20 miles for primary care and 40 miles for specialty and inpatient care. Twenty-three MTFs participated in the study by providing beneficiary population and workload data. The study included an analysis of

beneficiary population, demand, market share, and workload; ambulatory procedure visit and surgical care volumes; and MHS-wide comparisons. The study showed that the NCR population and overall demand for medical care services is significant and will require robust inpatient and outpatient health delivery initiatives for the foreseeable future. However, it noted that the NCR direct care system has experienced both an increased demand and loss of market share to network providers. Further losses could impact academic programs, result in excess facility capacity, and have a negative impact on fulfillment of medical military missions. The MHS plans to recapture and retain eligible beneficiaries in the NCR direct care system when appropriate to secure future services and programs (see Appendix B, Section B.1.2 2009-2010 Population Study and Attachment 7, National Capital Region Market Analysis - Executive Summary Report).

In September 2009, Health Net Federal Services, the managed care support contractor for the NCR, analyzed the use of emergency rooms and urgent care clinics by DoD beneficiaries. The study found that NCR DoD-eligible beneficiaries use these two venues of care more than the comparable users of commercial healthcare plans would. Health Net Federal Services opined that DoD beneficiaries use the emergency room and urgent care setting more than patients in loosely and well-managed health plans because TRICARE patients do not have out-of-pocket cost disincentives. Patient preference to use private sector care emergency rooms and urgent care clinics is being addressed within the NCR integrated delivery system (IDS) plan. Strategies that include cost effective after-hours options have helped change patient preferences toward use of primary care medical homes and have improved quality and coordination of care. They have also helped to direct patients who have high acuity needs (i.e., surgery, other procedures, inpatient care) to the appropriate MTF (see Attachment 6, Emergency Room Urgent Care Utilization and Cost Study).

Cumulatively, these studies indicate that the eligible population in the NCR has slowly grown over the years and will continue to grow, although at a decreasing rate. Even as beneficiaries increase, demand for services has increased at a greater rate, making DoD beneficiaries higher users of healthcare than their civilian counterparts. Increased mission requirements, including deployments and training, have limited available capacity. While these studies have indicated that this trend, combined with enhanced patient access through TRICARE, has the potential to place GME and proficiency at risk at WRNMMC, Bethesda as an academic medical training center, the Department is actively evaluating enrollment and referral management strategies to maintain a robust GME capability in the NCR Joint Operations Area (JOA) (See Appendix I, Section I.1, Graduate Medical Education)

4.1.2 The NCR Provides an Unique Integrated Delivery System Opportunity

The NCR presents DoD with a unique opportunity to integrate the military medical assets of a dense multi-Service military healthcare market (40 MTFs) to consistently provide patient centered capabilities to beneficiaries. To accomplish this mission, JTF CAPMED is coordinating with the NCR medical components of the Army, Navy, and Air Force to integrate processes and ensure economies of scale, eliminate redundancies, enhance clinical care, promote health professionals' education and joint training, and enhance military medical research opportunities.

The NCR IDS will be anchored by world-class, state-of-the art hospitals –WRNMMC, the military's largest medical center, in the north and the FBCH in the south. It will create

incentives to avoid duplication, conserve resources, and keep beneficiaries healthy. It will focus on improving the health status of the entire beneficiary population—not just the enrolled population (see Attachment 1, JTF CAPMED Regional Healthcare Delivery CONOPS).

4.1.3 Core Tenets of the NCR Integrated Delivery System

The NCR IDS overarching objective is to provide patient-centric, integrated care with patient and family involvement. The NCR IDS has several measurable objectives: focus on the health of our enrollees and improve our community health at large while giving priority to WII; consumer responsiveness; seamless continuum of care; quality improvement and cost reduction; reducing administrative/overhead costs; sharing risk/eliminating cost-shifting; outcomes management and continuous quality improvement; reducing inappropriate and unnecessary resource use; and efficient use of capital and technology.

4.1.4 The NCR Integrated Delivery System

An IDS is a term that describes the relationships of different healthcare delivery elements, usually in private sector organizations. Previously in the NCR, the Army, Navy, and Air Force governed and operated MTFs that were tightly coupled vertically to individual Services. They could be described as overlapping enterprises, but not as operating an inter-Service system.

The dense multi-Service military healthcare market in the NCR provided the Department with the unique opportunity to achieve an inter-Service system that is integrated from the patient perspective as well as the inter-service perspective. In addition, the Department's establishment of JTF CAPMED to oversee, manage, and direct all healthcare delivery by military medical units within the NCR JOA allows for a single chief executive to manage the budgets, workforce, facilities, and other resources in the NCR IDS. This governance structure will achieve a synergy among military healthcare delivery systems that will be able to achieve better patient outcomes. This capability in the region is further enhanced by the additional budgetary and organizational authorities the Department has provided to the Commander of the JTF. An integrated delivery enterprise (IDE) concept of operations (CONOPS) for the NCR was first published by JTF CAPMED on 20 November 2007 and sets the goal of being "...dedicated to providing patient and family-centered care that is convenient and accessible." The delivery of integrated healthcare requires a strong regional rather than facility perspective that must be both effective and able to identify efficiencies for the benefit of this population.

An NCR Joint Operations Area (JOA) primary care common operating picture describing capacity and performance was developed and operational principles were established for use across the enterprise. Under Joint leadership Army, Navy, and Air Force component commanders and the MTFs will provide enrollment opportunities at the new WRNMMC, Bethesda, Kimbrough Ambulatory Care Center, Malcolm Grow Ambulatory Care Center, FBCH, and other NCR clinics. The civilian network is available to enhance the provision of care through additional capacity not available in this direct care system. Additional direct care system primary care capacity will only be developed as necessary to achieve the mission objective of optimizing access for patients.

The unifying principle of providing one standard of care and access, regardless of where an individual is enrolled or treated, emphasizes a patient-centric commitment. Patient-centric processes, such as “one-stop shopping,” seamlessly coordinated care across care settings, health maintenance and wellness programs, and empowerment of the primary care manager as the informed orchestrating agent for the patient across their episode of care are being developed.

At the same time, primary care itself will be customized for individual needs. For example, the WII Clinic, located at WRNMMC, Bethesda will focus on WII patients with special needs, as well as the management of their complex clinical, administrative, and care coordination requirements. Plans are also underway to provide behavioral health services in primary care clinics through a variety of mechanisms, such as primary care providers, Patient Centered Teams, and RESPECT-Mil (Re-Engineering Systems of Primary Care Treatment in the Military). The Navy is testing a Medical Home concept for enrollees at NNMC and the Air Force is establishing a similar clinic model for patient centered and family care in its clinics.

The MHS has an enterprise-wide goal to improve preventive health screening measures and condition management services. The MHS has created incentives for MTFs to improve enrolled beneficiary health and use Healthcare Effectiveness Data Information Set (HEDIS®) and ORYX® metrics to measure health improvement in both the inpatient and outpatient settings. Emphasis on patient-focused care has led to a tremendous improvement in the areas of health promotion and disease management. For example, over the last year, WRAMC, NNMC, DACH, and Malcolm Grow Medical Center (MGMC) have raised the percentage of the eligible population receiving mammograms by 3 percent and those receiving colorectal exams by 2 percent. One example of the focus placed on disease management is the overall 5 percent improvement of diabetics with controlled Hemoglobin A1C levels. The IDS will use this construct to set aggressive goals for achievement; improve data quality; encourage the accountability of the patients and the providers; improve the quality of lives; and reduce some costs of healthcare in the long term.

The NCR is leading efforts to develop information integration as a key enabler for systemic transformation. Providers will have access to any available information they need, regardless of where an individual is seeking care. Information and tools will be available to providers at the point of service and will enable all providers to guide their decisions about “best practice.” Beneficiaries will have access to tools, such as TeleDoc, nurse advice lines, and information technology (IT) links to behavioral health specialists.

4.1.5 Specialty Care and Referrals

Many of the most utilized specialty care services will be available at more than one MTF to better serve beneficiaries locally. For example, new secondary care services at FBCH will include interventional radiology with cardiac capability, advanced urologic procedures to include lithotripsy, an adult chemotherapy infusion center, nuclear medicine capability with radiation therapy, a linear accelerator, and a level II nursery. In the realm of surgical care, a workgroup is investigating how to arrange for surgical pre-op to be performed in one location and the procedure to be performed at another MTF. Ambulatory surgery will be available at four locations in the NCR to allow delivery of same day procedures in convenient locations.

Behavioral health is a key element of specialty care in the IDS. A new organizational structure for how behavioral health services will be delivered includes psychiatry, psychology, and addictions treatment as individual departments within a common directorate. WRAMC and NNMC are already integrating training programs in their Departments of Psychiatry and Psychology to meet the increased behavioral health needs identified within DoD. FBCH is launching a substance abuse treatment program, as well as inpatient psychiatry wards, designed to complement other treatment capabilities in the region.

In addition to the extraordinary hospital capabilities for secondary, tertiary, and subspecialty care, including CoEs discussed in Section 6.1 of this report, a level of organization and optimization of specialty care never before realized in the region will become possible. A standardized specialty care capacity analysis model is being developed to determine the future capacity for specialty care services and complementary GME programs within the JOA.

Beneficiary demand will be assessed to determine the need to provide outpatient specialty care at JOA outpatient clinics as well as within hospitals. This will increase patient satisfaction and access, capture required clinical cases for GME, and prevent care from shifting to the purchased care market. There will be a significant increase in specialty care provided at FBCH relative to the current capacity pre-BRAC. Referral management processes and business rules are being standardized and centralized to ensure JOA-wide visibility and optimization of specialty care capabilities. The IDS will facilitate the right patient being seen in the right facility at the right time for the right specialty care.

4.1.6 Integrating Clinical Support Services and Administration

An IDS must be operated and managed as a single entity with a regional, unified view of planning, procuring, training, and administration. With the additional Operational Control authorities discussed in Section 5.1 that will be provided to JTF CAPMED, the Department is taking steps to knit together the disparate processes across the JOA that are currently managed at the Service-specific level. The NCR has formed several Joint, multidisciplinary teams to integrate Service-specific operations into a single Joint structure.

For example, a Joint business plan is being developed to provide incentives for quality enhancement across the region rather than by Service affiliation or facility. Planning is underway for FY 2012 and FY 2013 that will take into account FBCH and WRNMMC becoming Joint facilities. Priority action areas for this plan include the following: promulgating best practices in quality and safety across the JOA, leveraging emerging technology, capturing efficiencies from the consolidation of facilities while ensuring no decrement to care, and synchronizing human capital manning and distribution requirements.

Few services touch as many patients within the JOA as the pharmacy, radiology, and medical laboratory functions. These three services account for more than 30 percent of the entire JOA's operating and maintenance expenses. Joint work groups are dedicated to improving and integrating the functions of these ancillary services in consultation with JTF CAPMED, DoD Health Affairs, TRICARE Management Activity (TMA), the Armed Services Blood Program Office, Center for Clinical Laboratory Medicine, and the Nuclear Regulatory Commission. In particular, the following activities are in progress:

- In radiology, work is underway to develop a Picture Archiving Communication System for digital image sharing throughout the JOA. All MTFs in the NCR will be connected to allow any appropriate provider to retrieve an image on the desktop no matter where it was taken.
- The pharmacy benefit will be improved by the creation of a joint formulary—now under development— throughout the JOA to allow a patient to fill a prescription regardless of which Service hospital or clinic wrote the prescription or where it was first filled. Mail Order refills will be emphasized to increase quality through automation, increase patient satisfaction, and mitigate traffic concerns at the inpatient hospitals. Telephone service for routine or emergent pharmacy needs will be provided to patients through conveniently centralized access.
- Medical laboratory licenses will be consolidated and held by a single entity, thereby increasing efficiency and enforcing a set of common standards and quality expectations across all laboratories in the JOA.

4.2 Information management and information technology support (2714(a)(1)(D)(i))

The Department is developing and implementing a robust network of Information Management/Information Technology (IM/IT) systems to support the new WRNMMC, Bethesda and FBCH and underpin the provision of world-class healthcare within the NCR. In the NCR, and throughout the entire MHS, the Department is maintaining flexibility in a rapidly changing medical environment to incorporate new technologies as they become available and offer greater capabilities to enhance patient care. DoD is focused on maintaining customer-focused programs for IM/IT products and services, including network and network-based operations, clinical informatics, information assurance, visual information, office automation, and IM/IT administrative support services. The Department has established a set of enabling activities that will bring about integration and innovation across the NCR JOA. These activities are captured in the milestone chart shown in Figure 25: Information Management/Information Technology Enabling Activities Timeline in Appendix G, Information Management and Information Technology.

The Department has established a Clinical and Business Integration group to manage and inform the overarching, strategic, and evolving healthcare technology needs of the NCR. It commissioned this group with the goal of developing consolidated clinical and business processes and a migration plan for clinical applications in the NCR. Utilizing input from clinicians, business managers, and integrated chiefs at NCR MTFs, the group serves as the primary source of input from clinical stakeholders for various system integration activities, such as conducting gap analyses, developing requirements, setting priorities, and establishing “best practice” models. It is chaired by JTF CAPMED IM/IT leadership, and its members include operational and informatics clinical leads from NNMC, WRAMC, and FBCH. It is also working to ensure that the new WRNMMC, Bethesda and FBCH will be outfitted with

Major Technology Initiatives

- Smart-room technology
- Pharmacy robotics
- Scanners for early cancer detection
- Image-guided radiotherapy
- Digital mammography
- 4D ultrasound
- Hands-free communications
- Patient kiosks for self-service applications
- RTLS for security

cutting-edge healthcare technology, including diagnostic imaging, patient monitoring, and emergency life support, as well as the implementation of a robust infrastructure to support a Joint MHS in the NCR. These efforts will allow the region to remain at the forefront of incorporating emerging technologies as they are identified by clinicians or through partnerships with other healthcare delivery systems.

The Department is integrating WRNMMC, Bethesda and FBCH into a Joint infrastructure that will support the sharing of pertinent information among MTFs in the JOA, as well as with VA and other external agencies. Through JTF CAPMED and the Tri-Service Infrastructure Management Program Office (TIMPO), the Department is coordinating the architectural elements necessary for the build out of the MHS network infrastructure for the region. DoD is implementing a multi-phased approach for transitioning from the “as-is” to the “to-be” target architecture.

As part of this effort, the Department will convert the Bethesda and Fort Belvoir campuses into a Joint Medical Network (JMED) and operate a single Metro Area/Local Area Network (MAN/LAN) architecture. DoD has nearly completed the definition of the requirements for communications infrastructure between WRNMMC, Bethesda and FBCH and has approved the establishment of 30,000 MHS DoD Internet Protocol (IP) addresses for the JMED, which is scheduled to be operational by January 2011. In August 2010, the Department will begin the DoD Information Assurance Certification and Accreditation Process (DIACAP), which includes formulating a DoD certification and accreditation process for the new JMED.

In April 2011, the Department will begin to expand the Wide Area Network (WAN) telecommunications network. This network will incorporate a subset of “children” (clinics) into JMED. The Department, via JTF CAPMED and the Services, will realign a predetermined number of clinics, such as the Army’s Fort Meade clinic, so that they are incorporated into the Joint Medical WAN architecture. The Air Force’s MGMC and the Army’s Kimbrough Ambulatory Care Center will become an enclave with connections to the JMED WAN for medical support. These efforts are on track to be completed by the end of the BRAC deadline of 15 September 2011. (For more information, see Appendix G, Section G.1.1 Establish Joint Military Health System Network Infrastructure.)

As concluded in the April 2007 *Evidence-Based Design: Application in the MHS* report the Department commissioned, as well as other studies, a growing body of evidence indicates that hospitals can achieve healthier and safer environments for patients and staff by identifying and improving inefficient processes and by linking Evidence-Based Design (EBD) to important patient outcomes. To support facility EBD, there is a substantial requirement for incorporating IM/IT to support the new design. The Department has incorporated EBD principles that support patient and family-centered care in the planning and implementation of technology that will be deployed at the new WRNMMC, Bethesda and FBCH.

For example, the Department is incorporating “Smart Suite” technology—to help improve both care and clinician efficiency with smart beds, bed-side entertainment, patient education, two-way communication devices, high-resolution audiovisual technology and wireless capability, as well as the ability for patients to control temperature and lighting at the bedside—into its facilities planning. Smart beds enhance the ability to deliver safe, quality care through real-time/active patient monitoring of bed status, patient position, and activity that alerts care

providers when patients need assistance and facilitates communication between patients and the care team through nurse call integration. Smart beds incorporated in Smart Suites optimize patient and provider workflow where patient, providers, and point of care technology interact intelligently to facilitate care delivery at the bedside. The choice of smart beds depends on the type of condition being treated, as not all conditions, e.g., neonatal and intensive care unit (ICU) are suitable for smart bed application. These units have a very high caregiver-to-patient ratio, which ensures continuous, real-time, in-person monitoring of the patient.

The Department will procure 120 smart beds to outfit 120 Smart Suites at FBCH in alignment with construction timelines and outfitting. In addition, following clinician and end user input, WRNMMC, Bethesda will be outfitted with 302 smart beds, of which 170 will be for Smart Suites. DoD will convert approximately 165 of the 200 Hill-Rom beds currently at WRAMC to smart bed technology for use at WRNMMC, Bethesda. The Smart Suites/beds will incorporate RTLS) nurse call functionality, and device connectivity. They will also include mobile and handheld technology that can access bed status and improve care coordination through integration with nurse call systems. Both Joint hospitals will also be outfitted with wireless, RTLS technology, and communications systems (see supporting information in Appendix F, Section F.6 Evidence-Based Design).

4.3 Expansion of support services (2714(a)(1)(D)(ii))

At Fort Belvoir, construction is underway or planned for dedicated warrior lodging to support extended outpatient medical treatment. Common warrior transition services pivotal to recovery—including finance, educational opportunities, family advocacy, child and youth services, DEERS enrollment, legal assistance, travel assistance, and others—will be incorporated into resource centers at the Belvoir installations. The center will be manned with dedicated and knowledgeable staff from all Services for warriors and family members. The overarching goal of this multi-purpose resource is to provide “one-stop-shop” convenience to ease the often complex journey facing warriors and families during the recovery and rehabilitation process. Service liaisons will also be embedded to enhance efficiencies, streamline issue resolution, and reduce the potential hassle factor for warriors and families. An Army MILCON project will provide 144 double occupancy suites for wounded warriors and NMAs. In addition, the Department is reviewing a validation assessment for a 250-bed Family Lodge, along with an ongoing assessment of potential community partnerships.

For Bethesda, Section 6.0 discusses the WRNMMC, Bethesda Facility Master Plan.

5.0 ORGANIZATIONAL AND BUDGETARY AUTHORITIES IN THE NCR

5.1 Comprehensive Master Plan must delineate the process for the development of budgets, prioritization of requirements and the allocation of funds (2714(a)(2)) and delineate budget and operational authority to provide and operate world class military medical facilities in the NCR (2714(a)(3))

Taking into account the recommendations of the DoD's 2007 Independent Review Group and the President's Commission on Care for America's Returning Wounded Warriors (Dole-Shalala), the DoD Senior Oversight Council recommended, and the Department established, the JTF CAPMED. The DoD chartered JTF CAPMED in October 2007 as a Standing JTF reporting directly to the Secretary of Defense through the Deputy Secretary of Defense to oversee a transformation and realignment of the military medicine in the NCR, including the execution of the Walter Reed BRAC recommendation.

The DHB panel identified authority issues in the NCR as "foundational" and recommended empowering a single official with complete organizational and budgetary authority in the NCR. Letters the DoD received from the Chairs and Ranking Members of the HASC-MILPERS and HASC-Readiness Subcommittees on 22 January 2009 and the Chair of the HAC-D on 17 November 2009 expressed concern over this issue as well. In addition, it was the main topic at a hearing the HASC-MILPERS and HASC-Readiness Subcommittees held on 2 December 2009.

The Department directed in January 2009 that the new WRNMMC, Bethesda and FBCH be established as Joint commands subordinate to JTF CAPMED. To achieve further unity of command and unity of effort among the current medical components in the region, the Department recognizes that it is essential to reorganize the current distribution of Operational Control (OPCON) of MHS assets in the NCR to allow the Commander, JTF CAPMED (CJTF) to most effectively oversee the transformation and realignment in the region. To support necessary transition and equipment outfitting activities, the Department will assign OPCON of WRAMC, NMMC, and DACH to CJTF by 1 June 2010. Both Congress and the DHB panel, in its recent independent review, have recognized this need for command alignment (see Appendix D, Section D.1 JTF CAPMED Governance Structure).

At Bethesda, the Services will retain command and control over liaison elements to include detachments, patient affairs teams, recovery care coordination, or any other non-medical care asset assisting WIIs and their families. The authority issues regarding the supporting relationships between the WRNMMC and the Navy Support Activity (NSA) Bethesda installation commander, particularly in accountability for establishing and executing sustainment, restoration, and modernization (SRM) and the alignment of medical support services, have been refined. DoD has determined that Buildings 1 through 10, Buildings A and B, Building 17 (Admin/Gymnasium/Pool), Buildings 54, 55, and 63 (three attached parking

garages), Building 62 (Wounded Warrior Administration/Billeting), Building 51 (National Intrepid CoE for Traumatic Brain Injury and Post Traumatic Stress Disorder [NICoE]) and other minor support buildings will define the new WRNMMC, Bethesda. The NSA Bethesda Installation Commanding Officer will operate all other support services on the installation in direct support of the medical center.

A formal ISA will be developed for Bethesda that will incorporate the following (a separate ISA will be developed for Fort Belvoir as well):

- All property at NSA Bethesda will be owned by the Navy.
- The Navy will have Maintenance Unit Identification Code (MUIC) responsibilities for all non-WRNMMC facilities except for the Uniformed Services University of the Health Sciences (USUHS), which will continue to have MUIC responsibilities for all USUHS facilities currently supported by DHP funding.
- JTF CAPMED will have MUIC responsibilities for all WRNMMC facilities.
- NSA Bethesda Installation Commanding Officer will be assigned an additional duty reporting relationship to the WRNMMC, Bethesda Commander for day-to-day mission support and will receive a concurrent Fitness Report.

As currently structured, the Services provide separate allocations to NCR MTFs, a practice that can create delays in coordinating integrated projects. The ASD/HA will provide JTF CAPMED with the most effective authority to manage assigned resources.

6.0 WALTER REED NATIONAL MILITARY MEDICAL CENTER, BETHESDA FACILITY MASTER PLAN

6.1 Comprehensive Master Plan must incorporate all ancillary and support facilities at NMMC, including education, research, COEs, transportation and parking structures required to provide a full range of adequate care and services for members of Armed Forces and families (2714(a)(4))

6.1.1 Warrior Lodging

Available on-base lodging capacity for Wounded Warriors, Non-Medical Attendants (NMAs), and family members at Bethesda and Fort Belvoir will be expanded to exceed that existing in the region today.

The Department's capacity planning for Bethesda is based on the most severely injured casualties including all amputees, open traumatic brain injury and complex trauma cases being located at Bethesda and includes 350 wounded warriors with a minimum of 150 NMAs and other family members. Construction is underway for a 280,000 square foot dedicated Wounded Warrior Lodging and Services Complex to support extended outpatient medical treatment. It will finish in June 2011 and will supply 153 double occupancy suites (306 beds). The design can support warriors and NMAs in a two-bedroom suite concept that will fully comply with the ADA and improve upon the Mologne House model in use at WRAMC today. In addition to two bedrooms with private baths and closets, these suites will include dedicated living areas, kitchenettes, and laundry facilities so that those in rehabilitation can transition to activities of daily living. Moreover, three new Fisher Houses will provide 60 ADA compliant single-bed rooms bringing the total beds available at Bethesda to 961 by the end of FY 2011. The Department has also included \$62.9M in the President's FY 2011 budget request for additional Wounded Warrior Lodging on the Bethesda installation, with 100 ADA double occupancy suites, each with two bedrooms, and is planning to expand the Navy Lodge by 50 rooms, bringing the total number of beds available to 1,211. See Table 1 below for more lodging information.

Table 1: Beds to Support Wounded Warriors, Non-Medical Attendants, and Family Members On-Base at Bethesda

Available On-Base Lodging	Current			2011		Post-BRAC	
	WRAMC	Bethesda	Total	Bethesda New	Bethesda Total	Bethesda New	Bethesda Total
Warrior Lodging: ADA Compliant	20	192	212	306*	498	200*	698
Family Lodging: ADA Compliant	119	9	128	60	69	4	73
Total ADA Compliant	139	201	340	366	567	204	771
Warrior Lodging: Standard	249	282	531	0	282	0	282
Family Lodging: Standard	178	112	290	0	112	46	158
Total Standard	427	394	821	0	394	46	440
Total ADA Compliant and Standard	566	595	1161	366	961	250	1211

*All New Warrior Lodging at Bethesda will be constructed to also allow for NMAs to room with WWs in double-occupancy suites.

Note: Bethesda will have sufficient ADA lodging to support 350 of the most severely injured casualties including all amputees, open traumatic brain injury and complex trauma cases as well as 150 NMAs.

Wounded, Ill and Injured Service Members Warriors needing non-Medical Center levels of care will be located at other NCR installations including Fort Belvoir, where an Army MILCON project is underway and will provide 144 double occupancy suites for wounded warriors and NMAs. Furthermore, the Fort Belvoir installation has completed a validation assessment for a 250-bed Family Lodge, which the Department is reviewing, along with an ongoing assessment of potential community partnerships. Fort Belvoir will have sufficient lodging or off-base lodging arrangements to support 400 warriors and 50 NMAs (For more detail, see Appendix A, Section A.2., Major Initiatives.)

6.1.2 Warrior Support Services

Between the two wings of suites, a three-story central support facility will include a dining facility, resident support center, and administrative functions specifically dedicated to the command and control of the wounded warrior population. Each Service will have space set aside to provide support to its specific population, tailored to meet its mission requirements.

Warrior transitions services pivotal to recovery—including finance, educational opportunities, family advocacy, child and youth services (including drop-in child care), DEERS enrollment, legal assistance, travel assistance, hourly/drop-in day care, and others—will be incorporated into this center. It will be manned with dedicated and knowledgeable staff for warriors and family members from all Services. The overarching goal of this multi-purpose resource is to provide “one-stop-shop” convenience to ease the often complex journey facing warriors and families during the recovery and rehabilitation process. Service liaisons will also be embedded to enhance efficiencies, streamline issue resolution, and reduce potential inconveniences for warriors, NMAs, and families. Additionally, the Department is analyzing

requirements for child care services as part of the master facility planning effort discussed in Section 6.2 in this report.

A physical fitness center is also under construction and will be sized to properly accommodate the space and access requirements of the WRNMMC, Bethesda Warrior in Transition (WIT) population and allow them to exercise alongside other warriors and caregivers. This center will support integration and re-integration of WITs into their community and support the reestablishment of the warrior/athlete ethos.

Creating optimal healing environments for inpatients and outpatients is integral to the renewal of spiritual, physical, and psychological wellness. To provide a full range of wellness and healing services, the Services have identified the levels of support required for their respective Wounded Warrior Programs at the new WRNMMC, Bethesda, and the Department is in the process of coordinating a CONOPS for all necessary support, including medical, Service Wounded Warrior Program, and installation requirements. Warriors will not be moved from WRAMC until recovery, support, and management services at WRNMMC, Bethesda are in place.

6.1.3 Other Bethesda Installation Support Services

There are plans in place to expand support services on the Bethesda campus. The Navy Exchange (NEX) is scheduled to start construction of its new facility in Calendar Year (CY) 2010. The new NEX will be more than triple the size of the current NEX and will allow the NEX to carry a broader array of goods tailored to meet the needs of wounded warriors and their families. The Department is also exploring expansion of the existing Navy Lodge and providing additional privately funded recreation services on the Bethesda campus (see Appendix F, Section F.3.2 Privately Funded Construction).

6.1.4 Medical Care for Warriors

Critical core missions of WRNMMC, Bethesda will be amputee/rehabilitative and TBI care. The quality of medical care for the wounded warriors at WRAMC and NNMC, as it exists today, will be maintained and enhanced at the WRNMMC, Bethesda.

The new ambulatory care building consolidates all outpatient, physical medicine, and rehabilitative services with the Wounded Warrior Medical Home module on its first three levels. A satellite laboratory, radiology, and pharmacy are also included in this area. In total, approximately 150,000 square feet of space is dedicated to these services.

Acute Outpatient TBI care will be provided through the Wounded Warrior Medical Home on Level 2, Occupational Therapy on Level 1, and Behavioral Health, Neurology, the Defense/Veterans Brain Injury Center (DVBIC) and Partial Hospitalization on Level 6. This is a world-class provision of TBI-related services. A sub-unit on the inpatient Mental Health Unit was recently converted into a dedicated six-bed state-of-the-art inpatient TBI unit.

The privately funded (construction and outfitting) NICoE for TBI outpatient care will be completed by summer 2010 at which time it will become part of the DoD continuum of care for TBI patients. Once completed, this facility will be operated by DoD and will be the state-of-the-

art center for second stage, “chronic” TBI and follow-on care that is provided to the injured warrior after having been treated for his/her injury and placed back into the work environment.

6.1.5 Education, Training, and Research

NCR medical professionals are engaged in a full spectrum of scholarly activities for the benefit of patients and their caregivers. These activities include formal and informal training and education opportunities, which aim to improve performance through development of knowledge, skills, abilities, and/or behaviors to accomplish a specific job, task, or goal. The NCR offers education and training opportunities ranging from formal degree-granting programs to on-the-job training, classroom, and electronic learning. Researchers in the NCR are encouraged to publish and speak on behalf of the NCR-based facility to showcase their current scholarly work and research findings. Moving forward, NCR will continue to provide definitive surgical care and rehabilitation for battlefield injured warfighters. Physicians, nurses, and enlisted medical personnel completing their training at an NCR medical facility will receive an unparalleled experience in the management of these complex injuries and will be provided outstanding opportunities to engage in war-related medical research. The same is true for care and research related to families and Veterans of past conflicts (see Appendix I, Section I.1 Graduate Medical Education; Section I.2 Certifications and Recertifications Offered to National Capital Region Medical Facility Staff and Section I.3 Research Within the National Capital Region).

6.1.6 Centers of Excellence

The Department is integrating the development of many DoD-level CoEs with the establishment of the new WRNMMC, Bethesda and FBCH, specifically where their functions impact the clinical care that will be delivered within the JOA. These CoEs will allow the new Joint hospitals to achieve capabilities and synergies that do not exist in the region today. Implementation teams for the CoEs have been established (See Appendix F, Section F.6.3 Developing Centers of Excellence). The current status of these projects is as follows:

- Cancer Center – Most of one entire floor of the new ambulatory building at WRNMMC, Bethesda has been redesigned to house a comprehensive cancer center and is currently under construction. Plans are being implemented to optimize the collocation and integration of clinical services of specialized cancer functions that operate separately today to allow for better cancer care and outcomes for patients. An implementation team, chartered by the JTF CAPMED, has been established with the goal of achieving National Cancer Institute (NCI) designation as a comprehensive cancer center (see Appendix F, Section F.6.3 Developing Centers of Excellence).
- NICoE – A director has been named for the NICoE, one of the many centers within the Defense Center of Excellence (DCoE). Construction is nearing completion for the NICoE structure adjacent to the primary inpatient tower (Building 10) on the Bethesda campus and should be complete by Spring 2010, with an initial operating capability (IOC) of Summer 2010. The Department is working closely with the NICoE implementation team to develop a working relationship and ensure that plans for provider privileging, documentation, care delivery, peer review, and other clinically relevant areas are synchronized with the operation of the current NNMC and the new WRNMMC, Bethesda.

- Vision Center – Section 1623 of the National Defense Authorization Act for FY 2008 directed the Secretary of Defense to establish within the DoD a CoE in the prevention, diagnosis, mitigation, treatment, and rehabilitation of military eye injuries. Congress provided \$4.052M for the renovations of spaces at the current NNMC to accommodate the establishment of the Vision Center of Excellence (VCE) as part of the new WRNMMC, Bethesda. To properly accommodate VCE with 3,600 square feet of space, the Department will place it in proximity to the planned ophthalmology and optometry clinics within the medical center. This placement will facilitate easy referral and consultation between clinicians and patients. A director has been named for VCE, and DoD has been coordinating the development of a CONOPS with VA.
- Joint Pathology Center – As directed under Section 722 of the NDAA for FY 2008, the Department will establish a Joint Pathology Center (JPC) that will contain a consultative service for pathology, including oral pathology and veterinary pathology, education, research, and the maintenance and modernization of the Tissue Repository. In some areas, the services will be more robust than those provided by the Armed Forces Institute of Pathology (AFIP). Upon delegation of the JPC mission to JTF CAPMED in December 2009, an interim director of JPC was appointed. Prior to this appointment, the Department established an inter-organizational Implementation Team, chartered by JTF CAPMED, consisting of members from the three Services, specifically the Office of the Army Surgeon General, VA, USUHS, AFIP, and DoD Health Affairs to carefully review the CONOPS, identify gaps in proposed services, and develop an expanded CONOPS and implementation plan. A detailed CONOPS and implementation plan that includes these critical services and personnel requirements was completed in March 2010.
- The Integrative Cardiac Health Project (ICHP), which is in operation today at WRAMC, will be collocated with the new fitness center on the Bethesda campus.

6.1.7 Parking Structures

Although the BRAC program will add three new parking garages, the resulting net gain in parking is not yet optimal for the planned operations of the new WRNMMC, Bethesda. The Department has requested \$17.1M in the President's FY 2011 budget outside the BRAC program for an additional 470-space parking garage. By the end of the BRAC transition, there will be approximately 8,100 spaces. This additional garage will bring the total number of parking spaces on the Bethesda installation to approximately 8,600. As part of this CMP-NCRM, the Department also plans to further expand parking capacity for the hospital, nearing the National Capital Planning Commission (NCPC) limit of one (1) space for every three (3) staff members allows for the provision of approximately 9,000 parking spaces across the campus (see Appendix F, Section F.2.4 Background (Development and Planning of the Facilities); Section F.3.1, WRNMMC Bethesda BRAC Physical Improvements; and Section F3.4 Fort Belvoir Community Hospital).

At Fort Belvoir, structured parking is located adjacent to each of the northern and southern ends of the main public concourse and in lower terraces along the entrance boulevard where public and staff traffic can readily connect to the major entrances of the building. The

South Garage has 1,650 spots, the North Garage has 1,380 spots, and when complete, 400 slots will be located in the front of the hospital. In addition, the Department will continue to provide 200 off-campus spots for staff. The new parking structures have also been designed with an expansion capability if needed in the future.

6.2 Comprehensive Master Plan must incorporate a facilities needs assessment, including an assessment of standards for patient rooms, and provide a program to meet the facility requirements (2714(a)(5))

The completion of the NCR Medical BRAC facility projects at Bethesda and FBCH will significantly enhance the capabilities of military medicine in the NCR. WRNMMC, Bethesda and FBCH will be established as Joint hospitals, subordinate to JTF CAPMED, and will yield over 3 million square feet of new and renovated world-class facilities. In addition, both the Bethesda and Fort Belvoir installations will sustain a state-of-the-art network of warrior transition services to support the nation's wounded warfighters and their families. At Bethesda, the BRAC program includes major additions to and renovations of the existing Medical Center and provides for improved facilities, including a new fitness center, a new administrative complex, new dedicated warrior lodging, specifically designed to support WII military personnel, expanded dining facilities, improvements at each of the entry/egress gates, and three additional parking garages. (For additional background, see Appendix A, Warrior Care.)

The Department is grateful to the DHB panel for defining a world-class medical facility in its review provided to DoD in July 2009, and it endorsed the specific recommendations the panel provided for WRNMMC, Bethesda and FBCH to achieve this new world-class standard in its 15 October 2009 submission to Congress. With few exceptions, the DHB panel found the plans for FBCH met the new world-class medical facility standard. The Department has made substantial progress in addressing the panel's recommendations for WRNMMC, Bethesda since the DHB panel's review, provided in July 2009. The remaining recommendations related to the current BRAC construction and the alignment of authorities in the NCR will be addressed by 15 September 2011. (For additional background about current projects at both WRNMMC, Bethesda and FBCH, see Appendix F, Infrastructure.)

Letters the DoD received from the Chairs and Ranking Members of the HASC-MILPERS and HASC-Readiness Subcommittees on 22 January 2009 and the Chair and Ranking Member of the HAC-D on 16 September 2009 and 17 November 2009 expressed concern over the lack of a master plan that would achieve the standard defined in the NDAA for FY 2010 at WRNMMC, Bethesda specifically. The Department is committed to expeditiously addressing these specific recommendations and since its 15 October 2009 submission has initiated the development of a revised Master Facilities Plan (MFP) for the WRNMMC, Bethesda campus. When fully refined this revised MFP will incorporate the additional construction and renovation needs identified in this CMP-NCRM and integrate them with the existing NNMC MFP (completed in 2008) to achieve the additional attributes of world-class facilities the DHB panel identified were lacking and were included in the NDAA for FY 2010. The plan will be fully refined and integrated with the existing NNMC MFP by 31 December 2010 in two phases and will support approximately \$781M in new requirements. However, in their current form these requirements will inform the Program Objectives Memorandum 2012 process (see Appendix F, Section F.2 Master Facility Planning for WRNMMC, Bethesda).

Phase 1 – Phase 1 is being conducted simultaneously with Phase 1b. Phase 1a consists of a Medical Facility Condition Assessment, which includes a review of ongoing and completed plans and studies, a facility analysis (including existing conditions and constraints, work orders, works in progress, proposed Navy Special Projects, statements of construction, facility assessments, and Joint Commission survey results); a medical facility utilization study (with current uses of existing facilities and planned uses for facilities in design or under construction or renovation); design charrettes (intense periods of design activity) and review sessions; site visits; interviews; and other information gathering.

This initial investigation will be followed by the development of Department-level space programs; blocking and stacking of selected alternatives; design charrettes and review sessions; Leadership in Energy and Environmental Design (LEED) goals and plans; potential project identification; and order of magnitude level cost estimates. Several other independent, regional healthcare requirements studies are in progress. The results of these healthcare requirements studies will contribute to Master Planning Study analyses in Phase 2, where healthcare requirements will be fully integrated into the MFP. The Department has recently completed a study of the new WRNMMC, Bethesda ORs, which demonstrated after modeling and simulation that capacity, if enabled by process improvement, could increase (see Attachment 5, Operating Room Study).

Phase 2 – Phase 2 will integrate the WRNMMC, Bethesda MFP with the Bethesda installation and other tenant functions, way-finding and access study, recommended facility improvements and vehicular transit, lodging requirements and capacity study, design charrette and review sessions, cost estimates for all potential projects, funding opportunity analysis, and funding strategy with sources and detailed timelines.

Additional infrastructure improvements required to achieve world-class facility standards at WRNMMC, Bethesda, as recently defined by the DHB panel, are identified below. Executing the programmatic replacement of existing buildings with new construction, coupled with coordinated renovations to the existing buildings, will require careful phasing. Cost estimates are based on programmatic analysis, applying standard DoD construction cost factors, and will be further refined and defined as they are integrated and coordinated with the MFP. Coordination among local community groups, the National Environmental Policy Act (NEPA), and other stakeholders will be key components of the process. The identified projects are not designed to bring additional staff personnel on the installation, but to replace and renovate existing aging infrastructure.

Replacement of selected existing buildings with modern, flexible, and adaptable construction will provide the new infrastructure required to sustain the delivery of high-quality care and services well into the future. Additionally, new construction will have a framework of appropriate structural bays, mechanical, electrical, plumbing, and IT systems and will integrate technology that does not exist in the legacy infrastructure. New central campus construction will allow for expansion of single-patient bedrooms in Building 10, provide sufficient support space for the ORs after their renovation to world-class standards, and provide new centralized services, including a Women's Center, Ambulatory Surgery services, Simulation Center, patient and staff services, and improved wayfinding.

The Department's plan is broken out into four components. All are estimated in 2010 dollars and quantities and values are in approximate terms. The ongoing MFP integration will continue to refine these numbers.

The first and primary component of this plan is a comprehensive project to replace aging, non-historic, infrastructure. Although the project proposes to construct approximately 500,000 square feet, this space will be offset by the demolition of approximately 325,000 square feet of existing, inefficient structures (Buildings 2, 4, 6, 7, and 8), resulting in a net increase in central campus area of 175,000 square feet. More efficient design will also yield more open space and improved accessibility. In addition to new construction, the project would renovate up to 120,000 square feet of vacated areas in remaining structures and add up to 500 spaces of underground parking. The Department will protect the integrity of, and the current investments into, buildings of historic importance such as Building 1 (the Tower), and the 3 and 5 complex (which are scheduled for total renovation by Navy Special Project funding). This all-inclusive component is projected to cost \$651M, including 100,000 square feet in temporary facilities and all associated design, demolition, Anti-Terrorism Force Protection (AT/FP) provisions, outfitting, equipping, transitioning, commissioning, and provisions for enhanced building information systems.

The additional parking structure will not exceed the total parking limitations of NCPC. This garage will provide closer access to the medical center than the many remote lots on campus today. It will primarily serve command and clinical functions in Building 1 and the new clinical building. The new garage will be built underground and situated linearly with underground ingress and egress routes such that the vista of the tower is not compromised and that ATFP requirements are met.

Secondly, additional MILCON projects totaling approximately \$85M, including design, will address pedestrian and vehicular congestion to directly improve access to care by warriors and other beneficiaries in and around the medical center, improve existing hospital support infrastructure and functions such as utility systems, and augment community services such as the Child Development Center.

Thirdly, an additional \$30M is required for technology upgrades. \$13M is required to outfit WRNMMC, Bethesda with evidence-based technology, smart rooms, and RTLS. Refining the NCR's external IM/IT infrastructure will require another \$7M. This additional funding will allow the Department to transition the current IM/IT infrastructure in the NCR, DoD Non-classified Internet Protocol Router Network, to a Synchronous Optical Network (SONET), which is optimal for telecommunications backbones composed of fiber optics. It also includes an active directory and e-mail for the NCR that will utilize the Unified Medical Domain to allow the Department to synchronize its efforts in the NCR with its plans for the entire MHS to develop processes and technologies that will streamline the exchange of health records between VA and other network partners. \$10M will be required for medical technology and equipment upgrades and procurements that were not anticipated in initial funding estimates and design efforts will be required for additional medical equipment requirements.

Finally, a requirement for an additional \$15M in O&M funding has been identified for procurements and activities that could be initiated in FY 2011 in support of achieving the new world-class standard. This funding will be used to provide an integrated signage solution for the entirety of WRNMMC, Bethesda, support to ongoing master planning activities and will

undertake the initial facility planning required to further develop projects for inclusion in future funding programs..A breakdown is provided in Table 2 below.

Table 2: Summary of Requirements to Achieve Newly-Defined World-Class Standards at Bethesda

Project	Description	Funding Type	Estimated Cost (M)
Comprehensive Clinical Expansion	New Construction, Renovation, Demolition, Parking Garage, Temporary Facilities, Outfitting and Transition, Commissioning, AT/FP, Enhanced Building Information Systems	MILCON/O&M	\$651 (\$567 MILCON \$84 O&M)
Installation Upgrades	Pedestrian Ways, Vehicular Access, Plazas, Childcare, Utility Infrastructure, etc.	MILCON	\$85
Medical Center Technology	Smart Technology, RTLS, External SONET, etc.	O&M	\$30
Installation and Medical Center Environment	Campus Wayfinding and Master Planning	O&M	\$15
		TOTAL	\$781

6.2.1 Components of the Vision

The future vision of WRNMMC, Bethesda has two basic components:

- Central Medical Center Campus (Comprehensive Clinical Expansion)
- Wounded Warrior Campus (intersects with Central campus).

The Central Campus has little room for expansion. Most combinations of the clinical requirements discussed below would necessitate movement of space required for clinical operations. The most likely site is the center of the campus, and demolition of existing infrastructure will be required to create a footprint for any development in this area; this plan will also dictate that some existing nonclinical functions be removed from the Central Campus area in the interim.

The Medical MFP will further detail the specifics of construction sequencing and functional arrangement. The Department will include wounded warriors and other patients in focus groups to aid the development of details.

Any new building construction will require an analysis mandated by the U.S. Environmental Protection Agency. Full consultation with the Maryland State Historic Preservation Office (SHPO), NCPC, and various other interested county and community entities will be pursued to ensure full visibility and cooperation. A significant concern that must be addressed is the community concern about traffic, especially at rush hour. The objectives outlined below are not the result of increases in staffing or patient volume beyond BRAC projections, but are rather driven by the requirements to renovate, right-size, and properly align supporting activities to meet the world-class standard.

6.2.2 Central Campus Comprehensive Clinical Expansion

The objectives of the comprehensive Central Campus construction address the following:

- **Establishing all single-patient bedrooms** – While the ongoing BRAC renovation repositions over 100 Medical/Surgical beds into single-patient bedrooms, over 100 beds remain in double-patient room configuration. Existing Medical/Surgical beds are housed on the third, fourth, and fifth levels of Building 10. Achieving all single-patient bedrooms will require the dedication of one additional floor of Building 10 for Medical/Surgical units, and the transformation of this and the existing double-patient bedroom units on other levels into single-patient bedroom units. Conversion to BRAC design “canted” single-patient bedrooms would be continued, following a layout that optimizes the patient experience and staff efficacy and that fully embraces key EBD principles while fitting the canted rooms within the existing structural grid of the building. The canted room concept provides improved visibility into the patient rooms, increased patient safety, and improved delineation of staff treatment areas and family zones within the room. Additionally, progressive EBD principles suggest that patient amenities be dispersed on the units amongst the patient bedrooms.
- **Creating a comprehensive, multidisciplinary women’s health center** – Conversion to single-patient bedrooms will require displacement of the existing Labor/Delivery/Recovery/Postpartum (LDRP) service from Level 6. This relocation, however, creates the opportunity to incorporate the OB-GYN Clinic, In-Vitro Fertilization, Women’s Urology, and Ultrasound and Mammography capabilities to effect a world-class, patient-centered women’s health center.
- **Delivering world-class surgical suites** – Between the BRAC construction of three new large ORs (800+ square feet each) and the ongoing O&M reconstruction of 17 medium ORs (approximately 600 square feet each), the surgical suite ORs and support will be right-sized for projected inpatient operations and will afford full capacity for outpatient surgery. The proposed solution continues the initiative to update all surgical services by developing a separate Ambulatory Procedure Unit (APU), which would improve patient flow for both inpatient and outpatient operations. Relocating the existing APU will free up space in Building 9 to better facilitate On-Call, Pre-Op holding, Pediatric sedation, staff lockers, Cardiology/Interventional Radiology recovery, Trauma support and other needs—both current and evolutionary.
- **Developing a leading-edge simulation center** – Providing appropriately sized and proportioned space for the collocation of the simulation center and medical education is essential to support additional training elements and improved simulation operations. The long linear floor plan of Building 3, limited capacity, and planned public circulation intersections constrain the ability to achieve a fully developed, world-class simulation center environment. To better optimize simulation training, enhanced capabilities and increased integration with other medical training are included as part of the new, post-BRAC construction effort.
- **Maintaining and enhancing a comprehensive eye/vision center** – All eye functions, including Ophthalmology, Optometry, Laser Surgery and the VCE, are currently planned to be collocated. The footprint of an additional clinical building on the Central Campus will require dislocation of these functions until they can be re-

consolidated on one floor of the new clinical building to continue to optimize comprehensive care, efficiency, and research opportunities.

- **Investing in best-in-class HIT** – While leading technology is being incorporated in all new and renovated spaces, it will be required throughout the remainder of the medical center’s additional renovation and infrastructure.
- **Developing a patient activity mall** – The siting of new construction near the center of the main campus will create the opportunity to create a new patient activity mall on the first level to replicate existing retail facilities and to deliver an entirely new patient experience. This space will become a focal point of the medical center and patient experience, incorporating interior water gardens, sculptures, music, vegetation, art, and natural light.
- **Improving wayfinding capabilities** – Any renovation, reconstruction, or expansion of the present infrastructure requires critical analysis of patient and staff circulation and efficiencies, with a goal of simplifying the primary circulation routes. This plan includes a central and direct three-level “spine” connecting the outpatient clinic building at the north end of the Central Campus with any new clinical building in the middle and the tertiary services/inpatient complex at the south end.
- **Evaluating siting** – An active, world-class medical center as defined by the DHB panel requires appropriate space to support existing functions and to allow for expansion and evolution of clinical services and technology. Existing spaces for both WRNMMC, Bethesda functions and tenant activities not touched by BRAC construction require additional space to fully optimize staff performance and the patient experience. Since the Medical Center’s Central Campus is already densely built out, the optimal “highest and best” solution to revitalize space is to take down the older, lower-density infrastructure at the core of the campus. This older infrastructure includes Buildings 2, 4, 6, 7, and 8.

Table 3: WRNMMC, Bethesda Clinical Expansion Planned Space Allocation

Clinical	
Women’s Health; Vision Center; Ambulatory Surgery; Adult Behavioral Health; Partial Hospitalization; Dental Readiness Clinic	275,00 GSF
Medical Education Support	
Simulation Center; Health Professional Education; Medical Center Auditorium; National Navy Dental College; Navy Medical Manpower Personnel Training and Education	90,000 GSF
Public and Patient Amenities	
Chaplain Services, Patient Services and Information; Retail – postal, banking, convenience, hair care; Convenience Food Service, Public Lounges	75,000 GSF
Supporting Activities	
Visual information; Navy Dosimetry Center, Health Physics; National Cancer Institute	60,000 GSF
TOTAL: 500,000 GSF	

Figure 1: Future Vision of Central Comprehensive Clinical Expansion

6.2.3 Wounded Warrior Campus

Creating a holistic, Wounded Warrior Campus at WRNMMC, Bethesda is important to foster a total healing environment:

- Conveniently positioning wounded warrior resources – It is vital that amenities are made available to wounded warriors and organized so that their stay is restorative and focused on healing. As services such as the clinic, lodging, dining, and recreation facility will already be located on the north side of the installation, this requirement presents an opportunity to continue the build out of a Wounded Warrior Campus in and around the Wounded Warrior Complex.
- Fostering a festive, family-centric environment – The United Services Organizations has proposed a “celebration space” in support of WII warriors, resident attendants, and other family members and friends. This space would facilitate a wide variety of amenities that would likely include spaces for community gatherings, performances, theater, indoor and outdoor recreation, meditation, nature immersion, gaming, education, and job training, among others (see Appendix A, Warrior Care).

7.0 NCR MEDICAL PERSONNEL AUTHORIZATIONS AND PERSONNEL SYSTEMS

7.1 Specifies the personnel authorizations and personnel systems required to provide and operate a world-class military medical facility (2714(a)(6))

7.1.1 Manpower Document

Three Department decisions are fundamental to the future of the world-class medical force continuing a tradition of world-class care. First, the August 2007 decision to establish a Guaranteed Placement Program (GPP) for the civilian workforce at WRAMC ensured the sustainment of operations at WRAMC and the retention of a highly skilled civilian workforce representing more than half of the civilian talent base in the NCR for further assignment to WRNMMC, Bethesda and FBCH. Then, in October 2008 and January 2009, the Department made two additional decisions—one directing that WRNMMC, Bethesda and FBCH be established as Joint hospitals in the NCR with Joint manning (Attachment 4, January 2009 Action Memo for the Personnel Structure of the NCR Medical), and the other to use a Joint Table of Distribution (JTD) to direct a civilian workforce consolidation into a single DoD system.

In a letter the Department received on 17 November 2009 from the Chair of the HAC-D, the committee voiced concern over the Department's progress in achieving an Active Duty force mix for the new WRNMMC, Bethesda and FBCH. An Active Duty force mix distribution for the new WRNMMC, Bethesda and FBCH has been determined, and the Services have identified the resources to meet the defined manning requirements. At WRNMMC, Bethesda, the Active Duty force mix will be approximately 41 percent Army, 54 percent Navy, and 5 percent Air Force. At FBCH, it will be approximately 62 percent Army, 36 percent Navy, and 2 percent Air Force. The distribution of forces is necessary to protect mission capability and understand where the future requirements for the civilian workforce will be located.

An Intermediate Manpower Document (IMD) has been developed and is being used to facilitate the development of the ultimate JTD. The IMD is an authoritative database that supports the underlying manning documents for each Service. It will allow the compilation of all personnel requirements for the eventual JTD, while maintaining more flexibility for changes during the transition and as experience is gained operating the new hospitals. The IMD looks exactly like a JTD in all aspects, which will facilitate its eventual migration to the JTD. The final iteration of the Department's draft JTD version 3.0 was renamed the IMD. Now JTF CAPMED and the Services are developing a Memorandum of Agreement (MOA) to commit resources in support of the IMD. Until the Department makes its final determination on the ultimate governance alignment of JTF CAPMED, the IMD can remain a local database, with necessary MOAs, allowing flexibility for position changes and realignments (see Appendix E, Section E.1

Building a Joint Medical Manpower Document and E.2 Stabilize Manning Document and Provide Initial Notification by July 2010).

7.1.2 Federal Civilians

Retaining the skilled civilian workforce in the NCR is imperative to operating the new WRNMMC, Bethesda and FBCH. A Joint manning solution coupled with a comprehensive human capital strategy will allow the Department to incorporate the rich legacies of both WRAMC and NNMC as national icons in establishing the new WRNMMC, Bethesda and FBCH. While attrition levels of government civilians at WRAMC remain normal, individuals at WRAMC and NNMC remain concerned about their jobs and location in the end state. The Department is engaged in comprehensive communication efforts with the current workforce to ensure transparency and maintain trust (see Attachment 4, January 2009 Action Memo for the Personnel Structure of the NCR Medical).

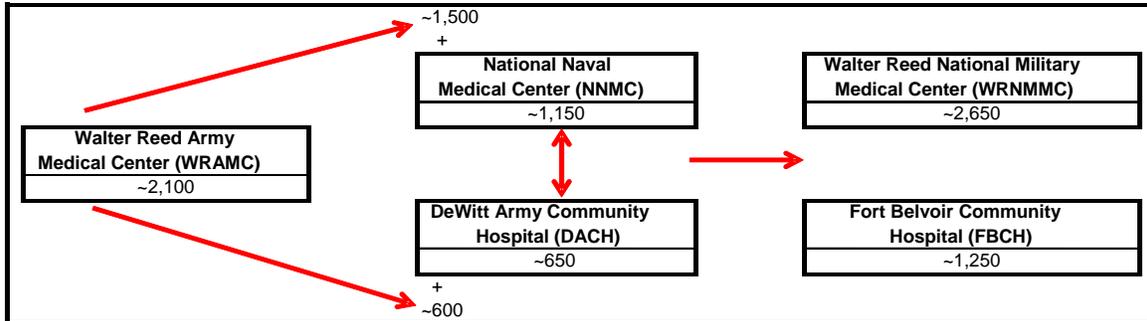
In the 17 November 2009 letter DoD received from the Chair of the HAC-D, the Chairman also voiced concern over when permanent government civilians would be notified of their future work locations. The Department has established a Civilian Human Resources (CHR) Council to oversee the transition of civilians in the NCR, and in February 2010, it began matching permanent current WRAMC civilians to their work locations at either WRNMMC, Bethesda or FBCH in the end state. Utilizing a workforce mapping model to execute the GPP, the Department will be able to place the vast majority of WRAMC government civilians at their desired work locations performing the work they want to do and will provide reassignment opportunities and career progression opportunities that do not exist today. Notifications will be made to permanent government civilians, who will be transitioned to a single DoD civilian manning model, of their future work locations at WRNMMC, Bethesda, FBCH, or other opportunities within the GPP by 1 July 2010. Permanent government civilians will not incur any loss in pay as a result of the transition (see Appendix E, Section E.3 Building a DoD Civilian Manning Model, and E.4 Implementing the Guaranteed Placement Program).

The Department has taken significant actions to meet work location preferences for as many civilians as possible. The Active Duty force mix across these hospitals will facilitate the placement of approximately 1,500 of the WRAMC civilian personnel at the WRNMMC, Bethesda. Surveys indicate that more than 355 federal government civilians at WRAMC and 50 at NNMC desire to go to FBCH. There are approximately 230 contract billets planned for FBCH and 475 for WRNMMC, Bethesda and depending on the skills needed, DoD may be able to use some of those contractor billets to expand WRAMC personnel placements at Bethesda. In addition, effective February 2010, all new permanent hires at WRAMC and NNMC are being advised that their work may move to FBCH in 2011. DoD will also be leveraging attrition over the next year and a half to create additional “spaces” at Bethesda to place current permanent WRAMC civilians. DoD is committed to maintaining a highly skilled workforce in the NCR that will be able to meet the unique healthcare needs of the nation’s service members, retirees, and their families.

From WRAMC, approximately 1,500 permanent Army civilians will move to WRNMMC, Bethesda and 600 to FBCH. WRNMMC, Bethesda will have approximately 1,500 permanent Army Civilians and 1,155 permanent Navy Civilians. FBCH will have approximately 1,233 Army Civilians. In the end state, permanent civilians at both hospitals will transition to a

DoD civilian Manning model. The general movement of federal civilians in the NCR is shown in Figure 2 below.

Figure 2: Transition of Civilian Personnel



8.0 COMPREHENSIVE MASTER PLAN FOR THE NCR MEDICAL AS A TEMPLATE FOR OTHER MASTER PLANS

8.1 Can be used as a basis to develop similar master plans for other military medical facilities of the Department of Defense (2714(a)(7))

When fully integrated with the existing facility master plan, the concept, detailed plans, and processes used to integrate them can provide a template for incorporating philosophies of the attributes of world-class, healing environments and EBD for the Department and other planning efforts.

9.0 COMMUNITY DEVELOPMENT PLAN TO ADDRESS TRAFFIC CONGESTION

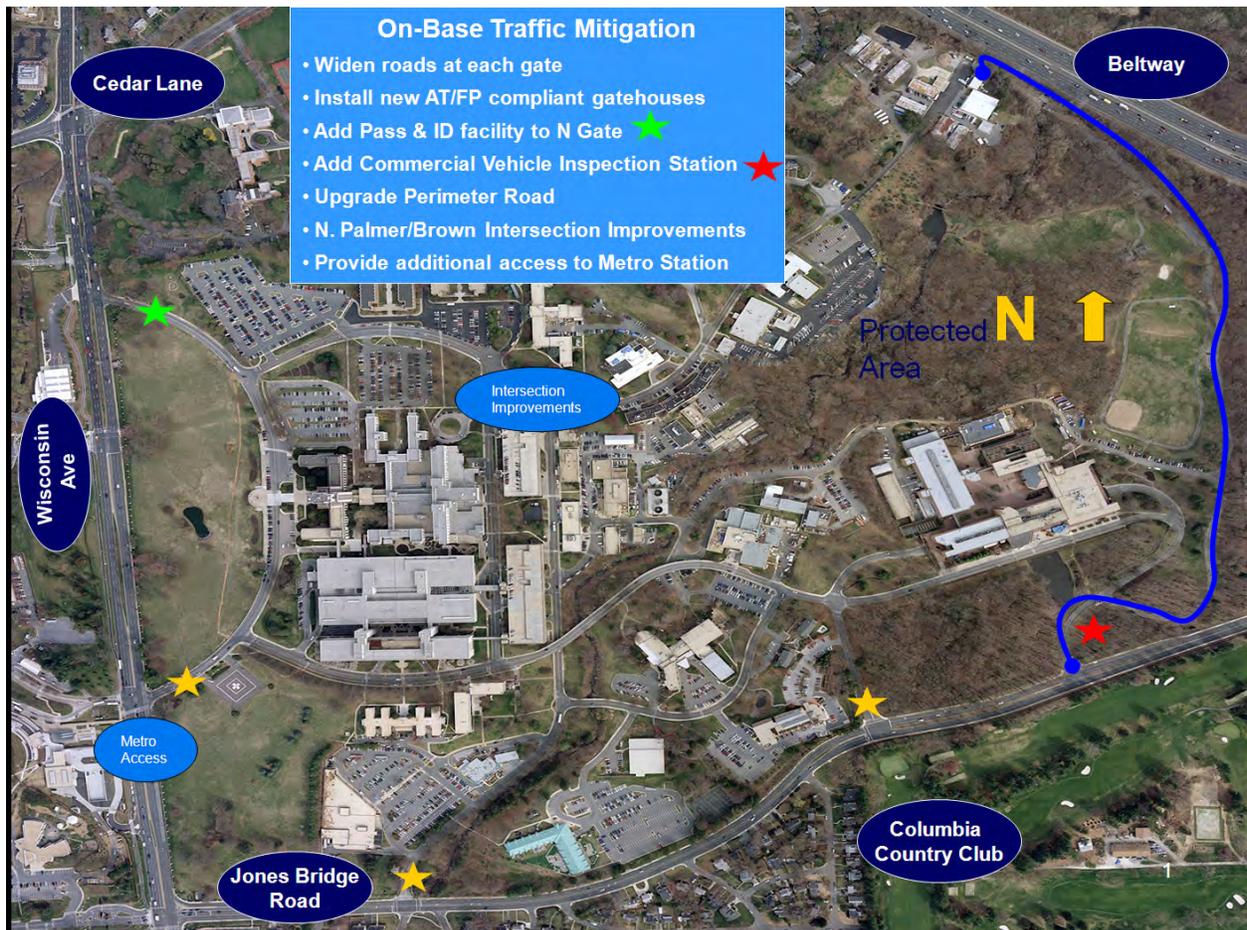
The BRAC movement will add staff and patient workload to the existing Bethesda and Fort Belvoir campuses to create the new WRNMMC, Bethesda and FBCH in two already congested urban environments. The Department is committed to being an active member of the local communities, fully considering the effect the realignment of operations may have on the surrounding neighborhoods. It has invested over \$305M (approximately \$259M for Fort Belvoir and \$46M for Bethesda) in traffic upgrades and mitigation projects at both installations. Project details are discussed in Section 9.1 of this report.

In addition, the Joint Explanatory Statement for the FY 2010 Military Construction and Veterans Affairs and Related Agencies Appropriations Act directed that the National Academy of Sciences “conduct a study on the funding of transportation improvements to accommodate installation growth associated with the BRAC 2005 program.” An interim version of the study is due to Congress on 14 May 2010 with the final version due 31 January 2011. The first meeting of the group will be held in early April 2010. The focus of the study will be on broad policy issues.

9.1 Comprehensive Master Plan must include a community development plan that incorporates multiple options to alleviate traffic congestion related to the expansion of the National Naval Medical Center, including a review of options to expand adjacent highways; Improvements to nearby intersections; On-facility queuing; Multimodal expansion that could include expanded support for buses and subways (2714(a)(8))

Consistent with the BRAC Environmental Impact Study (EIS) and the NNMC Facilities Master Plan that was revised in November 2008, the Department has requested \$26M of BRAC funding in FYs 2010 and 2011 in on-campus traffic mitigation projects for Bethesda. These projects include renovation of new Entry Points at the five entrances to the campus (North Wood Road Gate, South Wood Road Gate, University Road Gate, Gunnel Road Gate, and Grier Road Gate), which will provide more secure installation ingress and egress. These projects will also widen several roads within the compound, such as Perimeter Road and Palmer Road, and on-site queuing areas to permit efficient routing of freight deliveries and increase overall safety and road capacity for on-base vehicular traffic. Figure 3 depicts these on-campus traffic mitigation improvements.

Figure 3: Naval Support Activity Bethesda On-Campus Traffic Mitigation Improvements



Outside the gate, the Department is working closely with the State of Maryland, Montgomery County, Congress, the Washington Metropolitan Area Transit Authority (WMATA), and the local community to address traffic congestion that may impact the community as it establishes the new WRNMMC, Bethesda. The Navy and the command at NNMC have taken the lead to diligently work with stakeholders to identify specific concerns and develop mitigation strategies. The Department has requested \$20M in FY 2011 to fund a Defense Access Road (DAR) project that would improve pedestrian access to the Medical Center Metro Station.

Currently, Montgomery County is funding an Environmental Assessment to determine the impact that each of the options WMATA identified in its July 2009 study might have on the surrounding environment, along with various potential solutions. The alternative garnering the most support proposes an underpass from the Medical Center Metro Station to NSA Bethesda. This improvement would mitigate a major source of gridlock by improving access to the Medical Center Metro station for over 6,700 pedestrians and bicyclists who will need to cross MD-355 from NSA Bethesda daily after 2011. Additionally, the underpass would reduce conflicts between pedestrians and vehicular traffic destined for WRNMMC, Bethesda, thus improving pedestrian, vehicular, and bicyclist safety.

Reacting to the traffic study contained in the EIS, which indicated a number of the vehicular intersections adjacent to the NSA Bethesda campus would fail to meet acceptable through-put standards and the concerns expressed by community leaders as well as local homeowners, Montgomery County and the Maryland Department of Transportation (MDOT) have endeavored to develop a traffic mitigation plan that would improve traffic flow through intersections adjacent to and in the vicinity of the Campus. These improvements include the following:

- **Multiphase Improvements to MD-355 and Cedar Lane (\$75M)** – These improvements include the widening of Cedar Lane, an additional lane along northbound MD-355 north of the intersection, and an additional lane along southbound MD-355 north of the intersection. These improvements are projected to reduce vehicle delay by 60 percent in the AM peak period and 67 percent in the PM peak period in 2011.
- **Multiphase Improvement to MD-185 and Jones Bridge Road Intersections (\$24M)** – These improvements consist of adding a lane along northbound MD-185 from Jones Bridge Road to I-495 and widening Jones Bridge Road. Once completed, the entire intersection improvement will reduce vehicle delay by 48 percent in the a.m. and 54 percent in the p.m. in 2011.
- **MD-355 and Jones Bridge Road Intersection Improvements (\$5M)** – The proposed modifications would add a second exclusive left turn lane to southbound MD-355, add an exclusive left out of NIH at Center Drive, and change lane usage on eastbound Jones Bridge Road from a shared through/left lane to an exclusive left lane. In 2011, these improvements will reduce vehicle delay by 36 percent and 53 percent during the a.m. and p.m. peak hours, respectively, while also improving volume-to-capacity ratios by 17 percent and 18 percent during the same peak periods.
- **MD-187 and Cedar Lane Intersection Improvements (\$7M)** – The planned improvements would add an exclusive right turn lane along northbound MD-187, change lane usage on westbound Cedar Lane from a through lane to a shared through/left lane, and construct a 10 foot shared use path along MD-187 as part of the historic Bethesda Trolley Trail. At build out, these improvements would reduce vehicle delay by 12 percent and 53 percent during respective a.m. and p.m. peak periods and would improve volume to capacity ratios by 9 percent and 26 percent during the same periods.
- **Bikeway/Sidewalk Improvements on Cedar Lane, MD-355, and Jones Bridge Road (\$5M)** – The new WRNMMC, Bethesda is to be located in an urban county with a population approaching 1 million. The established neighborhoods surrounding the facility have a network of pathways used by cyclists and pedestrians for commuting purposes. Improving this network will encourage more alternative modes of commuting, thereby reducing the number of single occupancy vehicles causing gridlock around the new WRNMMC.
- **Medical Center Metro Station Access Improvement (\$60M)** – See the underpass option discussed above.

The road improvement projects presented above represent a total of \$176M. MDoT has identified \$26M to support the initial phases of work for the intersections. These initial phases will focus on improvements at the intersection of MD-355 and Cedar Lane and MD-185 and Jones Bridge Road. Montgomery County and local homeowners are aggressively pursuing additional federal funding via the Maryland Congressional Delegation.

9.2 Comprehensive Master Plan must include a community development plan that incorporates multiple options to alleviate traffic congestion related to the expansion of Fort Belvoir Community Hospital, including a review of options to expand adjacent highways; Improvements to nearby intersections; On-facility queuing; Multimodal expansion that could include expanded support for buses and subways (2714(a)(8))

Transportation improvements are required to address existing area traffic and access issues exacerbated by the BRAC relocation of 8,500 individuals to Fort Belvoir North Area in Springfield, VA, 6,400 individuals to Fort Belvoir's new Mark Center property in Alexandria, VA, and 3,000 individuals to Main Post Fort Belvoir, VA. The Department is developing comprehensive Transportation Management Plans for the three Belvoir campuses, scheduled for completion in May 2010, which will review mass transit, public transit, and shuttle services along with vanpooling and ridesharing as appropriate for each location.

Army BRAC projects will be executed as approved for Fort Belvoir, with planned transportation improvements based on EIS Record of Decision, Defense Access Road (DAR) eligibility analysis, and Army leadership approval of BRAC program funding. Additional transportation improvements must be individually assessed against DAR criteria, funding priorities, and the latest policy guidance.

Multiple BRAC-related transportation improvement projects in the Fort Belvoir vicinity total more than \$259M. Major improvements include \$125.1 to address the Fort Belvoir Main Post and \$134.1M to address Fort Belvoir North Area (FBNA-Formerly EPG). This funding includes all necessary supporting construction, such as buried utilities, gates, lights, wetland mitigation, etc., to support building the roads. Details are listed below and shown in yellow in Figure 4 below.

- **Fort Belvoir Main Post (\$125.1M)**
 - Main Post Road Improvements (\$86.4M – Army BRAC funding) – Existing roads improvements; Road widening (3 roads); Gunston Bridge widening and lengthening; Upgrade 3 gates; Accommodates future US Route 1 widening.
 - Main Post Road Improvements (\$34M DAR funding/\$4.7M In Kind Contribution) – Mulligan Road improvements; replaces Beulah Street and Woodlawn Road; includes 27 acres of land in kind contribution for Right Of Way dedication; US Route 1 intersection improvements; Telegraph Road improvements.

- **Fort Belvoir North Area (\$134.1M)**
 - Fairfax County Parkway (\$36M DAR funding/\$27.9M In-Kind Contribution) – I-95 Southbound ramp to FBNA, I-95 HOV/HOT Ramp, FBNA interchange, DAR Engineering and ROW acquisition, in-kind land contribution for completion of Fairfax County Parkway.
 - Roads (\$44.2M Army BRAC funding/\$26M DoD BRAC funding) – Backlick/Barta intersection improvements; New Barta Road with bridges; New Heller Road (Phase I and 2) and bridges.

Community leaders and the State of Virginia have assessed additional projects as essential to improving traffic flow through intersections adjacent to and in the vicinity of the campus. Of these projects, the State of Virginia has indicated the most immediate needs are listed below and are shown in white on Figure 4 below:

- **EPG Flyover** – the reconstruction of the existing I-95 HOV flyover at Newington to accommodate a direct access ramp into the Engineering Proving Ground. The Virginia Department of Transportation (VDOT) estimates this project to cost \$30M.
- **Fairfax County Parkway** – the construction of a new off-ramp from northbound I-95 to Fairfax County Parkway. VDOT estimates this project to cost \$90M.

The total cost of these transportation improvements is approximately \$120M. Fairfax County and local homeowners are aggressively pursuing additional federal funding via the Virginia Congressional Delegation. While outside the Department’s budget authority, the Department leadership has nonetheless supported the state and county’s efforts to improve the road networks adjacent to the installation.

Figure 4: Fort Belvoir DoD Planned and State of Virginia Proposed Traffic Improvements



10.0 RECERTIFICATION THAT A WALTER REED ARMY MEDICAL CENTER TRANSITION PLAN HAS BEEN DEVELOPED AND ITS CLOSURE WILL NOT RESULT IN A NET LOSS OF CAPACITY IN THE NCR

10.1 Recertification of Sec. 1650(a) of NDAA for Fiscal Year 2008 (2714(b)(2))

In August 2008, the Department sent a letter to Congress certifying that a transition plan for WRAMC was being developed (it has since been delivered to Congress on 30 September 2009); that closure of WRAMC will not result in a net loss of capacity in the NCR; and that the capacity of medical hold and outpatient lodging facilities operating at WRAMC will be available in sufficient quantities at the new WRNMMC, Bethesda and FBCH by the date of closure of WRAMC. The Department recertifies this as part of this submission.

11.0 JOINT COMMISSION STANDARDS

11.1 SECDEF to certify MTFs covered by NCR master plan in subsection (a) meets or exceeds Joint Commission standards (2714(b)(3))

The Department certifies that designs of MTFs covered by the CMP-NCRM (namely WRNMMC, Bethesda and FBCH) have been modified and, where required, additional funding has been secured to ensure that ongoing construction will conform to the Joint Commission Standards.

12.0 MITIGATION OF RISKS ASSOCIATED WITH COMPLETING THE NEW WALTER REED NATIONAL MILITARY MEDICAL CENTER, BETHESDA BY THE BRAC DEADLINE

12.1 Assessment of risk and benefits to patient care associated with completing the realignment of WRNMMC by statutory deadline (2714(b)(4))

Current NCR Medical BRAC projects are on schedule to be completed by 15 September 2011. The Department is implementing risk and issue management for the NCR BRAC transition. Risk management is a program management methodology used to assess and mitigate conditions or events that may adversely impact the objectives of MHS integration and BRAC implementation while exploiting opportunities to achieve patient care benefits. Issue management deals with conditions or events that are unavoidable or are already adversely impacting the achievement of MHS integration and BRAC implementation. The Department's approach in the NCR Medical is to deal with risk and issues collectively. The program's risk/issue management objectives are to:

- Effectively manage risks through risk identification, assessment, planning, monitoring, and control
- Reduce the likelihood that a risk event will occur
- Minimize the impact of an issue or risk event
- Develop awareness, understanding, and adoption of a structured and standardized JTF-wide risk management process
- Refine the risk and issue management process (toward a planned, systematic, complete, objective, repeatable, defined, managed, preventative, qualitative, and quantitative process) to achieve confidence and uniformity in risk and issue management at all levels.

The Department recognizes that the NCR Medical BRAC construction, initial outfitting, and transition (IO&T) and transition and relocation timeline for the transition from WRAMC to WRNMMC, Bethesda and FBCH must be accomplished in the next 18 months. To manage these efforts, the Department is using program and project management methods that tie together schedule, risk, and performance measures to ensure that key objectives are met.

12.1.1 Transition

The Department submitted its Master Transition Plan to Congress on 30 September 2009, discussing the steps and milestones required to successfully transition WRAMC. In addition, to mitigate transition risk, the Department awarded in November 2009 a \$322M wrap-around

contract to General Dynamics Information Technology (GDIT), Inc. to manage the outfitting of equipment at the new hospitals and the transition of WRAMC operations. GDIT has partnered with several leaders in the hospital transition industry to perform specialized hospital transition and activation services appropriate to this effort. Services under the contract include provisioning and installing materiel; provisioning and installing furniture and furnishings in accordance with government-provided architectural and engineering requirements of the facilities; provisioning and installing medical, non-medical, and IM/IT equipment and systems; and providing comprehensive medical equipment transition and relocation services for other materiel as required, to include government documents, office files, medical records, professional books, etc. (see Attachment 8, Project Management Plan for the Initial Operating and Transition Services for the JTF CAPMED North and South Projects).

12.1.2 Construction

Currently, the BRAC construction projects are on schedule for completion to meet the BRAC deadline of 15 September 2011. Bethesda's final footprint will include world-class inpatient and ambulatory medical center additions of more than 682,000 square feet, with over 400,000 square feet of alterations to the existing medical center. Additionally, BRAC construction is underway for 700,000 square feet of administrative space, enlisted quarters, and facilities in support of the Warrior Transition Services. Fort Belvoir will have an innovative state-of-the-art community hospital (FBCH) of over 1.2 million square feet, which will be a leading example of EBD in this country. At the conclusion of BRAC, WRNMMC, Bethesda and FBCH will be staffed with over 9,000 individuals, including more than 3 million square feet of clinical and administrative space and providing 465 beds of inpatient capability (345 at WRNMMC, Bethesda and 120 at FBCH). Delaying the completion of these projects beyond the BRAC deadline will result in additional construction costs.

12.1.3 Other Primary Risks

Both WRAMC transition and NNMC renovations pose inherent operating risks during BRAC that the Department is mitigating. A primary concern at WRAMC is the importance of maintaining the civilian workforce to preserve current capability and to fully staff both of the new hospitals. Utilizing a workforce mapping model to execute the GPP, the Department will be able to place the vast majority of WRAMC government civilians at their desired work locations performing the work they want to do and will provide reassignment opportunities and career progression opportunities that do not exist today. Notifications will be made to permanent government civilians of their future work locations at WRNMMC, Bethesda, FBCH, or other opportunities in the GPP by 1 July 2010. Government civilians will not incur any loss in pay as a result of the transition (see Appendix E, Section E.4 Implementing a Guaranteed Placement Program).

There are inherent risks associated with conducting extensive renovations and construction within and around an operating medical center. At NNMC, careful synchronized planning and phasing of renovation projects has allowed for the hospital to mitigate these risks. The Department also has the ability to mitigate risk through deferral of elective care and referral to private sector care, which is not uncommon. During the actual movement of patients from WRAMC to WRNMMC and FBCH, a small percentage of routine direct care system patients may temporarily be referred to private sector facilities or other military hospitals.

Inpatient and intensive care capability will be maintained at MGMC until the end of BRAC to provide NCR capacity for wounded warrior or other critical care during the transition period. Throughout the transition, the Department will maintain access, continuity of care, and support for assigned warriors and their family members until they can be transitioned to Bethesda or Fort Belvoir. In addition, it will maintain medical equipment at WRAMC until the inpatient and outpatient capabilities are transitioned to the new WRNMMC, Bethesda and FBCH.

12.1.4 Completion of BRAC

Current NCR Medical BRAC projects are on schedule to be completed by 15 September 2011. The successful completion of BRAC is dependent on timely careful synchronization of the construction effort and management of acquisition, provisioning, and transition. There are critical milestones that, if not achieved on schedule, will significantly increase the risk associated with the transition. The Department will keep Congress and beneficiaries apprised of any changes in these areas.

13.0 DEFENSE HEALTH BOARD PANEL RECOMMENDATIONS NOT INCORPORATED UNDER SECTION 2714(b) OF THE NDAA FOR FY 2010

Figure 24 in Appendix F, Section F.7 Overview of Defense Health Board Issues provides an overview of WRNMMC, Bethesda's performance regarding the issues cited by the DHB panel.

13.1 Culture Integration

The Department recognizes that change can be difficult. To be successful in its integration efforts, JTF CAPMED must create an integrated organizational culture. It will be Joint and necessarily interoperable with the Service medical departments. It must transcend the current facility-centric approach to patient care and create awareness in every employee and Service member of a regional capability that operates on behalf of the patient. Cultural integration must be introduced across a variety of functions so that the Joint hospitals and Service components perform in a seamless, productive, and efficient manner for the benefit of patients.

Each Service has unique cultural traditions, norms, practices, and languages for managing its forces and cultivating its leaders. The goal of cultural integration is to recognize these individual differences in the Services, adopt the best practices from each Service, and maintain those defining and overarching cultural norms and values to ensure that Airmen, Sailors, and Soldiers stationed in the NCR can leave JOA and easily reintegrate into a Service-specific environment when needed.

The Department sponsored a study on merging the cultures of the Service Medical Components in the NCR. The study was finished in February 2010. Based on the recommendations in the study, the NCR is executing this plan to simultaneously lead, implement, and support three cultural initiatives and achieve a long-term cultural cohesiveness:

- **Create Culture:** define and design a new (integrated/best of) culture
- **Integrate Culture:** integrate diverse stakeholders (who currently have strong ties to an existing culture) into a new culture
- **Embed Culture:** ensure that the newly integrated culture is thoroughly embedded into the organization.

The Department is expeditiously implementing this plan. The first phase is determining appropriate measures and metrics—for both current state and future success. Those measurements will be used to assess each of the cultural integration drivers' current state, as

discussed in Attachment 3, Cultural Integration Recommendation White Paper and provide a baseline and metrics to determine how well future strategies work. DoD will incorporate both quantitative and qualitative metrics. Determining the specifics of the measurements (i.e., how, what, etc.) will be one of the first items the culture integration team addresses as it designs the assessment/audit. While substantial progress will be made by the BRAC deadline, consultants advised that the plan will take several years to fully implement. (For further information, see Appendix D, Section D.3 Cultural Integration.)

13.2 Observation Care at Walter Reed National Military Medical Center, Bethesda

Observation units, as typically found in private sector hospitals, are normally collocated with the Emergency Department (ED) and are dedicated to patients who do not require immediate admission. This type of unit will not be required at WRNMMC, Bethesda. Based on the projected workload, WRNMMC, Bethesda will have capacity to admit patients to general Medical/Surgical Nursing Units without undue compromise of inpatient capability. In the event that the Medical and Surgical Units are full, other areas of the facility may be used for these patients. Current practice at NNMC is utilization of APU. With the creation of standard operating procedures, this usage remains a viable contingency. In the event that APU does not have capacity, the workload evaluations show the ED will have holding capability if necessary and consistent with patient needs, without affecting ED operations.

13.3 Simulation Center at Walter Reed National Military Medical Center, Bethesda

Plans are underway for the WRNMMC, Bethesda to have state-of-the-art simulation laboratories to train and educate practitioners to provide world-class patient care. Through simulation training, WRNMMC, Bethesda will ensure patient safety, clinical competency, and operational readiness. The goals of the Simulation Center are to establish medical simulation as a critical, integrated component of graduate education; provide learners with ready access to cutting-edge simulation techniques, including high-fidelity physiologic manikins, task trainers, and computer-based simulation models; improve patient safety through education, team training, and simulation of high-risk, low-volume scenarios; and ensure clinical competency through modern education techniques and standardized evaluative processes.

The Simulation Center will offer interns, residents, nursing students, enlisted trainees, and hospital clinical staff the opportunity to train in a virtual patient care environment using simulated patients and sophisticated technology. The center will contain overhead cameras that record the medical team's efforts, allowing leaders to provide feedback after the simulation training. The center will play a key role in maintaining patient safety and ensuring the operational readiness of all hospital staff.

The planned simulation and training environment of WRNMMC, Bethesda will include simulation laboratory and web-based electronic learning modules supported by USUHS, Washington Hospital Center (WHC), and Adventist Hospital – Lockheed Martin. The multifaceted simulation and training environment center of WRNMMC, Bethesda will initially consist of the renovation of approximately 5,000 square feet of space, but further expansion, enhanced capabilities, and increased integration with other medical training is part of the new, post-BRAC construction effort. The layout of the Simulation Center is designed to provide

maximum flexibility for simulating full mission scenarios, such as trauma, care of mass casualties, or simulation of military environments, such as deployment locations. In addition to the full-size manikins, there will also be specific obstetric, pediatric, and laparoscopic manikins. Fully stocked patient care equipment and supplies needed during simulation will be readily available. Special emphasis will also be placed on communication, collaboration, and teamwork. In addition, the Department is partnering with DoD and civilian academic and other healthcare institutions to further enhance simulation training capabilities for the JOA (see Appendix I, Section I.5 Simulation Training).

The NCR sponsors a multitude of training programs for military medical personnel. Currently, there are 65 integrated physician training programs in the National Capital Consortium (NCC). Approximately 250 physicians graduate from these programs each year. Nursing programs include critical care, psychiatric behavioral health, and a nurse transition program for new nurses. Over 150 nurses graduate from these programs annually. In addition, USUHS graduates over 80 nurses per year from its psychiatric mental health, certified registered nurse anesthetist, and family nurse practitioner graduate programs. NCR also sponsors 23 Enlisted Phase II training programs from laboratory and radiology technicians to licensed practical nursing with over 700 graduates per year.

13.3.1 Location of the Dialysis Unit at Walter Reed National Military Medical Center, Bethesda

The Department advocates close involvement of the medical facility staff in the design and construction process as recommended by the DHB, and as a result of recommendations, frontline clinicians will locate the Dialysis Unit near the ICU and inpatient buildings, as well as near all of the surgical and anesthesia support necessary for operation. Although one-third of the department is located above central sterilization services, it will not be located above environmentally sensitive areas, such as the sterile supply or processing areas, or sensitive laboratory equipment (all located in the basement). The Dialysis Unit will be located on the floor above a consumable supply area, and the plans include a waterproof dam with drains in the water treatment room to mitigate the possibility of leakage to the activities below. Concerns about water leaking to that floor are further mitigated by strategically locating drains, having minimum floor penetrations, and installing a partially self-contained nephrology loop water system located on the walls of the suite rather than in the floor slab.

14.0 QUARTERLY CERTIFICATION THAT FUNCTIONS AT WALTER REED ARMY MEDICAL CENTER HAVE NOT BEEN MOVED TO BETHESDA AND FORT BELVOIR

Section 1674(c) of the NDAA for FY 2008 requires the Department to certify on a quarterly basis that patients, staff, bed capacity, functions or parts of functions at WRAMC have not been moved or disestablished until the expanded facilities at the NNMC, Bethesda and DACH, Fort Belvoir are completed, equipped, and staffed with sufficient capacity to accept and provide, at a minimum, the same level of and access to care as patients received at WRAMC during FY 2006.

On 30 December 2009, the Department certified that patients, staff, bed capacity, functions, or parts of functions at WRAMC had not been disestablished or moved to the expanded medical facilities at Bethesda and Fort Belvoir.

As part of this submission, the Department certifies that patients, staff, bed capacity, functions, or parts of functions at WRAMC have not been disestablished or moved to the expanded medical facilities at Bethesda and Fort Belvoir.

15.0 CONCLUSION

The Department is pleased to provide Congress with its CMP for the NCR Medical, as required by the NDAA for FY 2010. The realignment of organizational and budgetary authorities it provides, as well as the Master Facilities Planning Process at Bethesda, will allow the Department to expeditiously achieve the additional attributes of world-class standard the DHB panel identified and the Congress intended. DoD expresses its gratitude to Congress for its steadfast commitment and support to providing world-class healthcare in the NCR and across the MHS.

APPENDIX A: WARRIOR CARE

This appendix discusses current and future plans for warrior care, including a vision for a Warrior Complex at Walter Reed National Military Medical Center (WRNMMC), Bethesda. The Department's commitment is to the health and well-being of the men and women who serve this country, to their families, and to those who have served before. As WRNMMC, Bethesda is America's primary reception site for returning casualties and trauma care, there is nothing more fundamental to the Department than taking care of Wounded, Ill, and Injured (WII) warriors and their families.

A.1 Casualty Care through the Optimum Healing Environment

Comprehensive casualty care remains the first priority for the Commander, Joint Task Force National Capital Region Medical (CJTF CAPMED) and a major mission for Medical Treatment Facilities (MTFs) in the National Capital Region (NCR). Within a framework of patient/family-centered care, dedicated teams of medical professionals employ cutting-edge technology, state-of-the-art innovation, and partnerships with volunteer agencies to speed recovery and return Soldiers, Airmen, Sailors, and Marines to productive activities of daily living. Whether the goal of an individual warrior assigned to the NCR is to return to the force or transition to the civilian workplace, in Fiscal Year (FY) 2011, he or she will be supported by a world-class healthcare system consisting of WRNMMC, Bethesda and Fort Belvoir Community Hospital (FBCH).

Creating optimal healing environments for inpatients as well as outpatients is integral to renewal of spiritual, physical, and psychological wellness. To provide a full range of wellness and healing services, there is a strong network of Service, Installation, Joint Task Force (JTF), and MTF representatives engaged in collaborative and unified efforts to ensure seamless transition of warrior/family services for the programmed medical transition from the Walter Reed Army Medical Center (WRAMC) to the MTFs at the Bethesda and Fort Belvoir campuses. WII program managers for the Services, warriors/family members, nongovernmental and volunteer agencies, and Service representatives are integral to establishing effective processes to optimize integrated support for warriors and families throughout the complex warrior recovery journey.

A.2 Major Initiatives

Integrated work groups are actively engaged in ongoing analysis of requirements and developing initiatives to support wounded warriors. Planning factors include support for approximately 350 warriors on the Bethesda campus and 400 warriors at Fort Belvoir. Strong and focused advocacy for warriors and families guides the initiatives aimed at development of optimal healing environments and supporting services, such as transportation, child care, and family lodging. Ongoing initiatives include provision of non-medical services through

warrior/family assistance centers, creation of warrior/family coordination cells, creation of warrior and Non-Medical Attendant (NMA) lodging, development of warrior-centric outpatient environments (medical campus), configuration of effective Service-level and WII program footprints, development of medical regulating processes to efficiently manage casualty flow of warriors in the NCR, and development of a comprehensive repository of warrior data to provide aggregate data for evidence-based decision making. These initiatives will be discussed in turn.

A.2.1 Warrior and Family Support

On both the Bethesda and Belvoir installations, construction is underway or planned for dedicated warrior lodging to support extended outpatient medical treatment. Common warrior transition services pivotal to recovery—including finance, education opportunities, family advocacy, child and youth services, Defense Eligibility Enrollment Reporting System (DEERS) enrollment, legal assistance, travel assistance, and others—will be incorporated into resource centers at both the Bethesda and Belvoir

installations. The centers will be manned with dedicated and knowledgeable staff for warriors and family members from all Services. The overarching goal of this multi-purpose resource is to provide “one-stop shop” convenience to ease the often complex journey facing warriors and families during the recovery and rehabilitation process. Service liaisons will also be embedded to enhance efficiencies, streamline issue resolution, and reduce the potential hassle factor for warriors and families. A complementary effort is underway for the provision of family lodging at both Bethesda and Fort Belvoir.

Figure 5: Future Warrior Lodging at Bethesda



A.2.2 Warrior Family Coordination Cell

As a link between the non-medical and medical requirements of warriors requiring extended outpatient treatment and residing on the Bethesda and Belvoir installations, a Concept of Operations (CONOPS) has been completed for a Warrior Family Coordination Cell (WFCC). This coordination cell will operate as a direct interface between the MTF commander and Service liaisons throughout the continuum of care for the duration of medical treatment. The WFCC will operate 24 hours a day, 7 days a week to optimize a healing environment for recovering warriors and reduce barriers to care. Organizational alignment will fall under the MTF command structure, and the cell will be colocated with the Wounded Warrior Complex. As a ready, responsive, and manned resource, the coordination cell will serve as an additional asset for warriors and families in ensuring a smooth hand-off with Service Representatives in the transition from inpatient to outpatient status as well as a reception center for unexpected or after-hour arrivals of family members to the installation. Additionally, as an integrated common operating platform, the WFCC can serve as a resource for ongoing inter-Service and interagency collaboration to optimize a healing environment.

A.2.3 Medical Regulating for Warriors in the National Capital Region

There are ongoing and effective efforts by an interdisciplinary Tiger Team to establish enhanced medical regulating protocols to best meet medical requirements of casualties while at the same time fully realizing the capability of medical resources in the NCR. Medical regulating is pivotal to ensure optimal medical and non-medical support for evacuee flow to the NCR as well as for programming contingency operation planning. The Tiger Team is composed of subject matter experts from United States Transportation Command (USTRANSCOM), Global Patient Movement Requirements Center (GPMRC), Theater Patient Movement Requirements Center (TPMRC), Soldier Transfer and Regulating Tracking Center (STARTC), and interdisciplinary clinical and administrative leaders within the NCR. An overlay of historical casualty flow with current aggregate warrior demographics and programmed FY 2011 medical CONOPS will serve as a template for medical regulating of warriors post-BRAC. Application of United States Transportation Command (USTRANSCOM) Regulating Command and Control Evacuation System (TRAC2ES) and the Joint Patient Tracking Application (JPTA) will continue to provide visibility of warriors from levels II-V. Development of an integrated CONOPS establishes protocols and authorities to facilitate patient movement within the NCR. Protocols ensure adequate resourcing of casualty reception areas, limit unnecessary movement of warriors and families within the NCR, and provide timely notification to both family and command representatives traveling to the NCR to meet inbound casualties.

A.3 Creating a Holistic, Wounded-Warrior Campus at Walter Reed National Military Medical Center to Foster a Total Healing Environment

For many warriors, the journey of recovery is long and requires extended outpatient residential treatment. As a tertiary referral center, casualties evacuated to WRNMMC, Bethesda will be among the most severely ill and injured from combat operations. As these same warriors transition along the continuum of care, they are likely to require intensive and complex outpatient care. In keeping with the vision of a world-class healthcare system, their outpatient environment must mirror the commitment to excellence, compassion, and safety found within the walls of America's largest military medical center.

The opportunity exists today to link currently programmed construction—including the warrior complex; family lodging expansion; United Services Organizations (USO); warrior clinic; parking; and fitness center with gym, pool, and custom-appointed aerobic center—with a series of walking trails, healing gardens, and water features promoting a sense of community in a home-away-from-home setting. Using EBD, the warrior campus will complement outpatient treatment protocols to promote healing, wellness, and resiliency for this complex patient population. An examination of healing environments across the MHS and beyond demonstrates that these settings contribute to the healing process.

The campus must be patient-centered, logically organized, and thoroughly engaging. Partners such as the USO and Fisher Foundation will be invited, and the best features of the Army's Resiliency campuses and the USO's vision of a "celebration space" will be incorporated to address all aspects of body, mind, and spirit. The Warrior Village will become home to the Nation's most seriously WII service members, their family members, and other accompanying guests, and it will be the launch point for societal re-integration. The wounded warriors will be immersed in the greater Washington D. C. environment via various outreach programs and sponsorships.

APPENDIX B: HEALTHCARE MARKET ANALYSIS

Multiple studies have been conducted in the NCR to identify the healthcare needs of DoD beneficiaries. These studies have been conducted and directed by the individual Services, Multi-Service Market Office (MSMO), and JTF CAPMED. BRAC requirements—combined with changes identified in population, demographics, mission, Graduate Medical Education, and culture—require the MHS to identify and address the current state to forecast the future state of healthcare in the NCR.

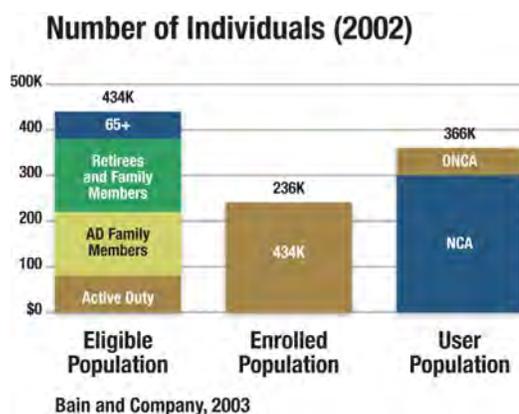
These studies have indicated that the eligible population in the NCR has slowly grown over the years and will continue to grow, although at a decreasing rate. While potential beneficiaries increase, demand for services has increased at a greater rate. Increased mission requirements, including deployments and training, have limited available direct care system capacity. Overviews of past and current population and market-based studies follow.

B.1 2003 Population Study

A study was commissioned to analyze and provide recommendations for DoD healthcare delivery in the NCR. The population-based study was focused on identifying the eligible, enrolled, and user populations at the existing 4 hospitals and 20 ambulatory clinics, analyzing access and drive times, and comparing patient utilization and provider efficiency to private sector benchmarks. The report was finalized in September 2003 and subsequently became the basis of 2005 BRAC planning for the NCR MHS.

In the study the NCR MHS was found to be a large, complex system that delivered care to 434,000 eligible beneficiaries, of whom 236,000 were enrolled and 366,000 sought care in the system. TRICARE Prime patients used the direct care system (MTFs) for the majority of their primary and specialty care needs. Most of the purchased care in the NCR came from the 198,000 eligible beneficiaries who were not enrolled. Of the care provided, approximately 95 percent of direct care was delivered within existing distance standards, 20 miles for primary care and 40 miles for specialty care, with the greatest access issues along the I-95 South corridor (Fredericksburg and Pax River Basin).

Figure 6: TRICARE Prime Table



Regional population growth and geographical demographic changes were not forecasted to dramatically change demand between 2003 and 2008 for the MHS, although some service lines were expected to see increases in usage rates. Outpatient visit demand for NCR direct care grew at 6.1 percent annually from 2000 to 2002, 2.3 percent due to population growth and the

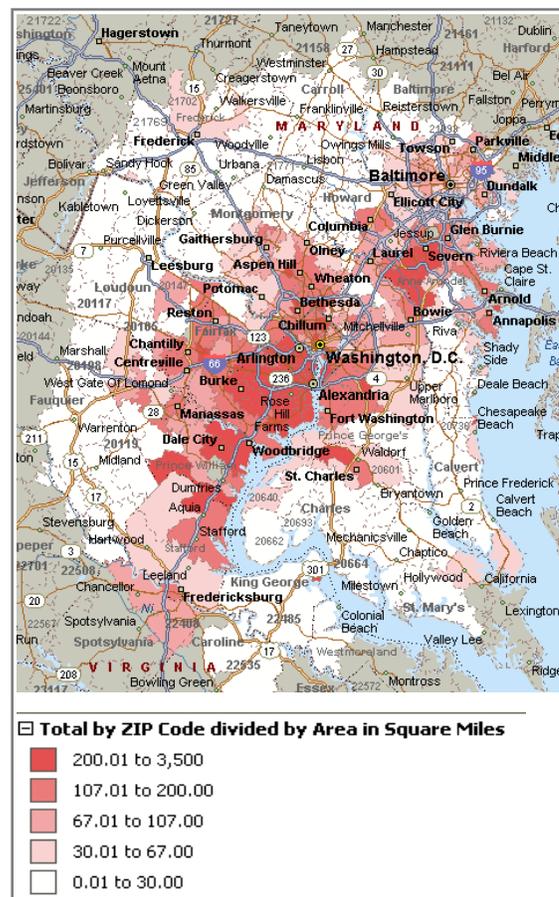
remaining 3.8 percent due to increased usage. Demand was forecasted to grow due to increased utilization, but at a slower (1.9 percent) rate from 2003 to 2008. Regulatory changes were identified as an additional factor that would impact future demand. For example, the phase out of non-availability statements for Obstetrics and Gynecology (OB-GYN) regulation would enable patients to use any outside service without significant financial penalty, resulting in 30 percent fewer OB-GYN visits forecasted for 2008.¹

There were 1,549 provider personnel in the NCR, including staff, residents, fellows, and non-physician providers, for the 30 clinical service lines covered by this study. On average, NCR MHS provider productivity was between academic medical center and private practice benchmarks, although productivity was found to vary substantially by service line.² Across the 30 clinical service lines that were studied, NCR MHS provider productivity was found to be approximately 50 percent more productive than academic center benchmarks and approximately 35 percent less productive than private practice benchmarks.

The study provided five key recommendations to redistribute MHS assets to optimize patient care, reduce costs, and improve access in the NCR.

- **Optimize the mix of providers across specialty lines.** Nine clinical service lines were found to have provider productivity below academic benchmarks, including OB-GYN, endocrinology, pediatric surgery, organ transplant, general surgery, neurology, gastrointestinal (GI), pediatric sub-specialties, and pulmonary. Excess providers should be reallocated geographically, or these positions should be used to add providers to other clinical service lines in the NCR. The 2008 demand forecasts suggest productivity improvements in the same services required. However, general surgery providers should not be reduced based on readiness requirements.
- **Relocate providers to the south and add facility capacity to support these providers.** Divide the NCR into north and south based on distance/drive time to Bethesda and Fort Belvoir. Redistribute south “tertiary care” workload to the north based on a combination of qualitative and quantitative clinical service data and input. Assume approximately 20 percent of south-generated inpatient activity (and 13 percent ambulatory care) is expected to migrate to the north. Construct a new facility with approximately 8-16 primary care providers to serve Fredericksburg “outside access standard” primary

Figure 7: Eligible Beneficiary Population Map



- care beneficiaries. To serve both Fredericksburg and I-95 South “outside access standard” specialty care, add capacity to the new FBCH to relocate approximately 41-56 specialty care providers from the north, add capacity to Quantico, or add a new facility along I-95 South to serve both primary and specialty care.
- **Empower the multi-service market manager to allocate resources and make decisions across MTFs to optimize the care system for the NCR population.**
 - **Conduct rigorous business planning for each clinical service line and optimize accordingly.** Each clinical service line should create a detailed, coordinated, tri-Service business plan in order to set strategic direction, assess the current position, and identify key initiatives measured against academic benchmark productivity to address Graduate Medical Education (GME) impact options, including exporting GME graduates, sourcing referral workload from Outside National Capital Region (ONCR), or increasing attrition to geographically redistribute provider equivalents as required.
 - **Capitalize on opportunities in third-party billing, contracting, and pharmacy.** By Identifying improvement opportunities in the collection of other health insurance (OHI), coding and documentation of patient encounters, and billing and collections. Establishing Joint medical contracting of non-medical services—in particular laundry, housekeeping, and facilities maintenance—could generate savings. Recapture pharmacy prescriptions currently filled in the civilian sector.

B.1.1 Multi-Service Market Office Business Plan

The priority of the Multi-Service Market Office (MSMO) 2005 Business Plan was focused on optimizing the delivery of care in the NCR based on a region-wide application of best practices, productivity goals, and process standards. Specific recommendations were made to maximize efficiencies, reduce barriers, and improve process, quality, and overall health outcomes.

The MSMO NCR business plan identified two main strategies:

- Fully leverage the capabilities of the MTFs through optimized services designed to fully meet beneficiaries’ healthcare requirements
- Increase organizational efficiency, productivity, and coordination to ensure full utilization of direct-care resources available within the NCR MHS

The MSMO identified strengths and challenges in the NCR MHS. While quality healthcare was being delivered to the beneficiaries, care was not fully utilized due to overlapping catchment areas, inefficiencies in systems, lack of productivity standards, and poor coordination between services and facilities, even though the NCR had an abundance of medical expertise that served as a worldwide referral center for specialty care and clinical services. Beneficiaries residing in the southern submarket of the NCR due to affordability issues in the north had long distances and travel times to get to tertiary MTFs for specialty care. Given population demographics and patterns of vehicular congestion in the area, significant access issues have continued to worsen.

In 2004, while primary care supply exceeded demand for primary care services, 14 of the 16 facilities closed enrollment to non-Active Duty service members and their families. From FY 2002 through FY 2004, overall outpatient utilization throughout the NCR grew at a rate of more than 3 percent (Primary Care +4.5 percent, Specialty Care +1.5 percent), from 3,235,011 visits to 3,548,920 visits. During FY 2004, 60 percent of all outpatient visits were provided by Army MTFs, 27 percent provided by Navy MTFs, and 11 percent provided by Air Force MTFs. The MTFs cited the following reasons for closure:

- Lack of experience with the newly implemented Prospective Payment System (PPS) and fear of going over proposed budgets
- Lack of demand management techniques
- Increased utilization

Limiting MTF enrollment of the non-Active Duty segment of the NCR population created unintended consequences by redirecting this segment away from the direct-care system, making potential recapture challenging once beneficiary-network provider relationships were formed. MSMO noted concern that enhanced patient access through the TRICARE network might also endanger GME by diverting patient cases that are critically needed for education and proficiency. GME is both a primary mission of the MHS and a critical component of the readiness mission. Viable GME systems depend on an adequate number and mix of patients to ensure quality of care and enhance recruitment and retention of qualified physicians.

The MSMO set an aggressive plan to develop integrated healthcare service line plans coordinated across the NCR to address productivity standards, data collection, data integrity issues, optimization of the direct care system, recapture of non-enrollee care, and optimization of the GME program.

B.1.2 2009-2010 Population Study

MHS commissioned a study in 2009 to identify the MHS NCR population, estimate future workload, and demand and identify prevailing market dynamics. The study used the historical catchment area rules governing TRICARE eligibility/enrollment—20 miles for primary care and 40 miles for specialty and inpatient care. Twenty-three MTFs participated in the study by providing beneficiary population and workload data. The study included an analysis of beneficiary population, demand, market share, and workload; Ambulatory and surgical care volumes; and MHS-wide comparisons.

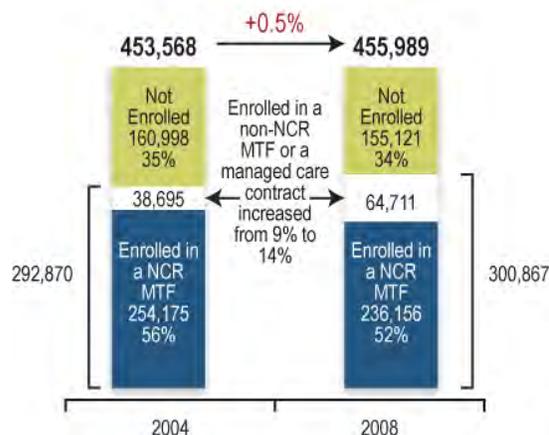
Recommendations of the 2010 study. The NCR population and overall demand for medical care services is significant and will support robust inpatient and outpatient health care delivery initiatives for the foreseeable future. However, the NCR direct care system has experienced both an increased demand for services and loss of market share to network providers. Further losses could impact the academic programs, result in excess facility capacity, and have a negative impact on fulfillment of medical military missions. The MHS must recapture and retain eligible beneficiaries in the NCR direct care system to secure future services and programs.

Analysis. Between 2004 and 2008, the total eligible beneficiary population in the NCR increased by 0.5 percent (453,568 to 455,989) and the enrolled population increased by 3 percent (292,870 to 300,867). Even though the percentage of the population enrolled increased overall, the likelihood of an NCR beneficiary being enrolled in an NCR MTF declined due to increased TRICARE contractor enrollments.³ See Figure 8 for Eligible NCR Beneficiaries.

The enrolled population was either stable or declined at all NCR MTFs except WRAMC between 2004 and 2008 under all market definitions (within NCR market area, within PRISM/catchment area, and within 30-minute drive-time area).

Inpatient workload of NCR beneficiaries increased overall by 6 percent between 2004 and 2008; direct care in MTFs declined by 11 percent, and purchased care increased by 31 percent. The decline in direct care workload occurred across all beneficiary categories except Active Duty. NCR beneficiary inpatient purchased care workload increased for all beneficiary categories between 2004 and 2008.

Figure 8: Eligible National Capital Region Beneficiaries 2004–2008



Appendix B: Healthcare Market Analysis

Of the medical services discharges, GI, respiratory, general medicine, and nephrology experienced the largest decline in market share. Of surgical services discharges, general surgery experienced the largest decline.

Outpatient workload of NCR beneficiaries (direct and purchased care combined) increased by 21 percent between 2004 and 2008; direct care increased by a smaller percentage than purchased care. Increases in outpatient purchased care were seen in six major service lines: primary care, medical specialties, OB-GYN, surgical specialties, emergency room (ER), and behavioral health. See Attachment 7 for the National Capital Region Market Analysis – Executive Summary Report.

B.2 Enrollment and Capacity Planning

The JTF CAPMED Director of Operations (J3) established a Joint Operations Area (JOA) Primary Care Capacity Work Group (PCCWG), effective 4 November 2009, to consolidate preexisting Primary Care Capacity Models and capabilities estimates into an enterprise primary care healthcare delivery capabilities business plan for the JOA to be used as the basis for the JOA Enrollment Plan (JEP). While various work groups and process action teams worked to define capacity and project enrollment over the past two years, most concentrated their efforts on resources at the medical centers only and did not evaluate the ability of other Service MTFs to accommodate population demand for primary care within the TRICARE Management Activity (TMA) access standards from their facility. Capacity was also calculated in concert with manpower and space to ensure adequate exam rooms would be available to accommodate staff in the pre- and post-BRAC conditions. The PCCWG brought all

Services and all levels of Command together to devise a standard methodology to measure supply in both primary care staffing and spaces at all JOA MTFs.

To determine the current capacity for primary care service delivery in the JOA, each Service Component listed all MTF staff providing acute, routine, and preventive healthcare—to include providers, nurses, medics, corpsman, and medical clerks. Available time for direct patient care was calculated using a baseline number of hours available per year minus agreed-upon deductions for activities that take employees away from caring for patients. The business rules and definitions guide determination of which providers and clinics are considered resources for primary care, as well as types of clinic spaces used. Developing standard definitions of capacity factors is crucial to collecting uniform data when various healthcare facilities are resourcing clinics with Service-specific regulations and directives. Important capacity variables include provider and support staff full-time equivalent (FTE) ratios; total hours of operation in a standard clinic work week; universal time decrement factors; attending preceptors versus stand-alone providers without residents or fellows to precept and clinic space; room types, such as exam rooms versus exam room-offices; treatment rooms and number of beds in them; and individual versus team/group offices.

Capacity data spreadsheets were completed with appropriate definitions and instructions to account for as-is and future-state capacity and a resultant capacity gap, if present. Each MTF was examined for possible gaps in ideal numbers of FTEs of providers, support staff, and rooms to care for their future population by applying a uniform enrollment capacity (1,200) to the current population and then comparing that result with actual FTEs available. Current staffing and exam room ratios were calculated, and variance in levels of support staff and space was noted for impact on optimal clinical processes. While all Services do not use the same enrollment capacity cap or staffing model, this calculation methodology allows for evaluation of capacity in practices across the JOA.

Self-reported provider availability, space allocation, and average enrollee per provider calculations were used to project future change in the capacity to deliver healthcare to enrolled beneficiaries at BRAC. Staffing projections came from the Joint Table of Distribution (JTD), version 3, for the two new medical centers, WRNMMC, Bethesda and FBCH. Other JOA facilities are not expected to undergo any major capacity changes at this time, although expansion may be considered for some when addressing enrollment within the JOA.

Standardizing capacity measurements promotes Service MTF Commander collaboration and integration of future healthcare teams focused on patient preference and geographic location. An enterprise approach will allow for comparison of Service-specific clinic staffing ratios and outcomes to highlight best practices in quality, efficiency, and patient/employee satisfaction. The capacity baseline is the first step in determining guidelines for current WRAMC patient population enrollment and employee transition to the new facilities.

Current and future JOA capacity was determined using the methodology detailed above. In aggregate, the as-is capacity at NNMC, WRAMC, and DACH is very nearly the same as the future-state capacity at the new WRNMMC, Bethesda and FBCH facilities. The main difference is that capacity shifted to the FBCH. Future capacity varies for the north and south due to shifting GME Programs with significant difference in requirements in time for provision of care. The north retains residency programs for Pediatrics and Internal Medicine, and the south will

house the Family Medicine Program. Enrollment for Family Medicine and Pediatric providers and residents in the south is higher than enrollment for Internal Medicine and Pediatric providers in the north, due to increased provider availability in the South and differences in acuity of the patient population, with more complicated cases being cared for in the north. This opens up significant enrollment possibilities for the displaced WRAMC population at FBCH. The south already has two contracted clinics in Woodbridge and Fairfax to provide primary care to the population residing near Fort Belvoir.

In aggregate, the future state will have the same number of staff providers and residents. The increase in Family Medicine and Pediatric providers in the south has a direct and substantial positive impact on capacity at FBCH. Even though there is capacity in the JOA to absorb those enrollees displaced with the closure of WRAMC, additional analysis is required to determine where the beneficiaries will receive their care.

Support staff common in the primary care setting are group practice office managers, administrative aides, case managers, registered nurses, and coders. With the exception of case managers and coders, the assignment and availability of support personnel were collected in this data call, they should be addressed in future assessment of administrative support services. The presence or lack of support staff did not influence the calculation of capacity at the joint facilities.

A review of staffing at all MTFs is pending using standard ratios of support staff and space to each FTE of primary care provider available. Standard staffing ratios were determined by various methods, including review of Medical Group Management Activity (MGMA) better-than-average practices, Service consultant input to current practice models, and consensus at a 2009 TMA-sponsored Primary Care Medical Home Summit. Notional application to all MTFs enables comparison of capacity across Services using the same resource measure, as each MTF is staffed and enrolled with a variety of Service-directed primary care models.

Analysis of current and future primary care capabilities within the JOA indicates no change in the JOA-wide aggregate primary care capacity. Current total capacity of NNMC, WRAMC, and DACH is equal to the total future capacity of WRNMMC, Bethesda and FBCH. However, the current primary care capacity of WRAMC is absorbed to a greater extent at FBCH than WRNMMC, Bethesda. Therefore, a comprehensive demand analysis of current MTF and network enrollees along with all TRICARE eligible beneficiaries is required to ensure that primary care capacity is fully utilized.

A notional application of an enrollment of 1,200 patients per available healthcare provider to currently enrolled populations followed by a comparison to actual available staff applied to future staffing levels suggests that most facilities have an appropriate number of providers. Current staffing of primary care clinics in the JOA is providing sufficient provider FTEs to allow for enrollments of 800 to 1,200 patients per provider FTE in most MTFs.

The gap that may play a significant role in increasing future capacity and efficiency is to improve the ratio of support staff to providers. Further analysis is required. Completion of this JOA Primary Care Capacity evaluation requires:

- A comprehensive inventory of all JOA MTFs (completed)

- Identification of data gaps with verification by Command and MTF points of contact (completed)
- Use of data resources (i.e., M2) to make gap estimates where current or future capacity is not available (pending completion)

A reassignment analysis has been applied to current WRAMC and NNMC enrollees. Reassignment business rules were developed by a multidisciplinary workgroup and will be applied to the enrolled WRAMC and NNMC population prior to BRAC. Evaluation of the enrolled population over time will allow JTF CAPMED to proactively develop short term enrollment guidance to mitigate the number of beneficiaries who require reassignment to a facility other than WRNMMC at BRAC.

APPENDIX C: INTEGRATED DELIVERY SYSTEM

The NCR presents the DoD with a unique opportunity to integrate best practices in a dense, multi-Service military healthcare market with a robust Managed Care Support Contractor (MCSC) in order to provide integrated, patient-centered care. The Department established JTF CAPMED to oversee the effective and efficient consolidation and realignment of military healthcare delivery in the NCR JOA. To accomplish this paramount task, dedicated professionals from the Army, Navy, and Air Force, along with numerous partners, are integrating processes to develop a system customized to patient needs while creating an environment that demonstrates concern for our caregivers and core values. The JTF CAPMED is looking beyond 40 independent facilities and three Service paradigms in planning for an Integrated Delivery System (IDS) anchored by two state-of-the-art hospitals. The IDS will be the military's largest medical center, including both WRNMMC, Bethesda and an accessible and extraordinarily capable community hospital at Fort Belvoir. This system will be solidly constructed with keystones of world-class primary and specialty care. High performing patient-centered teams will foster innovation and leverage technologies while reducing patient variation with the use of EBD practices and the adoption of critical clinical practice guidelines across the JOA. The IDS forms a system that will produce high customer satisfaction with military medicine while simultaneously ensuring a casualty care capability and enabling medics and other service members who are ready to meet the Nation's call for global deployment.

C.1 Background

Prior to beginning construction of the IDS, the Department reviewed five historic studies dating back to 2003 to analyze the NCR. Additionally, a new population analysis revealed a two percent growth in eligible beneficiaries in both FY 2008 and FY 2009. The majority of the growth in eligible beneficiaries is located in the southern region of the JOA. Having a Joint inpatient facility in the South (FBCH) with increased capabilities is a sound solution to the problem of changing regional demographics and will also allow the direct care system to enroll additional beneficiaries in the South, thereby placing the capabilities where the population is growing and projected to continue to grow in the future. Primary care sites will be optimized for population needs, and the remaining eligible TRICARE Prime beneficiaries may still enroll with a MCSC network primary care provider. A proactive Right of First Refusal (ROFR) process will provide beneficiaries, seeking specialty care, with maximum opportunities for services within the direct care system and its robust specialty capabilities.

C.2 Primary Care

There are currently 40 MTFs with an enrolled patient population of 277,292 within the JOA. Clinical and management integration of primary care is the core of a successfully integrated delivery system. Integration includes coordination of care by a primary care manager or team who has overall responsibility for coordinating the care of each individual beneficiary.

Given the need to ensure that the covenant with those enrolled at the current WRAMC is maintained—and appreciating that change is stressful—the BRAC initiatives provided an opportunity to integrate sites to best meet the needs of the entire population and improve quality of care. The primary care capabilities at Fort Belvoir and Bethesda will expand with the opening of the new FBCH and the transition of NNMC to become WRNMMC, Bethesda. In addition, the facility at Joint Base Andrews will transition from an inpatient to an outpatient facility.

Not only is physical space shifting, but the makeup and number of primary care managers is changing. To determine if the new primary care footprint could accommodate current TRICARE Prime enrollees, a multidisciplinary tri-service workgroup was formed to develop a standardized primary care capacity analysis process. A capacity evaluation methodology, including consistent definitions and business rules, was developed and applied to all MTFs to determine accurate measurement of current and future primary care capacity across the JOA. It was determined that there would be no decrease in aggregate primary care capacity and that more patients could be absorbed at FBCH than at other JOA MTFs. It was also determined that enrollees from WRAMC would likely need to migrate enrollment to other facilities and that it would be preferable to do so in a manner to enhance access and to allow for enrollment of patients with complex medical problems at hospitals with clinical requirements for residency programs. The primary care capacity analysis laid the groundwork for the development of a reassignment plan that will meet the medical needs of the patients, accommodate the patients' access needs, optimize the direct care system, provide the appropriate patient mix for GME programs, and meet TRICARE access standards.

The IDS will be based on continuous healing relationships, as outlined in the Institute of Medicine's Crossing the Quality Chasm. Primary care will be provided by patient-focused teams, and the beneficiaries will know their primary care provider. Care has traditionally been provided through face-to-face appointments with the provider; however, the plan in the NCR is for healthcare team members to engage the beneficiary using other enabling technologies to include TeleDoc, nurse advice lines, and IT links to behavioral health specialists. These technologies will reduce demand pressures on the emergency departments, primary care portals, and behavioral health product lines while delivering safe, quality, and timely care that is convenient to the patient.

Furthermore, primary care will be customized to meet individual needs. One example is the WII Clinic that will be embedded in the WRNMMC outpatient clinics. This clinic is designed for those WII warriors with special needs and to meet their complex and unique clinical, administrative, and care coordination requirements. Members who are not assigned to the WII Clinic will receive the same outstanding care, as standardized clinical processes will be applied. Plans are also under development to embed behavioral health assets in primary care clinics through such mechanisms as Health Psychologists who work with Primary Care Providers, Patient-Centered Teams, and RESPECT-Mil (Re-Engineering Systems of Primary Care Treatment in the Military).

Essential elements in a world class primary care network are health promotion and work place safety. A Force Health Protection Cell within JTF CAPMED, is collaborating within the NCR to perform a full Tri-Service inventory, manpower survey, and Occupational/Environmental Medicine (OEM) programmatic status review and analysis of all JOA Occupational Medicine Clinical Activities and supporting Industrial Hygiene assets. The

first phase of this study is estimated to be completed in August 2010, and the results of the analysis will serve as the foundation for future realignment of specialty medical support in the NCR, and optimized utilization of JOA OEM Services to enhance workplace health and safety of DoD Civilians, select contractors, and Military populations due to both common and unique workplace hazards and exposures.

The MHS has an enterprise-wide goal to improve preventive health screening measures and condition management services. The MHS has created incentives for MTFs to improve enrolled beneficiaries' health and use Healthcare Effectiveness Data Information Set (HEDIS®) and ORYX® metrics to measure health improvement in both the inpatient and outpatient settings. The emergence of patient-focused care by the Services has led to a tremendous improvement in the areas of health promotion and disease management. For example, over the last year, WRAMC, NNMCM, DACH, and MGMC have raised the percentage of eligible population with mammograms three percent and those with colorectal exams by two percent. One example of the focus on disease management is the overall five percent improvement of diabetics with controlled Hemoglobin A1C levels. The IDS will use this construct as a launching point to set aggressive goals for achievement, improve data quality, encourage the accountability of the patients and the providers, improve the quality of lives, and reduce some costs of healthcare in the long term.

To achieve seamless coordination of care, individual episodes of care and outcomes must be tracked across clinical settings, including external contract sites. It is vital to have processes that facilitate access and safe patient care, including appointing and referral management. The Department is developing a centralized appointing and referral management system with built-in redundancy, standardized business rules, and central oversight. The appointing system will be more than just a complex phone tree steering callers back to a particular MTF; it will capitalize on capabilities throughout the JOA. The Department is working to standardize training for call center personnel in the NCR, providing a customer service focus while ensuring adherence to best appointing algorithms and appointing templates to aid in scheduling and improve patient access.

The IDS will use joint demand forecasting to meet patient needs more effectively. Personnel trained in referral management will follow TRICARE and clinical guidelines to match patient needs with provider expertise and facility capability in both the direct care and purchased care environments. Focus will be on timely quality care while ensuring that the patient is provided the opportunity to make informed healthcare decisions. Centralized appointing and referral management are synergistic for patients with case management needs. For more complex clinical situations, a case manager will be assigned to guide identified patients. The Department will adopt the Uniform Business Rules for Managing the Clear and Legible Report (CLR) Process for the NCR, as developed by the Assistant Secretary of Defense for Health Affairs (ASD/HA). While eliminating barriers to access, the involvement of clinicians and administrators in the developmental process will also lead to reduction of frustration for staff members as a tangible example of concern for the caregivers.

The Health Net Federal Services Purchased Care Emergency Room and Urgent Care Utilization and Cost study completed in the fall of 2009 will serve to focus initiatives toward visits that may not be clinically indicated for an emergency room and to channel workload into

appropriate primary care portals that meet patient needs. See Attachment 6 for the Emergency Room and Urgent Care Utilization and Cost Study.

C.3 Specialty Care

The second of the two keystones of the IDS is specialty care. It is recognized that delivering world-class care is highly dependent on the effectiveness of access to specialty care; therefore, specialty care services will be available through an integrated network concept in the NCR. Many of the most common services will be available at more than one MTF to better serve beneficiaries locally. The quality and effectiveness of specialty care is directly correlated with volume of procedures performed. Centralized referrals across a network of primary care providers married with an efficient ROFR process for network-enrolled beneficiaries is essential to identifying a significant volume of patients requiring specialty care, thus ensuring that military specialists have the value of specific cases to develop the expertise within the direct care system, effectively perform in an operational setting, and meet GME requirements.

Integral to any solution set for the extended role of the IDS will be expansion of services in the southern part of the JOA. New secondary care services at FBCH will include interventional radiology with cardiac capability, advanced urologic procedures to include lithotripsy, an adult chemotherapy infusion center, nuclear medicine capability with radiation therapy, a linear accelerator, and a level II nursery. Expanded secondary care services include increased medical and surgical beds with telemetry capability, Intensive Care Unit (ICU)/step-down, behavior health (adult and adolescent), a women's health center, and emergency services that include enhanced decontamination/mass casualty capability.

Optimizing the capacity for specialty care requires two major initiatives. First is the evaluation of bed capacity in the JOA facilities with inpatient care capabilities. This evaluation and related modeling capability will be used to formulate future decisions. The evaluation is scheduled to be complete April 2010. Another initiative is the evaluation of specialty care capability. This work will analyze population-based requirements for each specialty, compare capacity base on Full Time Equivalent availability, and help to balance GME case requirements. The evaluation is scheduled to be complete August 2010.

The NCR has begun constructing an integrated surgical capability for the region. Through the MHS Information Interoperability Plan (IIP), the NCR helped formulate the performance measurements and operational requirements for a common surgical dashboard. The primary benefit will be the ability to compare operational performance across the NCR and all other DoD MTFs.

The Department has commissioned an integrated team of subject matter experts on preoperative care to create common operating room standards and practices, streamline workflow, and leverage existing NCR resources. One project undertaken by the workgroup is patient preparation for surgery. The workgroup addressed this concern by standardizing practice and policy for surgical pre-op across the NCR. Another initiative focuses on patient preference surrounding surgical scheduling. The workgroup is addressing this concern by allowing surgical pre-op to be performed at one location and the procedure to be performed at another MTF. Additionally, the Department is exploring a centralized surgical logistics structure to decrease logistical redundancy. Benefits to issues addressed by the workgroup include:

- Even distribution of workload across available staff and space
- Expedited patient scheduling, improving patient satisfaction
- Reduced variance by distribution of workload
- Reduced case cancellation rates due to standardized processes

It was essential to develop an NCR Operating Room Capacity Model (Attachment 5) to simulate workload distribution across the region. This project is enabling decisions to be formulated based on medical requirements, empirical data, projected workload, patient desires, and physical space. Benefits of the modeling effort include:

- Assistance in validating the number and size of rooms and support spaces needed by MTF in the NCR
- Facilitation of even caseload distribution across available operating rooms and support spaces
- Assistance in validating staffing requirements for the NCR operating rooms

A premier example of moving to patient-centric specialty care is the concept of organizing cancer care within a comprehensive cancer center. An implementation team is focusing on three phases. Phase 1 will develop a CONOPS, Operations Plan, and Gap Analysis of current plans for the post-BRAC Comprehensive Cancer Center within the WRNMMC, Bethesda. Integral to the delivery of cancer care will be the delivery of cancer care within the IDS, thereby necessitating a CONOPS that is scalable to the appropriate facility within the JOA. Phase 2 will develop and establish strategic partnerships and opportunities in order to ensure viability and relevance of the WRNMMC, Bethesda Center on and beyond the existing campus. The search for strategic partners will include (but is not limited to) the National Cancer Institute (NCI), National Institutes of Health (NIH), the Joint Pathology Center (JPC), and the Veterans Administration. Phase 3 will develop a proof of concept and concept for design of a future state Comprehensive Cancer Center consistent with NCI designation.

Behavioral Health personnel in the JOA are making strides toward an integrated healthcare delivery system. A new organizational structure will include psychiatry, psychology, and addictions treatment as separate departments within one directorate, with personnel assigned to meet the increased behavioral health needs already identified by the DoD. WRAMC and NNMC training programs are already integrated, or are planning integration within the Departments of Psychology and Psychiatry. Behavioral Health at FBCH will include an in-patient substance abuse treatment program as well as in-patient psychiatry wards, both designed to augment or complement the other Behavioral Health capabilities in the region. The Department will sponsor a two-day symposium in May 2010 on substance misuse issues, for primary care providers, Behavioral Health providers, and anesthesiologists across the JOA. This symposium will increase collaboration and assist in standardizing health care practices.

C.4 Supporting the Primary Care and Specialty Care Keystones

The NCR has formed Joint, multidisciplinary teams to evaluate clinical and administrative processes, with the goal of reducing variation below the mean and thereby increasing quality within the IDS.

A joint business plan is being developed to build incentives for quality enhancement. Business plans for FY 2011 are Service-specific. Planning is under way for FY 2012 and FY 2013 that accounts for FBCH and WRNMMC, Bethesda as Joint facilities. During the FY 2012-2013 Business Planning cycle, executive responsibility for business and production plan development and execution will transfer from Service Component Commanders to CJTF.

During this transition period, Commanders are still responsible for adhering to Service-specific FY 2012-2013 business planning guidance and timelines while simultaneously embracing regional initiatives that promote and improve quality and patient satisfaction and enhance the effective and timely delivery of healthcare. JTF CAPMED will continue close collaboration with the Service Component Commands to reconcile any differences in regional business planning guidance.

By FY 2012, the new WRNMMC, Bethesda and FBCH will be directly aligned as subordinates of JTF CAPMED. JOA MTFs that are not identified as Joint facilities will continue to receive concurrent guidance from the JTF and Component Commanders. Close collaboration among the Components, MTFs, and JTF CAPMED will ensure an integrated healthcare delivery approach that optimizes facility and human resources capabilities to meet the needs of our patients. The FY 2012 goal will be to maximize the delivery of healthcare in the direct care system by embracing the tenets of a patient-centered primary care medical home model and providing access and patient satisfaction at the two large Joint inpatient facilities.

Few services touch as many patients within the NCR JOA as the clinical support provided through Pharmacy, Radiology, and the Medical Laboratory. In fact, these three specialties account for nearly 30 percent of the entire JOA's Operating and Maintenance funds. A cornerstone of any world-class integrated healthcare delivery system must provide for robust ancillary services. To effectuate this, joint work groups have been formed for each of the three specialties. These work groups include the Integrated Department Chiefs for each specialty, along with Subject Matter Experts from each of the Services and MTFs within the NCR, and JTF CAPMED representation. Additionally, these groups work with outside agencies such as the TRICARE Management Activity, DoD Health Affairs, Armed Services Blood Program Office, Center for Clinical Laboratory Medicine and the Nuclear Regulatory Commission to coordinate requests and assure certifications are completed. The following initiatives exemplify concepts currently being developed and implemented to ensure world-class service for NCR beneficiaries in an integrated healthcare environment.

In radiology, work is underway to develop a Picture Archiving Communication System (PACS) for digital image sharing throughout the JOA. While a capability for specific facilities to share images has been in place for some time, the widespread capability for all JOA MTFs to access and share has not existed. Consequently, patients have sometimes needed to undergo multiple imaging exposures if images were not available from referral facilities. The current initiative includes the establishment of a digital image repository at the new WRNMMC, Bethesda with an identical backup repository at the new FBCH. In addition to images flowing between these two facilities, all other MTFs in the JOA will be connected to the system to allow a provider to retrieve an image on his or her desktop no matter where it was taken within the JOA. In addition, since NNMCC currently retains images taken from the Navy's Fleet assets, and WRAMC is the repository for all of the Army's Northern Regional Medical Command (NRMC), those images will be incorporated and retained. In essence, this system will enable the new Joint

hospitals to serve as an east coast repository for all images taken, not only throughout the JOA, but throughout the Fleet and the area covered by NARM. This represents a major step toward integrating DoD healthcare in the NCR.

Attendant to this imaging plan is the acquisition of standardized equipment to ensure optimal connectivity and ease of use among all sites. The integrated PACS imaging initiative will provide the Services the opportunity to purchase identical equipment for all MTFs, resulting in cost savings through simplification of contracting and volume discounts. JTF CAPMED facilitates coordination across service lines and the acquisition of standardized and interoperable digital imaging equipment in all MTFs.

A robust yet cost-effective pharmacy service may be the most utilized component of the ancillary services integrated delivery system. Several programs have either been developed, or are in the process of development, to provide patients with world class pharmacy services. First is the establishment of a joint formulary throughout the JOA. Recognizing early on that MTF formularies differ throughout the JOA, the pharmacy workgroup identified the establishment of a common joint outpatient formulary as a priority.

The goal is to enable a patient to get a medication filled at any pharmacy throughout the JOA, regardless of where the prescription was written, or where it was first filled. To date, a Joint Medication Use Committee has been established to review classes of drugs and decide which medications will be available at all MTFs in the JOA. The initial review of all drug classes will be complete in May 2010, resulting in a JOA-wide formulary plan. A key component of the joint formulary plan is the creation of an integrated plan for prescription refills. Mail Order refills will be emphasized to increase quality through automation, increase patient satisfaction and mitigate traffic concerns at the inpatient hospitals. Telephone service for routine or emergent pharmacy needs will be provided to patients through conveniently centralized access.

Patient Administration (PAD) teams are integrating functions pertaining to line of duty determinations, absent-sick issues, casualty notification, vital statistics reporting, and decedent affairs. The integrated PAD service will enable collection of available bed status statistics by contingency category for inclusion in the Medical Situation Report during mobilization exercises and contingency operations.

JTF CAPMED is currently exploring with the TRICARE Regional Office, the development of an integrated MOU among all JOA MTFs and the MCSC in order to achieve unity of effort and enable a better match between MTF resources and the resources aligned under the managed care contract.

The IDS is being constructed around the philosophy that healthcare providers will be called upon to share their expertise among the facilities to optimize the ability to deliver care to meet patient care demands. A single privileging system will allow for efficient and effective execution of this requirement. Efforts by the ASD/HA include the anticipated completion of a DoD Manual for Quality that will mandate common business rules for Credentials, Privileging, and Adverse Actions by October 2010 and the anticipated completion by October 2013 of a single database with single individual files for the Centralized Credentials and Quality Assurance System (CCQAS). These concepts are being incorporated by work groups already meeting to define the necessary processes and requirements for this system.

The healthcare team is the most important resource for ensuring success of the IDS. Staff availability in the JOA is being developed to balance patient needs with capabilities while supporting graduate medical education. Opportunities for staff to receive and participate in joint training will improve collaborative networking among clinicians and support staff and provide a venue to share best practices. Training will also enforce adherence to clinical practice guidelines. An outcome of these integrated staff-focused initiatives is enhanced staff satisfaction.

A logistics standardization working cell is focusing on medical equipment and supplies for the MTFs through collaboration with Tri-Service groups. The group considers several factors including safety, work flow functionality, and biomedical services. One breakthrough is progress toward joint use of Defense Medical Logistics Standardized Support (DMLSS). One specific effort, previously not undertaken, is to have all users operate the same modules in the same manner to ensure property accountability. The IDS has the potential to bolster the vision of the Technology Assessment and Requirements Analysis (TARA) Team.

C.5 Civilian Personnel

The assignment of approximately 4,000 civilian clinical and support personnel to a single DoD civilian manning model will support and sustain the delivery of consistent care and service to patients across the region. Migrating current Army and Navy civilians to DoD civilians in the Joint hospitals will allow for a unified regional approach to performance appraisal, awards and recognition, training, and leadership development for the civilian employees in the Joint hospitals. The new standardization and use of consistent definitions and work rules will be deployed regionally, and civilian employees will have new opportunities for career growth that are unavailable in the current Service/facility-centric model. This single civilian force will be a critical component of providing a consistent world-class patient experience.

C.6 IM/IT Infrastructure

The IM/IT plan establishes the vision and mission necessary to guide, manage, and implement an integrated platform that will support the effective and efficient delivery of world-class military healthcare throughout the JOA. A primary goal of JTF CAPMED is to be a leader among Federal IT organizations with regard to planning, developing, and supporting IT solutions and services. Scheduled for Full Operational Capability (FOC) in September 2011, there is an aggressive schedule to improve processes, governance, infrastructure, and integrate disperse systems.

To achieve these outcomes, JTF CAPMED has established four overarching goals that frame the principal operating expectations and values for IT professional within the JOA. These goals are:

- Evolve the current architecture and processes to enable rapid, affordable, secure delivery and life cycle support of IT products and services that are based on EBD, meet the operational needs of the JTF CAPMED, and consistently exceed customer expectations.
- Implement a Governance structure and process that enables maximum use of resources and gets products to users faster.

- Enhance business intelligence through the use of enterprise tools, data, and services in a way that makes information visible, accessible, understandable, and trusted.
- Maximize value of IM/IT investment by preventing and eliminating unnecessary, duplicative efforts across the JTF CAPMED and by creating a cooperative, transparent team relationship with all stakeholders.

C.6.1 Major Enabling Support Activities

- Standardize systems/applications across facilities, where appropriate, using criteria as a tool for a structured decision-making process.
- Develop a single inpatient database across inpatient facilities to improve efficiency and patient safety.
- Align Clinical Informatics Committee(s) and plans throughout the JOA by engaging a Chief Medical Information Officer (CMIO). Develop a clinical informatics team that provides innovative methods for establishing and disseminating best practices for actionable knowledge to the military healthcare community in the JOA. This alignment will foster close collaboration between the informaticists and technologists to expedite deployment and adoption of clinical technologies.
- Developed a primary data center at the north location that will support the region. JTF CAPMED conducted a requirements and capabilities study for disaster recovery that evaluated the use of FBCH and other alternative locations for a back-up site.
- Developing and deploying a clear IT governance model. This will establish a single NCA IT governance model and structure responsible and accountable for the overall success of IT endeavors, leveraging TMA relationships and practices.
- Establish and maintain effective communication regarding IT plans and activities.

C.6.2 Major Technology Initiatives

- Smart Room Technology
- Pharmacy Robotics
- Armed Forces Health Longitudinal Technology Application (AHLTA) – Partnership (MHS Pilots)
- Scanners that facilitate early cancer detection
- State-of-the-art lab technology
- Image-guided radiotherapy that pinpoints cancer treatment
- Digital mammography to help radiologist spot potential tumors
- PACS (Picture Archiving and Communication System)
- 4-D Ultrasound

- Hands-Free Communications with Wireless DAS (Distributed Antennae System)
- Patient kiosks for self-service applications, such as pharmacy refill and check-in
- Real Time Location System (RTLS) for security using ultrasound technologies

An overarching view of the performance of the IDS will be possible by use of key performance measures. The Services currently produces monthly performance measures for their MTFs. These measures are traditional indicators that focus on quality, productivity, and access-to-care for the 40 MTFs in the JOA. JTF CAPMED has partnered with Army Office of the Surgeon General (OTSG) to place JOA MTF data on the Command Management System (CMS) Web site, having the system serve as the integrated metrics delivery portal. The vision is to have a Joint view of any existing metrics currently in use by the individual Services. The current goal is to continue to identify leading quality, productivity, and access-to-care indicators that will allow JTF CAPMED to assess performance and correct potential gaps in patient care and healthcare delivery.

APPENDIX D: LEADERSHIP AND CULTURE

The integration of several military health facilities requires strong and visionary leadership coupled with appropriate authorities. NCR leadership must possess a range of complex skills to oversee the integration of several hospitals and their Service personnel and must create an integrated culture while preserving the finest traditions and best practices of each Service. They must integrate budget and finance while working within a military finance system that is not itself integrated. And they must develop a governance structure for managing a combined hospital complex and integrated delivery system.

This appendix describes the governance structure and related authorities, program management to execute and monitor the BRAC program, budget and fiscal authority, and the plan for cultural integration.

D.1 JTF CAPMED Governance Structure

The first step in transforming the NCR from four inpatient Service-operated hospitals to two inpatient Joint Hospitals is establishing Joint relationships for the command elements of WRNMMC, Bethesda and FBCH. The objective of the two Joint commands is to enhance unity of command and effort; catalyze transformation from the current four-bedded hospitals into two Joint commands; standardize to achieve Joint interoperable systems; and achieve integrated healthcare delivery in the NCR JOA. The transfer of appropriate authority, Operational Control (OPCON), once granted to JTF CAPMED, will provide the command and control authorities necessary to direct the future action and direction of the integrated healthcare delivery network in the JOA. Attachment 1, JTF CAPMED Regional Healthcare Delivery CONOPS, provides the overarching concept for regional healthcare delivery within the JOA.

D.1.1 Operational Control of Assigned Forces

On 12 September 2007, the Department established JTF CAPMED to ensure the effective and efficient delivery of world-class military healthcare within the NCR TRICARE sub-region using all available military healthcare resources within the JOA while executing the BRAC. The charter assigned forces to JTF CAPMED and gave tactical control (TACON) of those forces to CJTF, while the Services retained OPCON of those same forces. See Attachment 2 for the JTF CAPMED September 2007 Establishment Document.

The terms OPCON and TACON represent levels of command authority exercised by a Joint Force to perform those functions of command over assigned forces necessary to accomplish the missions assigned to the Joint Force. Joint terms have specific meanings and interpretations and are defined in the *DoD Dictionary of Military and Associated Terms* (Joint Publication 1-02). The JP 1-02 defines OPCON as the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission, including authoritative direction over all aspects of military operations and Joint training

necessary. The same publication defines TACON as the authority over assigned or attached forces, commands, or military capability of forces made available for tasking that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned.

The intent of the original memorandum establishing authority was for JTF CAPMED to be the sole medical authority within the NCR JOA. However, in the current construct of JTF CAPMED exercising TACON over its assigned forces while the Services retain OPCON of those same forces, the authorities of JTF CAPMED are impacted. The recent report of the NCR BRAC Health Systems Advisory Subcommittee of the DHB recognized the discrepancy in command alignment and the inefficiencies of disparate policy and redundant effort. Further, it identified this issue as “foundational” and recommended empowering a single official with complete organizational and budgetary authority in the NCR.

The problem with the current mismatch of command authorities (OPCON vs. TACON) can be illustrated by the current relationships between JTF CAPMED and its Service Components. A Service Component consists of a commander and all those Service forces, such as individuals, units, detachments, organizations, and installations, under that command, including the support forces that have been assigned to a combatant command or further assigned to a subordinate unified command or JTF. They fill a support function and usually have a direct support relationship with the Joint Force Commander (JFC).

JTF CAPMED currently has Service Components providing direct support, with JTF CAPMED having TACON of assigned forces and the Services having OPCON of those same forces. In this situation, the Services hold OPCON of JTF CAPMED assigned forces and are outside the JTF CAPMED chain of command. This mismatch causes conflicting frames of reference; JTF CAPMED has a Joint frame of reference, and the OPCON organization has a Service-specific frame of reference. To align authorities to ensure the efficient and effective execution of BRAC, prior to establishment of the Joint hospitals, the Department will assign OPCON over WRAMC, NNMC, and DACH to CJTF. The Department will continue to evaluate the need to assign OPCON over the remaining outpatient clinics in the JOA (Attachment 2, JTF CAPMED September 2007 Establishment Document) to achieve an integrated delivery system in the NCR.

D.2 Cultural Integration

The Department is committed to creating a world-class integrated health care delivery system in the NCR. JTF CAPMED must successfully reconcile several distinct hospital Service cultures.

D.2.1 The Challenge of Successful Cultural Integration and Cohesion within the JTF CAPMED Joint Operating Area

Cultural integration presents a challenge for any large organization. The Department faces challenges in integrating embedded military cultures and hospitals while managing execution of BRAC projects, diverse groups, and interests and a varying commitment to the envisioned future state. Interestingly, these circumstances create many of the necessary preconditions for change processes.

To be successful in its integration efforts, the Department must create an integrated and overarching organizational culture. It will be unique and necessarily interoperable with the Service medical departments. The new culture will transcend the current facility-centric approach to patient care and will create awareness in every employee and Service member of a regional capability that can be leveraged on behalf of the patient. While the WRNMMC, Bethesda facility is not a completely new facility, it is a new Joint facility. Cultural integration must be introduced across a myriad of functions so that the hospital, the command, and the caregivers perform in a seamless, productive, and efficient manner.

Examples of JTF CAPMED Cultural Integration Initiatives:

- Standardized Intern Simulation Training Program
- Single Learning Management System
- Standardized Training Record Policy
- Standard Operating Procedures and submission templates for review of research exempt from Institutional Review Board (IRB) review
- Joint Education & Training Dashboards
- Joint IRBNet Publication Clearance
- Standard Operating Procedure for Joint Scientific Review Process
- Joint MTF Newcomer Orientation

Each Service has unique cultural traditions, norms, practices, and languages for managing its forces and cultivating its leaders. The goal of cultural integration is to recognize these individual differences in the Services, adopt the best practices from each Service, and maintain those defining cultural norms and specialties to ensure that Airmen, Sailors, Marines, and Soldiers stationed in the NCR can leave the JOA and easily reintegrate into a Service-specific environment when needed.

D.2.2 JTF CAPMED's Four-Phase Approach to Cultural Integration

In 2009, JTF CAPMED initiated a structured and comprehensive cultural integration program. The program has four phases.

Cultural Integration Phase 1: Identifying Issues to be Addressed

In March 2009, JTF CAPMED held a Cultural Integration Workshop to initiate the process of identifying and articulating cultural challenges faced by JTF CAPMED leadership.

Cultural Integration Phase 2: Identifying Cultural Differences Among the Services

In June 2009, JTF CAPMED held a second Cultural Integration Workshop to continue identifying cultural differences among the various organizations being unified as part of JTF CAPMED's BRAC/Integration mission. The workshop increased the understanding of issues across the JOA and how best to address them, as well as defined what a cultural integration plan might look like for adapting existing cultures into a unified entity.⁴

More than three dozen leaders from JTF CAPMED, the Army, Navy, Air Force, and USUHS attended the workshop. The two-day agenda included data collection activities, presentations on culture change and cultural integration, and breakout sessions that helped participants focus on action steps necessary to articulate a clear vision for integrating the various Services cultures.

Leaders attending the workshop identified the most important cultural issues encountered to date in delivering on JTF CAPMED's mission, including clarifying their own vision for the effort, articulating a definition of success, and describing desired outcomes. In addition to the

cultural issues, participants discussed other elements of the effort that are either roadblocks to, or facilitators of, creating a new integrated culture.

Cultural Integration Phase 3: Identifying Best Practices from the Integration of Other Large Organizations

On 21 September 2009, JTF CAPMED hosted a meeting with representatives from the U.S. Army Human Terrain System to initiate the next steps in the ongoing cultural transition. A key outcome of this meeting recommended the use of Organization Development Practitioners and recommended drawing best practices from the integration of other large organizations.

Cultural Integration Phase 4: Developing a Specific Strategy to Assist with the Integration of Service Cultures within the JOA

JTF CAPMED kicked off Phase 4 in January 2010 with intent to pursue the following activities:

- Produce a white paper on best practices for executing a cultural integration program
- Engage in communications, branding, and messaging of change and cultural integration
- Engage in strategies to manage resistance to change, enculturation, and change management
- Develop strategic recommendations, which were delivered in February 2010 (Attachment 3, Cultural Integration Recommendations White Paper)

D.2.3 The JTF CAPMED Strategy for Cultural Integration

Based on the long-term cultural cohesiveness requires JTF CAPMED to *simultaneously* lead, implement, and support three cultural initiatives:

- **Create Culture:** define and design a new (integrated/best of) culture
- **Integrate Culture:** integrate diverse stakeholders (who currently have strong ties to an existing culture) into a new culture
- **Embed Culture:** ensure that the newly integrated culture is thoroughly embedded into the organization

Three-Phased Approach

To help the Department develop timely and relevant strategies and activities to support each of the three simultaneous cultural initiatives, the Cultural Integration White Paper (Attachment 3 Cultural Integration Recommendations White Paper) recommends developing and implementing appropriate strategies for each phase of integration:

- **Pre-Integration:** the phase of work that precedes physical integration (i.e., the official opening of FBCH/WRNMMC, Bethesda)

- **Integration:** the types of activities and strategies that need attention once the integrated care delivery has begun (i.e., once FBCH and WRNMMC, Bethesda are online and operating)
- **Post-Integration:** the strategies that will ensure that the cultural integration “sticks” after the initial start-up phase

Overarching and Critical Cultural Integration Management Recommendations

The following six recommendations are “must-haves” for the Department’s success in integrating cultures. Without commitment to these, cultural integration will be a painful and difficult process with suboptimal results:

- **Resolve the Authority Question** – The authority question must be resolved in order to clarify leadership and overall direction.
- **Revisit Inspiration** – Inspiration must be rediscovered, re-articulated, and re-communicated.
- **Leverage Neutral/Honest Broker Support** – Outside support must be used for many of the facilitation, training, and communication requirements of this project to ensure perception of neutrality vital to open dialogue and buy-in.
- **Coordinate the Cultural Integration Mechanism** – This project will have many moving parts, numerous sub-groups, and functional areas to coordinate. A well-funded, strong-core team responsible for managing, coordinating, and connecting with all of these elements is fundamental to success.
- **Acknowledge, Celebrate, and Leverage Work-to-Date by Internal Stakeholders** – Many working groups and highly committed and talented staff have completed significant work on integration activities. This work must not be ignored or marginalized. Instead, it must be acknowledged, celebrated, and leveraged. Neglecting to do this will create a subset of disillusioned talent, which the cultural integration project cannot afford.
- **Create the “And Story”** – JTF CAPMED will face significant resistance during integration. Some of this resistance will be the result of institutional legacy, pride, history, ego, and sense of loss. Strategy recommendations are based on creating the “And Story” so that cultural integration is framed, not as loss, but as the creation of something that incorporates the best of all three Services.

D.2.4 Conclusion

Cultural integration and cohesion will ultimately take several years to achieve, and the journey may be difficult. The strategies highlighted in this appendix provide a roadmap for achieving an integrated culture—a culture that will support the mission of a Joint military healthcare delivery system that offers the best option for patients, their families, their service providers, and the American taxpayer. It is essential that JTF CAPMED approach this endeavor thoughtfully and thoroughly, with the appropriate input, support, and resources from all of its stakeholders.

APPENDIX E: HUMAN CAPITAL STRATEGY

This appendix discusses plans to integrate military medical personnel within the JOA into a common human capital strategy as well as plans for a civilian manning model. Three Deputy Secretary of Defense (DEPSECDEF) decisions are foundational for the creation and employment of a world-class medical force continuing a tradition of world-class care. First, the August 2007 decision to establish a Guaranteed Placement Program for the civilian workforce at WRAMC assured the sustainment of operations at WRAMC and the transition of a highly-skilled civilian workforce representing more than half of the civilian talent base in the NCR to WRNMMC, Bethesda and FBCH. Then, in January 2009, DEPSECDEF directed that WRNMMC, Bethesda and FBCH be established as Joint hospitals in the NCR; and that a Joint manning and a DoD civilian manning model would replace the Service-specific rules and processes currently used. The execution of these three decisions requires a reconfiguration of traditional organizational models and processes that are currently in use by the Service medical departments. This appendix describes the human capital strategy for the transition from WRAMC and NNMC to the new WRNMMC, Bethesda and FBCH for both civilian and Service members.

E.1 Building a Joint Medical Manning Document

Pending final governance decision for post-BRAC operation, the Department is utilizing an Intermediate Manpower Document (IMD) to facilitate the development of the JTD. The IMD is an authoritative database that will support the underlying manning documents for each Service. It will allow the compilation of all personnel requirements for the eventual JTD while maintaining more flexibility than existing manpower documents for changes during the transition. The IMD will look exactly like a JTD in all aspects, which will facilitate its eventual migration to the JTD. To develop the IMD, the Department created draft JTDs (versions 1.0–3.0), which served as working documents for manpower specialists. The draft JTD version 3.0 is currently being finalized and will incorporate the changes from the December 2009 Service Review, as well as the JTF CAPMED Quality Assurance (QA)/Quality Control (QC). The final iteration of draft JTD version 3.0 was renamed the IMD and is scheduled to be delivered to the Services in April 2010. JTF CAPMED and the Services will develop a Memorandum of Agreement (MOA) to commit resources in support of the IMD. Until the Department makes its final determination on the ultimate governance alignment of JTF CAPMED, the IMD can remain a local database, with necessary MOAs, allowing flexibility for position changes and realignments.

See Attachment 4 for the January 2009 Action Memo for the Personnel Structure of the NCR Medical.

E.2 Stabilize Manning Document and Provide Initial Notification by July 2010

It is important to stabilize manning in the region to operate world-class hospitals. Below is a timeline to complete the manpower document and notify permanent government civilians of their work locations at the new WRNMMC, Bethesda and FBCH.

- Locally Resourced Requirements (LRR) (Began January 2010)
 - *Review of Addendum 2 (i.e., locally resourced requirements)*
 - *Additional QA/ QC of JTD version 3.0 and Addendum 1 (Congressional earmarks and OCO)*
- Workforce Mapping (Began February 2010)
 - *Geographical depiction of workforce structure that allows for the analysis of workforce distribution in areas such as Service workforce mix, experience levels, and skill sets*
 - *Working with Components*
 - *Corporate Review (with Civilian Human Resource Council [CHRC], J1, Chief of Staff)*
- Service Review of IMD (Began April 2010)
 - *Manpower representatives review changes in the IMD*
- MOA (Begins Spring/Summer 2010)
 - *Signing of MOA by Services to contribute Manpower Resources in support of the IMD*
- Stabilization (Begins June 2010)
 - *Military positions and members identified to remain throughout the transition*
 - *Request appropriate stabilization*
- Assignment Coordination and Communication (Begins August 2010)
- Assignment Coordination (Begins June 2010)
 - *JTF CAPMED will coordinate for assignment duty location of individuals that will be assigned to MTFs*
- Communication Plan (Ongoing)
 - *Plan of action to communicate LRR to stakeholders using communications channels such as newsletters, fact sheets, and the JTF CAPMED Web site*

E.3 Building a Department of Defense Civilian Manning Model

All of the following considerations support the decision to transition to a DoD Civilian Manning Model:

- Delivering regional, interoperable, integrated healthcare in the NCR
- Expanding leadership opportunities for the civilian workforce

- Relocating 2,200 Army civilians from WRAMC to new positions at WRNMMC, Bethesda and FBCH
- Redefining a single Joint medical culture for more than 3,900 civilians who previously delivered care in the context of Army and Navy service cultures
- Creating a level playing field for all civilian employees where Service affiliation would not create a sense of winners and losers in the new Joint hospitals

The implementation of a DoD Civilian Manning Model will be achieved through the delegation of necessary civilian personnel authorities via a DoD Chain of Command to the CJTF. Labor unions will be actively engaged as the exclusive representatives of bargaining unit employees in the region, while Service and DoD Equal Employment Opportunity (EEO) and Injury Compensation Program Managers will be involved to ensure the proper execution of their program goals during and after the transition.

The decision to convert Army and Navy civilians to a workforce of DoD MHS civilians in the new Joint facilities will also require a single human resources service provider. Transactional and advisory personnel services for civilians are currently provided through Service-directed Human Resources (HR) offices and processing centers. Prior to transition, JTF CAPMED will need to identify and negotiate a servicing agreement with an existing HR service provider capable of meeting the unique requirements of a regional healthcare delivery system. The transition to a new HR service provider will require the cooperation of the current Army and Navy HR servicing organizations. Their input will be used to develop a comprehensive Memorandum of Understanding (MOU) fully detailing requirements and costs of purchased services. It will also be necessary for the HR Working Group to approve the appropriate mix of organic Civilian Human Resources expertise to be available within the facilities.

E.4 Implementing the Guaranteed Placement Program

The following considerations continue to drive the preparation for delivering on the Guaranteed Placement Program (GPP) commitment to WRAMC hospital civilians while attending to the well-being of the entire regional workforce.

- Sustainment of operations at WRAMC until closure. Commencement of operations in two Joint hospitals in 2011
- A seamless transition supported by a workforce of 3,900 civilians who have confidence in their futures and pride in their past
- The desire of more than 65 percent of the WRAMC workforce to be placed in positions at the north campus
- The desire of the majority of existing personnel at NNMC and Fort Belvoir to remain in those locations in 2011

The fulfillment of the GPP demands an extraordinary degree of planning, coordination, and strategic communication.

Two fundamental strategies, in conjunction with the planned conversion to a single DoD Civilian Manning Model, will deliver the GPP promise and provide for the successful transition

to two new hospitals. The first strategy involves the use of manpower modeling designed to balance readiness in the region and to maximize the number of civilian positions available on the north campus. A modeling exercise resulted in the identification of 1,500 civilian positions that will move from WRAMC to WRNMMC, Bethesda—more than double the number of civilian positions that were expected to transition in the original BRAC modeling for the Navy hospital. The second strategy requires the collaborative efforts of hospital leadership to manage manpower and hiring now to support future success.

In September 2008, the Commander chartered a CHRC composed of a Highly Qualified Expert (HQE) as well as leaders and local HR experts from the Army, Navy, and Air Force. The Council members were chartered to oversee a successful transition of the civilian workforce by identifying regional issues and implementing policy changes and actions within their own organizations that would align to a successful end state. The Council has agreed on regional approaches to hiring and insourcing that are essential to maintaining current operations while ensuring a trained and ready workforce for the two hospitals in 2011. Beginning in February 2010, new vacancies at WRAMC are being filled with candidates who are advised in advance that their work may move to Fort Belvoir in 2011. In addition to strategic recruitment, the Council Members have modified current policies to ensure that additional vacancies on the north campus will be created in 2011 through the insourcing of work performed by contractors and by the voluntary transfers of current NNMC employees to the new hospital at Fort Belvoir.

Preliminary matching of current WRAMC, NNMC, and DeWitt hospital civilians began on 12 February 2010 and is expected to continue through the spring of 2011. By 1 June 2010, all permanent employees at WRAMC, NNMC, and DeWitt will receive written notification of their future positions in the new Joint hospitals. Following the initial notification, a tracking process will be initiated to update the position matches based on hospital attrition and employee requests for changes over the next year and a half. When the transition plans and timing are complete, all employees will receive training and orientation to ensure their success as they transition to the new facilities and organizational structures and processes.

E.5 Workforce Labor Plan for the National Capital Region Medical Facilities

The Department is using a forward-focused Human Capital Strategy that empowers a valued workforce to achieve world-class healthcare. Such a strategy will outline activities in which JTF CAPMED must engage across the Human Capital Life Cycle.

JTF CAPMED is building a Human Capital Strategy for the purpose of providing and developing a quality workforce in the achievement of world-class healthcare.

The preparation and training of assigned medical personnel for deployment is a critical mission in the NCR, and having the right force mix available to ensure world-class capability in support of wounded warrior care is an absolute must. Therefore, a definite consideration is not to place a hospital, branch, or department at risk for deploying too many of its military members at one time. The mitigation for this possibility is the equitable distribution of service members into each facility. This distribution ensures that the overall mix of Army, Navy, and Air Force personnel is nearly balanced at each facility and is complimented by the stability of the civilian workforce.

E.5.1 Human Capital Management

Human resources are traditionally viewed as the administration of physical beings that occupy positions within an organization. In recent years, Human Capital has emerged as a means for managers at all levels to understand the collective knowledge, skills, and abilities of individuals in order to maximize productivity. As such, Human Capital Management is the iterative process by which the Department will guide the organizational processes used to attract, recruit, develop, and retain employees in the NCR in order to meet both strategic and operational objectives. In support of this, a Human Capital Strategy Life Cycle

Framework is being leveraged. This framework is a series of integrated systems and processes that support employees through every phase of their service within an organization, from recruitment through training, development, retention and, ultimately, transition and/or separation.

Figure 9: Human Capital Strategy Life Cycle



E.6 Workforce Planning Stage

Currently, the workforce planning strategy is:

- Providing the foundation for workforce placement decisions throughout transition
- Establishing guidelines for the alignment of the Joint workforce to the established requirement
- Outlining courses of action for identifying/addressing misalignments between Joint workforce and established work requirements beyond initial workforce transition
- Guiding JTF CAPMED in making human resource decisions aligned with the organization's mission and Master Transition Plan (MTP)

E.6.1 Workforce Planning Activities

To successfully implement the workforce planning strategy, the Department is engaged in a series of workforce planning activities that align to the four-step approach (Develop Goals and Objectives, Project Workforce Needs, Develop Action Plan and Implement Action Plan, and Evaluate Effectiveness). These activities will allow for a successful stand up of the new workforce as well as support the workforce as it reaches a balanced state. DoD will also leverage the workforce planning data and lessons learned during the stand up and stabilization period to establish an ongoing workforce planning process that is integrated with other business and budget planning processes. Table 4 presents an overview of the workforce planning activities in which JTF CAPMED is currently engaged to support the stand up and stabilization of the workforce as well as the development of a long-term workforce planning capability.

Table 4: Overview of JTF CAPMED Workforce Planning Activities

Approach Step	Activity Description	Workforce Planning Component Alignment
Develop Goals and Objectives	Engage senior leadership in strategic workforce planning sessions to identify long-term workforce goals (i.e., shaping targets)	Strategic
	Document long-term workforce goals aligned with successful mission completion	Strategic
	Identify objectives at the manager level to facilitate the achievement of the goals	Programmatic and Operational
Project Workforce Needs	Identify focus areas for long-term workforce growth	Strategic
	Assign roles and responsibilities for evaluating workforce needs beyond the immediate assignment of personnel to positions (i.e., matching of faces to spaces)	Programmatic
	Evaluate size, composition, and structure of joint workforce to identify potential areas of future need (e.g., key skill areas where workforce is senior and eligible for retirement)	Programmatic
	Utilize workforce mapping process to assign people to positions using personnel data (i.e., JTD), including business rules, Table Top Exercises (TTXs), and matching-faces-to-spaces instructions for leaders (e.g., facilitated training sessions) – See JTF CAPMED Workforce Planning Activity Details section for additional information	Operational
	Evaluate initial assignments for immediate risk areas, such as departments where workforce is unevenly distributed in terms of experience level	Operational
Develop Action Plan	Identify near-term solutions to address immediate risk areas such as temporary placement	Operational
	Develop framework for roles and responsibilities, governance structure, data collection, and reporting systems/processes to be used for near-term (0-1 year), mid-term (1-4 years), and long-term (4+ years) workforce planning	Strategic, Programmatic, and Operational
	Build out management actions required to mitigate anticipated gaps and surpluses created by misalignment between demand and particular types of work	Programmatic
	Develop schedule and assign roles and responsibilities for updating and revision of action plan	Strategic
	Align action plans to other areas of Human Capital, Strategic Planning, and Budgeting	Strategic, Programmatic, and Operational
Implement Action Plan and Evaluate Effectiveness	Identify organization leaders to play a role in identifying workforce needs on an ongoing basis	Strategic, Programmatic, and Operational
	Gather lessons learned throughout the stabilization of the workforce to inform workforce size, composition, and structure goals	Strategic

E.7 Communication Strategy

JTF CAPMED and its Service Components are engaged in developing and implementing a Strategic Communication Strategy used to convey critical messages to multiple audiences, with the intent to better inform them of current and future changes and opportunities. To deliver integrated, world-class healthcare, an organization must proactively target and deliver these messages to key stakeholders at the right time, in the right manner, and with the right responsiveness to achieve the mission. The goal of this strategy is to communicate the importance of strategic communications and highlight how they can and will be used throughout the Human Capital Life Cycle.

This well-defined Human Capital Strategic Communication Strategy:

- Creates mission clarity and understanding
- Continues the momentum necessary for a successful workforce
- Facilitates continued buy-in within the Services
- Continues to illustrate linkages among Human Capital initiatives
- Establishes a brand that supports the development of a desired culture

To effectively develop and implement Human Capital strategic communications, organizations must follow a six-step approach:

- Identify Audiences
- Outline Messages
- Select Channels
- Develop and Deliver Products
- Gather Feedback
- Follow Up

Such an approach will build understanding, facilitate organizational buy-in, inspire ownership, and build a community that gives stakeholders a personal feel for the organization, its mission, and its Human Capital programs. The plan is scheduled to be complete May 2010.

Table 5: Human Capital Six-Step Approach

Identify Audiences	<ul style="list-style-type: none"> ▪ Categorize employees by information needs
Outline Messages	<ul style="list-style-type: none"> ▪ Brainstorm list of information distribute ▪ Map list to groups of employees
Select Channels	<ul style="list-style-type: none"> ▪ Review best practices for selection of channel (e.g., meetings and email) ▪ Present draft plan to leadership
Develop and Deliver Products	<ul style="list-style-type: none"> ▪ Define ownership for development and delivery of messages ▪ Outline process ▪ Obtain final approval from leadership ▪ Finalize plan
Gather Feedback	<ul style="list-style-type: none"> ▪ Outline methods for two-way communication ▪ Identify ownership of collecting and responding to feedback
Follow Up	<ul style="list-style-type: none"> ▪ Select mechanism for follow-up activities ▪ Present to leadership as appropriate

E.8 Workforce Development

The Department is in the early stages of the Workforce Development Strategy. Employee development involves defining the knowledge, skills, and behaviors that optimally support goal achievement and mission accomplishment. It encompasses the systems, processes, and procedures for ensuring that the organization’s workforce has the necessary knowledge, skills, abilities, and attitudes to serve the mission of the organization now and into the future. Workforce development provides the following organizational benefits.

- Provides necessary/desired development for emerging talent (i.e., maintains talent)
- Supports future skills requirements
- Creates greater organizational value through development/use of intellectual capital
- Supports personal/professional development goals for personnel
- Highlights individual value and contributes to employee motivation/engagement

E.9 Employee Transition

The Department is in the early stages of the Employee Transitioning Strategy. Employee Transitioning initiatives involve preparing the organization for changes in staff composition. Transitioning efforts ensure that competencies and organizational knowledge are maintained through active knowledge management, succession planning, and leadership continuity; create an internal pipeline of talent for organizations, reducing the need to hire externally, which can be costly; and allow an organization to retain intellectual capital even after an employee transitions out of the organization.

Succession Planning is a dynamic, ongoing process of systematically identifying, assessing, and developing leadership talent to contribute to the achievement of future strategic goals. Succession plans are created to anticipate managerial staffing requirements and to develop high-quality employees as professional, managerial, and technical personnel to satisfy these needs. Succession planning offers organizations the opportunity to identify and groom pools of candidates for future openings in key positions due to lost leadership, new markets, or new environments.

Knowledge Management is a collaborative and integrated approach to the creation, capture, organization, and use of knowledge or intellectual capital to achieve an agency’s business goals. Through the application of Knowledge Management processes, tools, and techniques, organizations can better understand and leverage their knowledge and information assets. Effective Knowledge Management prevents staff from having to “recreate the wheel” whenever a task needs to be completed or a new challenge arises.

E.10 Human Capital Success

Successful implementation of the Human Capital Strategy is contingent upon access to key personnel and resources (e.g., funding). Between now and FOC and beyond, the Department will require:

- Healthcare recruiters who support recruiting efforts, including sourcing, job fairs, and development and distribution of outreach and marketing materials
- Development and implementation of training on new technologies, Joint operating environments, and new Human Capital systems and programs
- Allocation of billets for Joint leadership and civilian leadership positions as well as identification of personnel to fill them
- Creation/implementation of a leadership development program (especially for civilian personnel) to prepare individuals to assume leadership roles in Joint environments
- Funds to support deployment of education/training/employee development programs

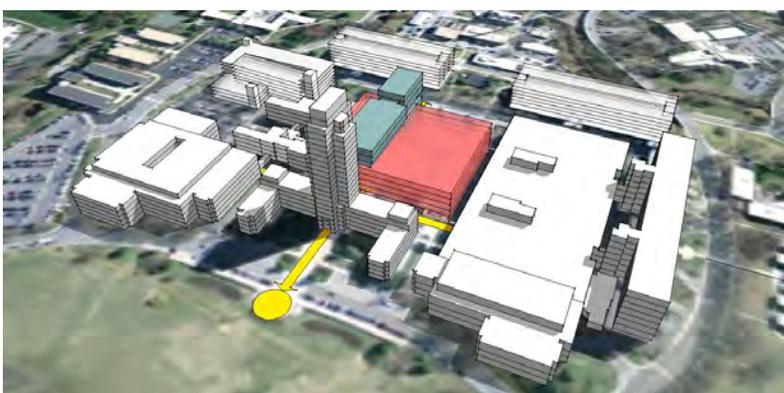
The Department is striving to further demonstrate that its employees remain its biggest source of competitive advantage. This is not just a conceptual approach; rather, DoD is building off the concept as its manpower foundation in the NCR. To prepare for the challenges of finding, motivating, and retaining a capable work force, the Department is consulting with two different firms that have excelled in modeling the capabilities maturity model as a way forward to support its leadership teams at the Joint facilities as it rolls out a full-scale model for the entire JOA when the time is right.

What distinguishes the Department's approach in the NCR is the need to understand that human capital values people and what they produce, rather than simply focusing on the Human resource function itself. There is a growing body of evidence linking effective high-performance human capital management (HCM) practices to the financial performance of the organization. In particular, there is a high degree of empirical support for the need for strong consistency among HCM practices to achieve good results; it is the combination of practices that matters rather than simply doing one or two well.

APPENDIX F: INFRASTRUCTURE

This appendix outlines the Department's approach toward the design, construction, and maintenance of world-class facilities in the JOA. It includes an in-depth examination of the building plans of FBCH and WRNMMC, Bethesda, with particular attention devoted towards the incorporation of EBD standards.

Figure 10: Future Walter Reed National Military Medical Center, Bethesda Design Concept



F.1 National Capital Region Health System Facilities Overview

Since the passage of BRAC law in 2005, significant progress has been made towards achieving world-class capabilities at NNMC and DACH. At Fort Belvoir, the BRAC construction of the new replacement hospital has been heavily informed by a rigorous study of industry-leading EBD principles, many of which are being incorporated into the current design plans. At WRNMMC, Bethesda, BRAC-funded renovation of existing space and construction of additional space has adopted many of the EBD standards. Integration with the remaining balance of the facility will present a variety of challenges with regard to construction timing, post-BRAC, while providing patient care and protecting patient safety. To ensure that the same commitment to evidenced-based, world-class design principles found in FBCH is manifested in the future WRNMMC, Bethesda, HDR Architects, the same architecture firm that planned and designed the FBCH, has been contracted to develop the future facilities vision for the WRNMMC, Bethesda. A description of the future state for the new WRNMMC, Bethesda and a three-phase plan for definition and integration with the existing facilities plan is provided in this appendix.

F.2 Master Facility Planning for Walter Reed National Military Medical Center, Bethesda

The WRNMMC, Bethesda Master Facility Plan will provide the Department with a long-range vision that identifies facility, infrastructure, and technology requirements necessary to maintain and enhance a world-class academic medical facility well into the 21st century. The plan will identify how and where facility renovation and replacement will take place and the sequence in which these changes should occur. Recommendations remain consistent with anticipated capability needs, clinical program plans, and GME programs. In particular, the plan will address the following requirements:

- A medical campus-wide, department-level plan that incorporates ongoing healthcare capabilities assessments and healthcare requirements analysis and is coordinated with the identified requirements of USUHS and the Commander, Navy Installations Command (CNIC).
- The unique needs of the Armed Forces, Armed Forces retirees, and their families; the care, management, and transition of seriously ill and injured members of the Armed Forces and their families; and performance expectations for the future integrated healthcare delivery system.
- Incorporation of all ancillary and support facilities at the NNMC (Bethesda, Maryland), including education and research facilities as well as centers of excellence, transportation, supporting plant infrastructure/networks, and parking structures required to provide a full range of adequate care and services for members of the Armed Forces and their families.

The Master Facility Plan will focus on WRNMMC, Bethesda buildings 1-10, A and B, and be informed by other WRNMMC buildings, such as 17, the National Intrepid Center of Excellence (NICoE), 54, 55, 62 and the requirements of the USUHS campus. The plan will provide a facility needs assessment, including an assessment of standards for patient rooms, and a program to address the WRNMMC facility requirements, and the integration with the Base Master Plan.

F.2.1 Purpose

The purpose of the Master Facility Plan is to fully align required space with WRNMMC, Bethesda's mission to support both regional and national strategic missions; and allow for/anticipate future requirements. Furthermore, the WRNMMC Master Facility Plan will establish a standard for the JOA facility and operational infrastructure to be consistently world-class, optimizes DoD funding streams and other potential resourcing solutions, and meets external regulatory review requirements.

F.2.2 Objectives

There are 12 key objectives of the Master Facility Plan:

- Maintain a focus on patient-centered care through adopting the Medical Home/Family Health Initiative concepts, expand access to care, and uphold high patient satisfaction
- Adhere to the full array of EBD principles
- Increase services and space that are focused on the wounded warrior population
- Optimize staff performance through innovative and flexible design concepts
- Promote high productivity and retention through staff satisfaction
- Promote healthy environments, using low Volatile Organic Compound (VOC) environments, fresh air/high-efficiency particulate arresting (HEPA) filtration, and surfaces that reduce back strains, slips, trips, and falls

- Ensure energy innovation and efficiency
- Meet or exceed all relevant codes and standards, including Joint Commission, DoD, and private sector standards
- Provide flexibility and adaptability to accommodate changing practices and processes of care resulting from new knowledge
- Provide sufficient flexibility and adaptability to accommodate surge capacity
- Serve as a template for future medical master plans
- Support continuity of operations through events caused by weather, epidemic, technological failure, or terrorism

F.2.3 Master Facility Plan Project Phases

This Master Facility Plan will be expanded and made definitive in two phases, as depicted below.

Phase 1

Phase 1 consists of a Medical Facility Condition Assessment to include a review of ongoing and completed plans and studies; a facility analysis (including existing conditions and constraints, work orders, works in progress, statements of construction, facility assessments, and Joint Commission survey results); a medical facility utilization study (with current uses of existing facilities and planned uses for facilities in design or under construction or renovation); design charities and review sessions; site visits; interviews; and other information gathering.

Several other independent, regional healthcare requirements studies are in progress. The results of these healthcare requirements studies will contribute to Master Planning Study analyses in Phase 2, where healthcare requirements will be fully integrated into the Master Facility Plan.

The Department has recently completed two key studies: the new WRNMMC, Bethesda Operating Rooms Study (Attachment 5, Operating Room Study), which demonstrated after modeling and simulation that capacity, if enabled by process improvement, could increase; and the Emergency Room and Urgent Care Utilization and Cost Study (Attachment 6). This phase will also include department-level space programs, blocking and stacking of selected alternatives, design charities and review sessions, Leadership in Energy and Environmental Design (LEED) goals and plans, potential project identification, and order-of-magnitude level cost estimates.

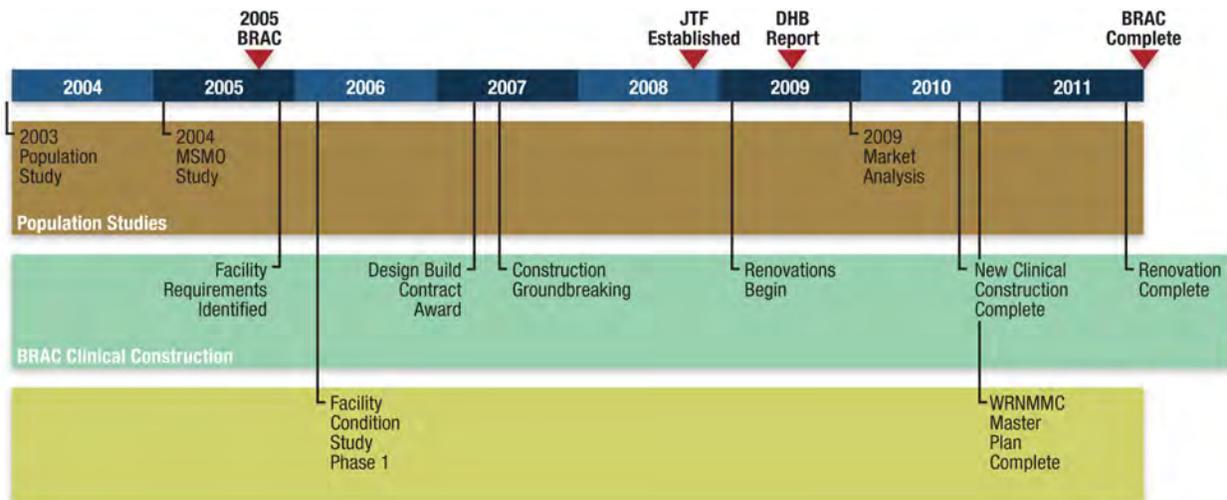
Phase 2

Phase 2 will integrate the WRNMMC, Bethesda Master Facility Plan with the installation and other tenant functions, way-finding and access study, recommended facility improvements and vehicular transit, lodging requirements and capacity study, design charrette and review sessions, cost estimates for all potential projects, funding opportunity analysis, funding strategy with sources, and detailed timelines.

F.2.4 Background

The current capacity and capabilities of the NCR health system and the existing infrastructure of the NNMC and the Base have been exhaustively examined over the past decade. Much of this work informed the development of the BRAC projects currently under construction. Planning and analysis continued past the point in the spring of 2008 when the plans for the WRNMMC, Bethesda BRAC project were awarded for design finalization and construction. Parallel and supporting analyses will, however, serve to inform the WRNMMC, Bethesda Master Facility Plan that will define new requirements envisioned after completion of the BRAC projects.

Figure 11: Timeline



National Naval Medical Center Installation Master Plan

The Installation Master Plan is fundamental to all planning and construction on Naval Support Activity (NSA Bethesda). NNMC completed an Installation Master Plan in 1990 and subsequently updated the plan in 2008 to address the changes required to accommodate the BRAC plan to relocate tertiary care from WRAMC to NNMC. The goals of the 1990 Master Plan—stabilizing patient care and increasing access to patient services—did not substantially change. The BRAC requirements include substantial growth and expansion of services at NNMC, and the Installation Master Plan was updated to address these changes. While the newly established WRNMMC, Bethesda will be the military’s tertiary referral center worldwide, no future growth of the clinical facilities beyond BRAC was projected in this Installation Plan.

Improving primary and secondary care, including healthcare delivery and GME, is a secondary supporting mission NNMC addressed. The Installation Master Plan update effectively used the available infrastructure and land to meet all identified requirements. Subsequent changes to policy, funding streams, political environment, or other factors would impact growth projections used in this plan.

BRAC requirements formed the basis of program requirements for this Installation Master Plan update. Facility users identified additional support functions that would be impacted by the BRAC that were not included in the BRAC planning or funding but were necessary to

support the plan. The requirements outside of BRAC were prioritized and included in the Master Plan for subsequent implementation. Requirements due to growth not directly resulting from the BRAC planning were also captured, including expansion of the medical center, expansion of enlisted housing, and increased parking.

BRAC-related personnel are projected to increase by 2,200, and non-BRAC-related personnel are expected to increase by 300. Patient visits are expected to increase by 484,000 per year, leveling off by 2011. Space and flow proposed in the Master Plan accommodate these increases.

The Master Plan provides direction for long-term growth consistent with the overall mission and allows phased development through individual projects, resulting in a cohesive academic medical campus. The planning objectives used in the development of the Master Plan include:

- Support the medical mission
- Remain flexible to meet future change
- Provide security
- Maintain and enhance the built and natural environment
- Preserve historic and natural resources
- Develop a walkable campus
- Provide development that is compatible with surrounding neighbors

Land use does not change patient care medical functions provided in the center of the campus and support, community, housing, education, and research functions provided around the center core. Permanent housing is provided in the north, with dormitories to the northwest and some family housing further east. Retail and community services remain at the south end of the campus. The University remains in the southeast quadrant. Enhanced open areas emphasizing green spaces will continue to be a priority, with enhanced pedestrian pathways linking green spaces to the buildings.

Development and Planning of the Facilities

The history of the present location for NNMC began in 1938 when Congress appropriated funds for the purchase of land for a new Naval Medical Center. The site was selected by President Franklin D. Roosevelt in July 1938. He selected the site, a 250-acre farm on one of the older land-grant parcels in Maryland, because of the spring-fed pond that reminded him of the Biblical reference to the Pool of Bethesda, a place of healing. He not only selected the site, but he also initiated the idea for the building design. He had been impressed with the design of the Lincoln Nebraska state capitol building and sketched an elevation and ground plan of what he envisioned for the Naval Medical Command in 1937. From these sketches, and under the close supervision of the noted architect Paul Philippe Crept, evolved the 20-story high rise tower symbolic of NNMC, with dramatic vertical lines in art deco style.

Ground was broken for the tower on 29 June 1939. President Roosevelt laid the cornerstone for the new structure on 11 November 1940. On 5 February 1942, the Naval Medical Command, National Capital Region (NMCNCR) was commissioned. It was dedicated by

President Roosevelt on 31 August 1942, the 100th anniversary of the Bureau of Medicine and Surgery.

The original Center included a Naval Hospital with 1,200 beds, the Naval Medical School, the Naval Dental School, and the Naval Medical Research Institute. During World War II, numerous temporary facilities were constructed to meet the immediate healthcare needs of up to 2,500 Sailors and Marines. Since that time, there have been significant changes, as the mission of the medical center has expanded.

The campus continued to grow with the establishment of the Naval School of Hospital Administration in 1945, the Navy Toxicology Unit of the Armed Forces Radiobiology Research Institute in 1961, the Naval Medical Data Services Center in 1965, and the Naval Medical Research and Development Command in 1974. In August 1960, Buildings 7 and 8 were added to the east side of the original tower, replacing the temporary wards, to provide 258 beds. In 1973, the mission grew to provide coordinated dispensary healthcare services as an integral element of the Naval Regional Healthcare System, bringing all the health facilities within the Naval District of Washington under the Medical Center Commander. To meet this mission growth, in the mid-1970s, an extensive construction program began. Building 9—a large, 4-story outpatient facility—and Building 10—a 7-story, 500-bed inpatient tower—were constructed to the south of the original facilities, adding more than 880,000 square feet to the Medical Center. In the late 1970s, two multi-level parking garages were constructed east of the medical buildings for staff and visitors.

Infrastructure Condition Assessments

NNMC embarked on a comprehensive assessment of the medical and non-medical buildings and structures to aid in the BRAC planning process and to inform the planning and prioritization of future infrastructure improvement projects. Non-medical building assessments were completed in 2006, and medical and medical support building assessments were completed in 2009. Structures were evaluated on site conditions; paving and parking; general building conditions; architectural, mechanical, electrical, and plumbing systems; and sub-systems. A Facility Condition Index (FCI) was calculated for all numbered structures, and a campus-wide list of prioritized projects was created. Where deficiencies impacted or overlapped BRAC planned construction or renovation, every effort was made to include identified deficiencies in the project if permitted by BRAC law and funding. The projects generated from this study not addressed by BRAC or funded by current Navy Special Projects were subsequently placed on a NNMC project list and submitted to Bureau of Medicine and Surgery (BUMED) for future funding.

Of the 12 medical and medical support buildings included in the study, 10 are considered in poor condition (over .10)—73 percent of the 2,279,436 square feet surveyed, based on industry standards of FCI ratings. The BRAC and funded Navy Special Projects will impact approximately 30 percent of the total building area, improving the FCI for those structures to be world-class. Inpatient and clinical buildings 9 and 10 will be improved by the BRAC construction, but significant areas of both buildings are not included in the BRAC scope and will be in need of repair at the end of the BRAC project. The detailed FCI of the medical campus buildings, as identified in the report, are displayed in Table 6. It must be noted that FCI ratings, as they only address the condition of the facility systems and infrastructure, are intended to be utilized in the development of a program to maintain and repair building systems. They do not

assess the adequacy, condition, sufficiency, organization, interrelationship or configuration of the buildings to perform their mission.

Figure 12: Current Use and Condition of Clinical Space at NNMCM

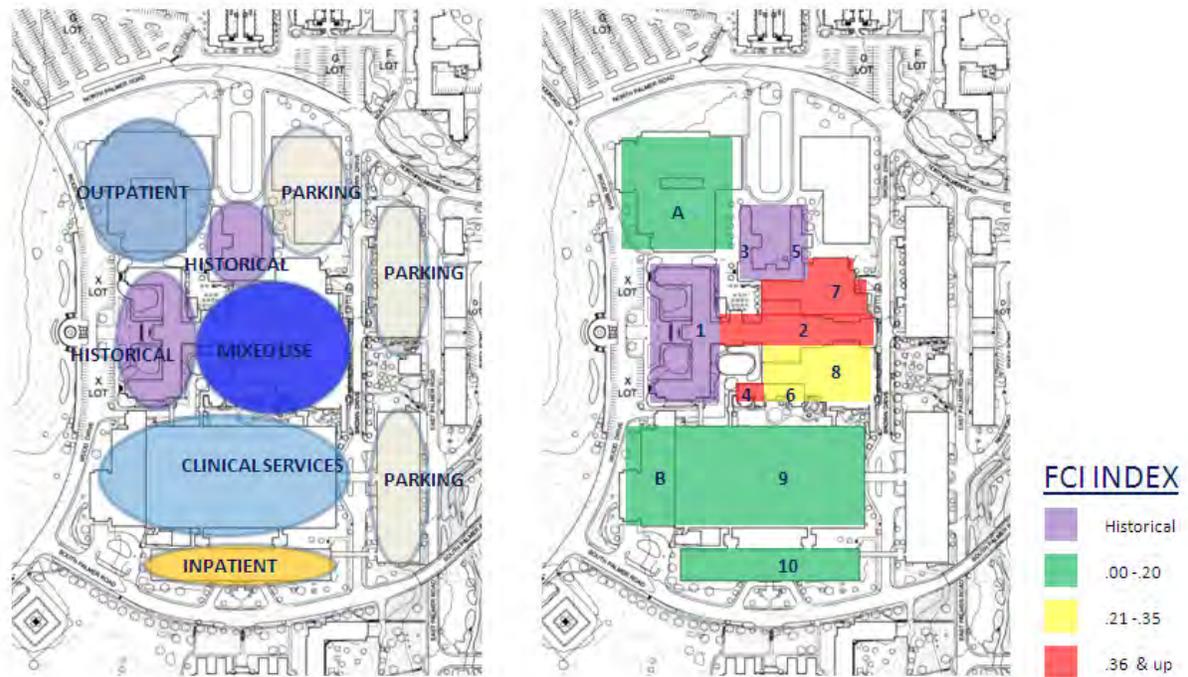


Table 6: Medical Facilities Condition Summary

BLDG	Area (SQ FT)	Year of Initial Construction	Year of Last Significant Renovation	FCI	Facility Deficiency Funding Required (\$)	Primary Issues
1	244,846	1941	1988	0.26	26,547,650	Controls and instrumentation, mechanical, electrical and plumbing systems and distribution, fire alarm, Medical Executive Treatment Unit Suite upgrades
2	105,104	1941	1987	0.36	7,734,203	Controls and instrumentation, fire alarm system, cooling and electrical services to support IT services
3	37,151	1943		0.08	12,062,976	Architectural, heating, ventilation and air conditioning systems, fire protection systems, plumbing systems
4	16,534	1941	1987	0.41	1,793,401	Controls and instrumentation, fire alarm systems, domestic water system, air distribution system
5	42,463	1943		1.75	15,268,598	Architectural, heating, ventilation and air conditioning systems, fire protection systems, plumbing systems
6	19,908	1942	1987	0.26	1,386,080	Controls and instrumentation, air distribution systems, electrical systems, elevators, sanitary piping

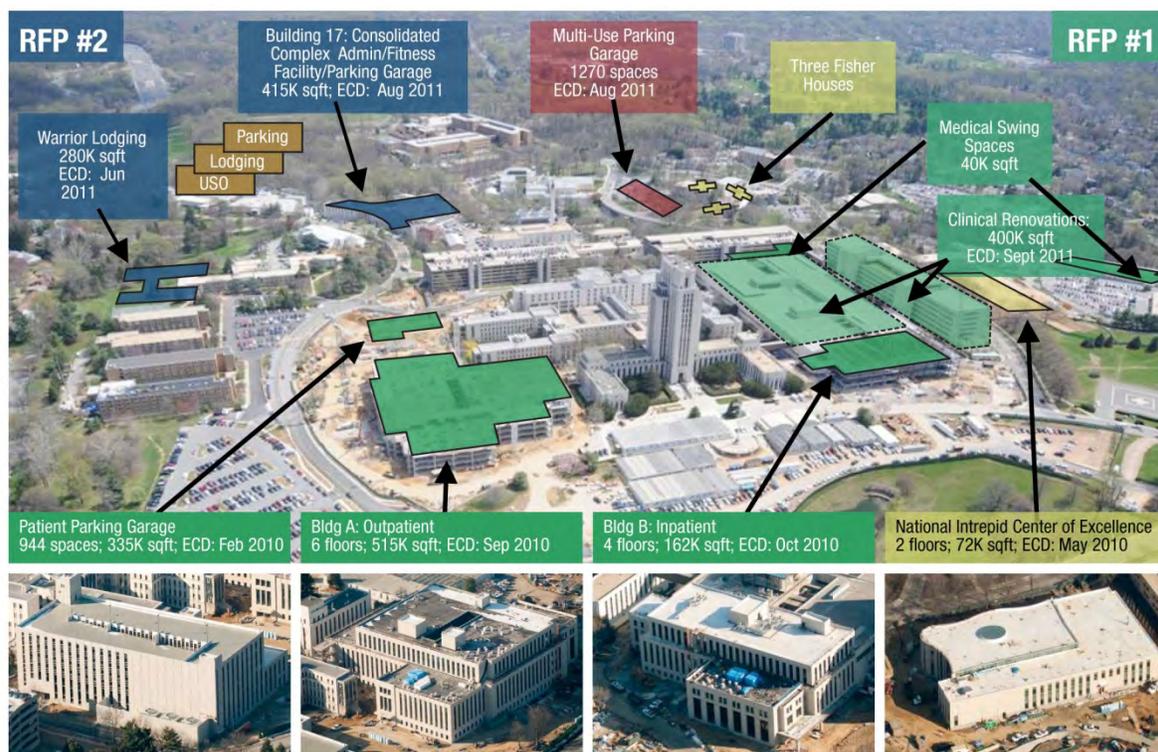
BLDG	Area (SQ FT)	Year of Initial Construction	Year of Last Significant Renovation	FCI	Facility Deficiency Funding Required (\$)	Primary Issues
7	83,575	1963	1987	0.36	10,786,962	Controls and instrumentation, heating, ventilation and air conditioning systems, fire alarm system, hazardous materials
8	100,235	1963	1987	0.23	16,665,578	Controls and instrumentation, heating, ventilation and air conditioning systems, fire alarm system, electrical distribution, lighting and wiring, roofing, hazardous materials
9	585,473	1980	1987	0.11	63,791,838	Cartsystem, central processing, controls and instrumentation, electrical distribution system, code compliance, fire alarm system, fire protection system, heating hot water system, humidification system, mechanical distribution, exterior windows, domestic water distribution, heat generating system, foundations, switchgear
10	328,000	1980	2000	0.15	49,730,030	Cable television, fire alarm systems, public address systems, controls & instrumentation, electrical service distribution, elevators, heating hot water lines, sanitary sewer lines
54	330,040	1977	N/A	0.17	3,396,621	Elevators, emergency light and power systems, superstructure
55	386,107	1980	N/A	0.23	4,533,576	Air distribution system, emergency light and power, superstructure

F.3 Base Realignment and Closure Impact

BRAC improvements at WRNMMC, Bethesda will affect the physical infrastructure of the Bethesda installation dramatically, as public and private funding are coming together for new design and build projects. There is also significant upgrading of capabilities to be provided to patients in these new facilities.

F.3.1 Walter Reed National Military Medical Center, Bethesda Base Realignment And Closure Physical Improvements

BRAC construction at WRNMMC, Bethesda is well under way and remains on schedule. The first major construction package (Request for Proposal [RFP]#1) was awarded to the joint venture of Clark Balfour Beatty, and ground was broken by President George W. Bush in July 2008. This design/build project will add nearly 682,000 square feet of clinical capability to the existing Medical Center, and these new facilities will achieve the LEED Silver standard. As part of the design/build team, the architecture teams of HKS from Dallas, Texas and Winger and Sharp from Wichita Falls, Texas—both demonstrating years of experience designing DoD medical facilities—completed the basic design developed by HOK Architects, which constituted the baseline planning documents of the RFP.

Figure 13: Walter Reed National Military Medical Center, Bethesda Aerial Photo

As of 15 Jan 10

A freestanding pavilion will be dedicated primarily to outpatient care, including the Cancer Centers of Excellence, the capabilities of the WRAMC Military Advance Training Center, Physical Medicine, and services such as outpatient pharmacy and a satellite laboratory. A major addition to the existing diagnostic building (Building 9) will include an entirely new Emergency Department, 50 new intensive care beds, and dramatically increased imaging and pathology capabilities. Both of these additions are on schedule to be delivered in September and October 2010, respectively. Concurrent with this construction, almost 400,000 square feet of renovation will expand and enhance capabilities of existing clinical areas to meet the projected BRAC workload, including three additional operating rooms. Due to the need to keep the Medical Center fully operational during construction operations, 40,000 square feet of “swing space” was created. With renovations carried out in a phased manner, working through the scope of the project in a sequence of discrete construction efforts will minimize the impact construction has on the primary medical missions, with projected completion no later than the summer of 2011. This project also delivered a 944-space parking garage in February 2010, almost eight months ahead of schedule.

In September 2009, a second major BRAC-funded construction effort was awarded to Whiting Turner Construction, supported by the architecture firm of Clark-Nixon. This project will establish the core facilities of the future Warrior Complex on NSA Bethesda and is also being designed to meet LEED Silver standards. This project will renovate and add to the historically significant Building 17, to a total of 415,000 gross square feet, and is on schedule to be completed in August 2011.

Figure 14: Building 17 Rendering

Source: NAVFAC, 2010

This complex will provide space for administrative and clinical support activities that support both the WRNMMC, Bethesda and NSA Bethesda, and are being dislocated from the existing medical center to allow clinical activities to expand to provide appropriate services to the increased base population. In addition to administrative functions, this portion of the project includes training and classroom facilities, the Integrative Cardiac Health Project (ICHP), and laboratories for Clinical Investigation and Navy malaria research. Another major component of this project is a fully accessible physical fitness center, including a 50-meter pool, basketball and racquetball courts, weights, and cardio rooms. This facility replaces the deteriorated “Comfort Zone” complex and, although it is open to authorized base personnel, it is located immediately adjacent to lodging established for wounded warriors, allowing them to continue their treatment and rehabilitation as part of their daily routine. Structured parking for over 550 vehicles is included in this project as well, to support tenants and visitors of this building and the warrior lodging.

Figure 15: Building 62 Rendering

Source: NAVFAC, 2010

The hallmark of this design/build project is the 280,000 square foot warrior billeting complex located adjacent to existing billeting, (Figure 15), scheduled to be completed June 2011. When completed, Building 62 will accommodate up to 306 warriors and NMAs in 153 two-person suites designed to comply with the Americans with Disabilities Act (ADA). Each suite will feature dedicated living areas, kitchenettes, and laundry facilities as well as two bedrooms with private baths and closets. Each Service will have space set aside to provide service to their specific population, tailored to meet their mission requirements. Space is also provided for services commonly accessed by all Services, such as financial, legal, and travel support, in the Warrior Family Administrative Facility. An hourly day care service will also be provided for children of residents with appointments in the Medical Center.

Other BRAC-funded projects expected to commence in the coming months are improvements to all of the gates onto NSA Bethesda, including a visitor center; improvements to the “perimeter road;” and an additional 1200-space parking structure. The gate improvements support security requirements, will improve access to the base, and reduce congestion on the community’s roads.

F.3.2 Privately Funded Construction

Not all construction improvements ongoing on NSA Bethesda are resourced with public funding. Notably, the Fallen Heroes Foundation is funding the NICoE, a 72,000 square foot facility entirely dedicated to the advanced research and study of brain injury, rehabilitation, and post-traumatic stress.

Figure 16: National Intrepid Center of Excellence Rendering

Construction on this cutting-edge facility—patterned after the Intrepid Center for physical rehabilitation in San Antonio, TX—is scheduled to be completed in May 2010. The Fisher Foundation has also proffered the construction of three additional 20-room Fisher Houses on NSA Bethesda on the site previously occupied by the Comfort Zone, immediately adjacent to the two existing Fisher Houses. One of these new houses will be dedicated to the cohort of patients being seen at the NICoE, who will rotate through on a regular basis. Additionally, although still in negotiation, the USO has proffered the construction of a facility to provide support services to the wounded warrior population.

F.3.3 Walter Reed National Military Medical Center Infrastructure

The completion of the BRAC construction at NNMC does not represent the conclusion of required investments in the existing infrastructure. The objective of the BRAC construction effort was to provide additional capacity and capability at NNMC to accept the healthcare mission being realigned from WRAMC. BRAC funding was neither provided to correct existing deficiencies nor to accommodate new, or expanded, missions. At the conclusion of the BRAC investment, although more than 1 million square feet of capability will have been added or improved, a balance of almost 1.3 million square feet of NNMC remains unimproved.

When established in September 2011, the clinical capabilities of the WRNMMC, Bethesda will be contained in Buildings 1-10, plus the new BRAC additions, which will total approximately 2.4 million square feet. Related tenant activities, such as the National Naval Dental College; Navy Medicine Manpower; Personnel, Training, and Education Command; Navy Medicine (NAVMED) NCR; and others are projected to remain in these buildings. WRNMMC, Bethesda will be the major tenant activity on NSA Bethesda, receiving its support from the Base Command and its support structure. The Commander, WRNMMC, Bethesda will also be responsible for maintenance of the Building 17 and Warrior Complexes, two parking structures, and a variety of supporting facilities. To be fully mission-capable, each of these activities, along with WRNMMC, Bethesda, must be carefully analyzed regarding space requirements, location, and alignment. For WRNMMC, Bethesda to be fully mission capable, it must analyze its mission requirements and ensure that NSA Bethesda integrates it fully into its planning and execution.

Buildings in this complex range in age from 30 to nearly 70 years old. The last major Military Construction (MILCON) investment at the NNMC was the addition of the diagnostic building (Building 9) and the bed tower (Building 10). Even these relatively “new” additions were planned and designed based upon standards that are almost 40 years old. Until the establishment of the DHP in the 1980s, each Service funded the maintenance and repair of its medical facilities, competing for resources with all other Service priorities. Additionally, DoD did not adopt deliberate facility sustainment, restoration, and modernization models until the 1990s. However, while NNMC continued to be maintained and operated safely, these two fundamental shifts in infrastructure investment put NNMC on course for correction of maintenance and repair.

Until the WRNMMC, Bethesda is fully established in FY 2012, the planning for future infrastructure investments remains with Navy Medicine. In 2008, a full assessment of the condition of all infrastructures at Bethesda was directed by the Commander, NNMC. Vanderweil Facility Advisors (VFA) examined each building, determining the condition of all building systems and the cost associated with bringing them to current standards. As a result of this analysis, NNMC developed a comprehensive future requirements list of Operations and Maintenance (O&M)-funded projects for FYs 2011–2015. The list of identified requirements totals more than \$380 million and is comprised of more than 140 discrete projects. Of this total, approximately \$270 million is dedicated to the Medical Center infrastructure (Buildings 1–10). Two thirds of this figure is dedicated to bringing building systems to current code requirements, while the remaining third is proposed to improve space configuration and operation.

The current annual programmed investment at NNMC through FY 2013 averages \$29 million, increasing to \$53 million in FY 2014. Although year-end funding can accelerate the execution of these identified project requirements, fully upgrading WRNMMC, Bethesda is not achievable at the current program levels. Additionally, executing these projects in a methodical fashion (some even while BRAC construction is ongoing), while continuing the delivery of healthcare, is a significant challenge. With the Navy receiving additional support from DoD, a total of \$65 million in O&M funding will be dedicated this year to the total upgrade of the surgical suites, not only for inserting technology and upgrading building systems, but also for significantly increasing the sizing of the 17 existing operating rooms and the associated support space within the existing floor plate. Additionally, design is underway by Navy Medicine for the O&M renovation of Buildings 3, 5, and 7 to provide upgraded space for support activities. Unfortunately, the structural limitations and linear configurations of the older structures do not lend themselves to very efficient utilization. Typically, the limitations on “new work” within the O&M program will not allow additional construction or the proper alignment of departmental relationships without MILCON investment at WRNMMC, Bethesda. Without additional, dedicated investments, achieving world-class infrastructure for the entirety of the WRNMMC, Bethesda complex would be problematic.

Adding further complexity to the planning process, DoD medicine, especially in the NCR, continues to evolve and grow. Just as Warrior Care and support to the ongoing conflicts in Afghanistan and around the globe makes breakthroughs on a continuing basis, new expectations and mission requirements are identified. The future WRNMMC, Bethesda must be sized and designed to seamlessly accommodate these missions without impact to ongoing care. As an example, in FY 2009, DoD received additional funding to establish the Vision Center of

Excellence, required by Congress, and design is underway to colocate this activity adjacent to the future optometry and ophthalmology clinics.

Navy Medicine has identified 15 MILCON projects on NSA Bethesda, totaling almost \$300 million, to address base support requirements such as parking, child care, utility and road infrastructure, and additional traffic mitigation. As control of the base transitions from BUMED to CNIC, the prioritization of all of these projects into the Future Year Defense Plan (FYDP) has not been completed. The FY 2011 budget includes requests for additional Warrior Transient Lodging for 200 residents (similar to that described above) and over 450 spaces of additional supporting structured parking. These facilities will further enhance the Warrior Community, providing additional capacity to accommodate warriors, family members, and NMAs envisioned to come to the campus as part of BRAC.

F.3.4 Fort Belvoir Community Hospital

While the design and build work at the NNMC consists both of renovation of existing facilities and new construction, the work at FBCH consists of only new construction.

Site and Building Development

The FBCH project is the result of thoughtful integration of the building with a naturalized outdoor setting and an abundant exposure to natural light throughout the facility. Due to building height restrictions and the desirability of large floor plates to optimize adjacencies between functions, the building adopts a broad, low profile along the length of the site, locating most areas close to the surrounding landscape. The perimeter of the building retreats and advances, creating exterior courtyards and opportunities for exposure to natural light. Each of six outdoor spaces is designed with unique features so that the visual character of the viewed landscape is constantly changing as one circulates through the public areas of the building. The design creates a compelling dialog between interior and exterior space, and, by virtue of the different views, provides intuitive assistance with wayfinding.

In addition to offering abundant natural light and views to the outside, all outdoor areas have direct access from indoors and are carefully designed to accommodate walking, sitting, and conversation as well as simple respite or quiet contemplation. Within this context, the use of healing gardens within and around the building provides an uplifting, restful, and restorative environment for patients, families, and staff.

The building is organized in three parts: a northern outpatient center with family care focus, a southern outpatient center with specialty focus, and a central inpatient and ancillary base. The three centers of care are joined by a generous public concourse circulation system, which will also house extensive displays of artifacts highlighting the history and culture of

Figure 17: FBCH Site Plan



American military medicine. Each of the three centers is also provided with dedicated entrances, vehicular drop-offs, and public lobbies as well as vertical circulation. Structured parking is located adjacent to each of the northern and southern ends of the main public concourse and in lower terraces along the entrance boulevard where public and staff traffic can readily connect to the major entrances to the building. The boulevard is shaped around an existing wooded area with vehicular access from entrances that flank the complex—a planning concept shared by several neighboring historic properties, including Mount Vernon and Woodlawn Plantation.

Other features of the building design include an elevated dining facility with extensive views to naturalized areas and an outdoor dining terrace; a large vegetated roof area surrounding the patient tower; freestanding central utility plant; and state-of-the-art patient information systems.

Future expansion can be accommodated in a westward expansion of the clinical blocks; these are arranged as linear forms, so the expansion would simply extend the existing organization of each block. Additional inpatient nursing areas may be constructed off the western face of the existing nursing floors, creating a t-shaped configuration. Functions located in the first and second floors (primarily ancillary functions) to the west of the spine are also designed to expand in a westward direction.

Figure 18: Artist's Conception of New Fort Belvoir Community Hospital



Patient Care

Outpatient care will be delivered in highly efficient clinics that utilize a modular planning concept. The modules are arranged with clear zones for public/waiting areas, clinical interaction (patient care) areas, and staff support areas. Modular planning provides the maximum flexibility in outpatient areas, both in adaptability and in operating modalities. The modules are also highly efficient for staff circulation, and they are comfortable, easily navigated, and logically organized for patients. The public areas are generously sized and are oriented around accessible landscaped outdoor courtyards.

Figure 19: Outpatient Clinic Module



Figure 20: Sample Inpatient Room



Inpatient nursing units are composed of groupings of single patient rooms that are organized for safety, efficient care, and family support. Nursing stations are decentralized, helping to enable the staff to be closer to patients throughout the day. Support functions such as linen service and medication storage are also decentralized and located very close to individual patients. Patient bed rooms will have distinct zones for staff support, direct patient care, and family support areas and will be equipped with individual ceiling-mounted patient lifts so that the

staff may safely move patients within their room and private bathroom. Each room will have access to natural light and outdoor views through very large windows. Family lounges will also have access to the outdoors.

Integration of Evidenced-Based Design

To integrate EBD principles into FBCH design, the building will embody such features as healing gardens, resilient rubber flooring, shortened walking distances for staff, color-coded and branded buildings for enhanced navigation, acoustically absorbent finish materials, individual patient light and thermal controls, and carbon dioxide (CO₂) monitoring.

These features and others are supported by existing EBD research, and many will be tested as part of the full EBD cycle. The features may be tracked for performance and effect upon outcomes, and most will fall under the four major goals developed by the military health system. In addition, by integrating the EBD features with enhancements in clinical processes, improved outcomes are expected throughout the hospital. These include:

- Reduced rate of airborne infections and contact-spread infections (through the use of single-patient rooms, HEPA filtration and ultraviolet (UV) lights, careful placement of hand washing sinks, and cubicle curtains)
- Reduced rate of patient falls and staff injuries (through the use of ceiling mounted lifts, slip-resistant flooring, grab rails, and acuity-adaptable rooms)
- Reduced medication errors (through the use of dedicated work areas with appropriate lighting, and sound-reducing finish materials)
- Increased patient and staff satisfaction (through the use of quieter patient rooms and corridors; patient, staff, and family zones in patient rooms; emphasis on ergonomics; healthy food choices; color-coded and branded buildings; and a coordinated wayfinding and signage system)

Design features incorporated into the building were based upon proven research. Data will be collected and analyzed for use in future projects.

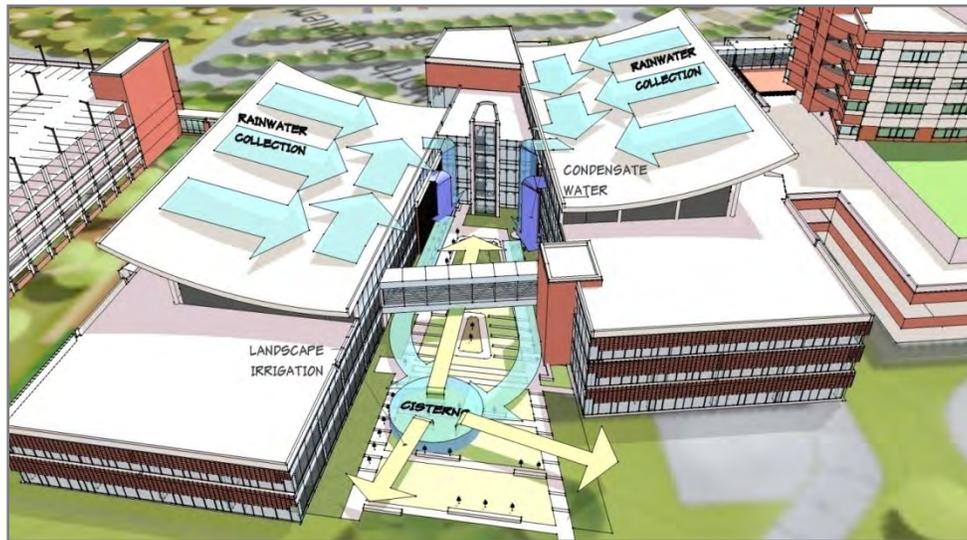
Sustainable Design

The FBCH project has taken a sustainable design approach in order to address impacts on the natural environment and to promote a healthy community. Three objectives of the project were defined: incorporate EBD principles of the MHS, utilize the U.S. Green Building Council's LEED measurement tool, and meet the requirements of the Energy Policy Act of 2005 (EPAct 2005) regulations. The sustainable design approach includes the following concerns:

- **Site** – The hospital is located in an easily accessible area, within walking distance to many services. Bus lines will have stops near the hospital, provision will be made for prime parking for carpool and low-emitting vehicles, and a pedestrian trail and bicycle storage will be developed and enhanced. The site design will ensure that the quality, quantity, and rate of stormwater run-off will not exceed the amounts prior to construction. This design is being achieved by the use of conservation features such as the restoration of 60 percent of the site with native and adaptive plantings; a vegetated roof system on portions of the hospital; the use of pervious pavement, curbless parking spaces, rain gardens, and river rock beds; and stream restoration projects in the surrounding areas.
- **Energy** – The building will consume 27.6 percent less energy (based on regulated energy savings) than a typical hospital of this scale, which equates to \$449,299 saved per year. It also reduces CO₂ emissions by more than 4,000 tons per year. Much of the energy savings is being achieved by a multi-stack heat recovery chiller system for reheating, high-efficiency variable speed drive chillers, variable air volume devices, an energy-efficient lighting design (including daylight harvesting), and a rain screen system as the primary exterior closure.
- **Water** – The project will save 1.6 million gallons of potable water per year by utilizing a rainwater and condensate collection system. Water will be directed from the clinic wing rooftops to two underground cisterns that hold a combined total volume of 160,000 gallons. This water will be reused to irrigate the landscaping on site. Native and adaptive plantings will be utilized for landscaping, contributing to the

water savings and helping restore portions of the site to its natural conditions. Inside the hospital, dual-flush water closets and sensor-activated sink faucets will be used at appropriate locations in the hospital to reduce the burden on water supply and wastewater systems.

Figure 21: Fort Belvoir Community Hospital Innovative Water Management System



- **Indoor Environmental Quality** – UV technology, CO₂ monitoring, HEPA filtration, individualized lighting and thermal controls, low-emitting materials and furniture, green cleaning, and views to the outdoors will be incorporated into the design, and these features will have a positive impact on patient, family, and staff health and comfort.

Figure 22: FBCH Campus



F.4 Patient-Centric Facility Planning

The facilities development under way in the NCR is essential to the completion of the JTF CAPMED mission, which is the consolidation of four inpatient MTFs into two as part of BRAC and the formation of an integrated regional delivery system. The delivery of focused, compassionate, and world-class care to its patients is a fundamental requirement. The needs of this specific population—Active Duty, their families, and retirees—drive the overall infrastructure planning and future evolution. It is important to recognize and describe this patient population in order to set the context of facilities planning.

JTF CAPMED's NCR JOA stretches as far north as New Jersey, stretches as far as West Virginia, and extends south to Bowling Green, VA. It has 12,000 military and civilian employees, over 545,000 eligible beneficiaries, and 282,000 MTF enrollees. In addition to direct care provided specifically for these populations, a substantial proportion of care delivered will be private sector care to retired and other non-Active Duty populations. The NCR medical facilities service a very specific patient population with unique needs and characteristics. This population includes:

- Active Duty, WII service members
- Eligible retirees
- Eligible family members of service members

F.4.1 Department of Defense Service Members

Active Duty service members receive and post-deployment healthcare. The new WRNMMC, Bethesda will serve as the tertiary care hub of the NCR, offering a complete range of services and regional positioning close to several DoD-associated bases.

F.4.2 Wounded, Ill, and Injured Warriors

Since 2001, more than 15,000 WII warriors from Operation ENDURING FREEDOM (OEF) in Afghanistan and Operation IRAQI FREEDOM (OIF) in Iraq have passed through the Nation's primary casualty reception site—the NCR. Once stateside, these WII warriors are transported to either WRAMC or NNMC to receive surgical, tertiary, and appropriate rehabilitation care. This process is expected to remain the same as the WRNMMC, Bethesda begins operations. When possible, WII warriors are transferred to military MTFs closer to their homes; however, many stay within the NCR for a year or longer. Still, WRNMMC, Bethesda will remain the primary receiving point for the vast majority of returning WII warriors for the foreseeable future. The goal is to provide comprehensive care for the seriously wounded and ill warriors in condition-appropriate settings. Warriors have unique needs and conditions that have shaped the medical facilities plan. Many of these war-time specific needs and conditions include, but are not limited to, the following:

- Trauma-focused injury
- and post-traumatic stress
- Physical and mental rehabilitation
- Brain injury
- Spinal injury

- Amputations

To address these unique needs and conditions of WII warrior care, the MHS has developed several specialty centers of excellence in the NCR, including:

- Walter Reed Army Medical Center Amputee Care Center
- National Naval Medical Center's Traumatic Stress and Brain Injury Program Center
- The NICoE for Psychological Health and Traumatic Brain Injury (TBI), as well as several simulation centers

Severely injured service members are unique in that they often require extensive rehabilitative care before a decision can be made on whether they are medically able to return to Active Duty. The development of these Centers of Excellence is a direct response to this long-term rehabilitative reality of many patients in the NCR. The Military Health System is dedicated to ensuring that service members are provided with the best clinical care and streamlined administrative processes to return them to Active Duty status or to transition them from MHS care to the Department of Veterans Affairs (VA) healthcare system in a timely manner.

DoD service members also go through extensive post-deployment health screenings in this medical system. With the advent of advanced imaging and biomarker technology, it is important to ensure that proper preventive measures are taken in order to reduce the potential costs of treating medical-related illnesses later during a service member's career. In addition, retired service members are eligible to receive military health treatment for life, even after retirement. This characteristic of military health requires a unique approach to medical care and treatment.

F.4.3 Military Families

Like Active Duty service members, authorized military family members are eligible for care in the MHS. Current Active Duty Family Members (ADFM) in the NCR exceed 100,000. Family members require a broader spectrum of medical care closer to the needs of the general population and are entitled to many of the same benefits as the Active Duty members themselves. WRNMMC, Bethesda seeks to position itself as a world-class provider of both the general and specialized care services they need in order to fulfill its obligation of care to Active Duty family members in the NCR.

F.5 Initial Outfitting and Transition of Walter Reed National Military Medical Center and Fort Belvoir Community Hospital

WRNMMC, Bethesda and FBCH present unique but intersecting Initial Outfitting and Transition (IO&T) efforts. FBCH is coming online in phases, with the inpatient tower coming online last, but still well in advance of the BRAC deadline. While the final cost and schedule for FBCH have yet to be defined, beneficial occupancy date (BOD) on the lower floors of the inpatient tower—mostly ancillary services and surgery—is expected by April 2011, with the inpatient areas by July 2011. Thus, IO&T of critical areas like ancillaries and surgery can commence well before final BOD of the building in July 2011. Of the four clinic buildings, two are expected to reach BOD by September 2010, one by November 2010, and the fourth by March 2011. In all buildings at Fort Belvoir and Bethesda, coordination with the building contractors is

underway to begin Initial Outfitting (IO) activities prior to BOD. During the timeframe when the building contractor is executing final punch-list items, the buildings are substantially complete. Thus, IO&T activities in the FBCH clinic buildings can begin a full year prior to the BRAC deadline.

WRNMMC, Bethesda presents a different kind of challenge. This project is complex because it includes alteration efforts that run concurrent with and beyond the delivery of the two major additions. The additions effectively provide the swing space to move functions out of the way for backfill renovations to occur. The overall project sequencing has been designed so that very few NNMC functions move more than once, with activities moving into the additions moving into their end-state locations. In addition to the logical sequencing of additions proceeding renovations, many renovations themselves serve to move functions out of the way for sequential renovations. There are numerous instances where three or four renovations are sequentially interconnected with IO&T performance windows spaced in-between the preceding and subsequent renovation.

Completing the entire project with sufficient time for final IO&T activities to meet the BRAC deadline, while minimizing functional moves, requires a complex construction schedule. To achieve the BRAC timeline goal, IO&T windows were established at approximately one month each for interim IO&T actions and approximately 45 days for tail-end IO&T deliverables. (This is the duration of the unfettered time that DoD has between BOD of one construction element and the move-in date required to allow a subsequent construction and service commencement to occur.) In November 2009, the Department awarded a \$322 million wrap-around contract to General Dynamics Information Technology (GDIT), Inc. to manage the outfitting of equipment at the new hospitals and transition of WRAMC operations. GDIT has partnered with several leaders in the hospital transition industry to perform specialized hospital transition and activation services appropriate to this effort.

Another challenging feature of the WRNMMC, Bethesda projects is that several of the renovations and other independent new construction efforts, including garages, entry gate improvements, administrative facilities, and WII warrior resources, are scheduled to reach completion at approximately the same time. There will be numerous construction efforts on parallel critical paths, including the Army's independent FBCH Wounded Warrior Complex. The mitigation strategy is multifaceted. DoD—including U.S. Army Corps of Engineers (USACE), Naval Facilities Engineering Command (NAVFAC), JTF CAPMED, and DoD Health Affairs/TRICARE Management Activity (HA/TMA)—is closely monitoring construction activity at both locations to ensure favorable conditions. Incentives are built into most of the builder's contracts and the IO&T contract to encourage on-time delivery. The IO&T contract was broadly solicited to industry in an effort to obtain the best team and strategy industry has to offer.

The successful completion of BRAC is dependent upon timely, careful synchronization of the construction effort and management of acquisition, provisioning, and transition. There are critical milestones that, if not achieved on schedule, will significantly increase the risk associated with the transition. The Department will keep Congress and beneficiaries apprised of any changes in these areas. See Attachment 8 for the full Project Management Plan for the IO&T Services for the JTF CAPMED North and South Projects.

F.6 Evidenced-Based Design

Evidence-Based Design (EBD) is a key component of world-class medical facility design and is prominently featured in the plans for both WRNMMC, Bethesda and FBCH.

F.6.1 Key Evidence-Based Design Principles

In planning for facilities throughout the JOA, the MHS embraced five key EBD principles that have been demonstrated to improve patient, staff, and resource outcomes. These findings, as well as the other information surrounding the JOA's application of EBD principles, are codified in the *Evidenced-Based Design: Application in the MHS* Report funded by TMA (Noblis, 2007). The five key EBD principles are as follows.

- Create a Patient/Family-Centered Environment Reflecting the MHS Culture of Caring:
 - *Increase social support*
 - *Reduce spatial disorientation*
 - *Improve patient privacy and confidentiality*
 - *Provide adequate and appropriate light exposure*
 - *Support optimal patient nutrition*
 - *Improve patient sleep and rest*
 - *Decrease exposure to harmful chemicals*
- Improve the Quality and Safety of Healthcare:
 - *Reduce hospital-acquired infections via air, physical contact, and water transmissions*
 - *Reduce medication errors*
 - *Prevent patient falls*
 - *Reduce noise stress and improve speech intelligibility*
- Enhance the Care of the Whole Person by Providing Contact with Nature and Positive Distractions:
 - *Decrease patient and family stress*
- Create a Positive Work Environment:
 - *Decrease back pain and work-related injuries*
 - *Reduce staff fatigue*
 - *Increase team effectiveness*
 - *Eliminate noisy and chaotic environments*
- Design for Maximum Standardization, Future Flexibility, and Growth:
 - *Reduce room transfers*
 - *Facilitate care coordination and patient service*

EBD features and responses as well as future study opportunities were recommended. These findings were then translated into EBD activities across the facility life cycle.

F.6.2 Evidence-Based Design: Capturing the Impact to Healthcare Outcomes

The growing science of health and healthcare delivery, and specifically EBD, is showing that improved physical design can lead to significant improvement in healthcare quality and safety.⁵ In 2007, the Assistant Secretary of Defense for Health Affairs requested that DoD design teams “apply patient-centered and evidence based design principles across all medical MILCON construction projects.” It is clear from excellent healthcare organizations that targeted investment in improved physical environments and EBD can lead to breakthrough improvements in healthcare quality outcome—if innovations in the built environment are integrated with innovations in healthcare delivery process and technology.⁶ The JTF CAPMED and MHS can deploy innovation and quality activities in the NCR that support world-class care in the NCR, in MHS, and nationally.

Table 7: Innovation and Quality Activities in the NCR

Center for Advanced Research in Healthcare Environment and Delivery (CARHED)	Center of Excellence for Integrated Patient Experience and Care Quality (CEIPECQ; "see-pek")	Center for Advanced Project Support (CAPS)	Institutionalize Innovation Across the Enterprise
<p>Develop Enterprise-Wide Program Management Methodology for Research: Act as federal lead agency in coordinating EBD research and evaluation leading to world-class care</p>	<p>Identify and Create Innovation, and Translate Innovation into Design Criteria and Guideplates: Gather, evaluate, and institutionalize innovation and train key clinical and design staff</p>	<p>Ensure that Capital Projects are World-Class: Provide simulation, mockup design review, and best practice input into capital projects</p>	<p>Establish Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities</p>

F.6.3 Developing Centers of Excellence

The Department is integrating the development of many DoD-level Centers of Excellence (CoEs) with the establishment of the new WRNMMC, Bethesda, and FBCH, specifically where their functions impact the clinical care that will be delivered within the JOA. This integration will allow the new Joint hospitals to achieve capabilities and synergies that do not exist in the region today. Implementation teams for the CoEs, which fall under direct command and control of JTF CAPMED, are underway. The current status of these projects is as follows:

- **Cancer Centers** – Most of one entire floor of the new ambulatory building at WRNMMC, Bethesda, has been redesigned to have a comprehensive cancer center and is currently under construction. Plans are under development and being implemented to optimize the colocation of specialized cancer functions to allow for better cancer care to patients. An implementation team has been chartered with the goal of achieving National Cancer Institute designation as a comprehensive cancer center.
- **NICoE** – A director has been named for the NICoE for Psychological Health and Traumatic Brain Injury, one of the many centers within the Defense Center of Excellence (DCoE). Construction is nearing completion for the NICoE structure

- adjacent to the primary inpatient tower (Building 10) on the Bethesda campus and should be complete by Spring 2010, with an Initial Operational Capability (IOC) of Summer 2010. The Department is working closely with the NICOE implementation team to develop a working relationship and assure that plans for provider privileging, documentation, care delivery, peer review, and other clinically relevant areas are synchronized with the operation of the new WRNMMC, Bethesda.
- **Vision Center** – Section 1623 of the National Defense Authorization Act for FY 2008 directed the Secretary of Defense to establish within the DoD a center of excellence in the prevention, diagnosis, mitigation, treatment, and rehabilitation of military eye injuries. Congress provided \$4.052M for the renovations of spaces at the current NNMC to accommodate the establishment of the Vision Center of Excellence (VCE) as part of the new WRNMMC, Bethesda. In order to properly accommodate the VCE with 3,600 square feet of space, the Department will place it in proximity to the planned Ophthalmology and Optometry Clinics within the Medical Center. This placement will facilitate easy referral and consultation between clinicians and patients. A director has been named for the VCE, and DoD has been coordinating the development of a CONOPS with the VA.
 - **Joint Pathology Center** – As directed under section 722 of the NDAA for FY 2008, the Department will establish a JPC that will contain a consultative service for pathology, including oral pathology and veterinary pathology, education, research and the maintenance and modernization of the Tissue Repository. In some areas, the services will be more robust than those provided by the Armed Forces Institute of Pathology (AFIP). Upon delegation of the JPC mission to JTF CAPMED in December 2009, an interim director of the JPC was appointed. Prior to this, the Department established an inter-organizational Implementation Team consisting of members from the three Services, the VA, USUHS, the AFIP, DoD Health Affairs, and the Office of the Army Surgeon General to carefully review the concept of operations, identify gaps in proposed services, and develop an expanded concept of operations and implementation plan. A detailed CONOPS and implementation that includes these critical services and personnel requirements is being finalized. The DHB, in its advisory role to DoD, reviewed the initial JPC CONOPS, which was not a detailed implementation plan. The implementation plan under development by the JPC Implementation Team addresses the concerns of the DHB and will meet the recommendations of the DHB review, with the exception of JPC oversight being provided by a Board of Governors. Based on the JPC's mission set, DoD will establish a Federal Board of Advisors comprised of primary stakeholders. The JPC will be established within the headquarters of the JTF CAPMED and will be separate from the hospitals and Centers of Excellence.
 - **Integrative Cardiac Health Project (ICHP)** – The ICHP will be colocated with the new fitness center.

Comprehensive Cancer Center

JTF CAPMED and the U.S. Military Cancer Institute (MCI) have worked to create the concept for a regional cancer center that will be the first in the military healthcare system and will emulate features of a world-class private sector medical facility.⁷ The creation of the

Comprehensive Cancer Center will enable the MHS to effectively support a medically ready force, provide world-class cancer services within the military healthcare system, and develop reciprocal partnerships with other health service entities within the federal government, by utilizing existing resources within the NCR.

The Cancer Center implementation team is taking the guiding principles contained under section 2714 of the NDAA for FY 2010 to build an implementation plan based on the current efforts and priorities within the existing cancer centers of the Academic Health Center (Hospital and USUHS). The implementation team is formulating a phased approach for the establishment of the Center. Current projected timelines are to achieve IOC of a comprehensive cancer center at WRNMMC, Bethesda by September 2011 and designation by the National Cancer Institute as soon as practicable thereafter.

- **Phase 1** – The implementation team will complete three documents to identify the desired capabilities and functions of the Comprehensive Cancer Center serving the NCR: CONOPS, an Operations Plan (OPLAN), and a Gap Analysis. The Gap Analysis will compare near-term capabilities and desired long-term end state. The CONOPS and OPLAN will be complete within six months.

Figure 23: Comprehensive Cancer Center Timeline



- **Phase 2** – In Phase 2, the implementation team will develop and establish strategic partnerships and create partnership opportunities in order to ensure the viability and relevance of the WRNMMC, Bethesda Cancer Center both on and beyond the existing campus. During Phase 2, the team will conduct a full and transparent search for strategic partners that will include coordination with NCI, NIH, and JPC, among others. Other partners will be added on an ad hoc basis (e.g., VA). Partnering opportunities will be evaluated in the context of the Gap Analysis employed during Phase 1, where complementary capabilities will be sought. Phase Two will be completed within three months after the publication of the Comprehensive Cancer Center CONOPS and OPLAN.
- **Phase 3** – The implementation team will develop a proof of concept and concept for design of a future Comprehensive Cancer Center consistent with NCI designation. During Phase 3, the implementation team will focus on the enduring cancer care mission and lessons learned from Phases 1 and 2. The implementation team will be guided in its work toward proof of concept by best practices and projected enhancements to the provision of cancer care. This phase includes concurrent work

with earlier phases but is to be complete within 12 months after the publication of the CONOPS and OPLAN. The implementation team will operate for a period not to exceed 18 months, at which time responsibility for execution will transfer to the Comprehensive Cancer Center.

In its deliberations and planning, the implementation team will coordinate with the USUHS, WRAMC, NNMC, JPC, NCI, and NIH when appropriate, to further develop the implementation plan and establish the framework necessary for a Comprehensive Cancer Center in accordance with the National Defense Authorization Act (NDAA) for FY 2010 and applicable NCI and Joint Commission standards.

The establishment of a Comprehensive Cancer Center will improve the coordination of care in the NCR, deliver operational efficiencies, and meet military health and industry standards.

F.7 World-Class Assessment

By the completion of Medical BRAC Construction in the NCR, WRNMMC, Bethesda and FBCH will be fully operational hospitals with many of the attributes necessary to meet the newly defined world-class standard. This includes both the care delivered and the facilitation of that care. Key features at WRNMMC, Bethesda include:

- **Single-Patient Rooms** – Half of the more than 200 required Medical/Surgical beds at WRNMMC, Bethesda will have been placed in reconfigured state-of-the-art canted single-patient rooms. Canted rooms are unique because the walls are angled relative to the exterior of the building to provide improved visibility into the patient rooms, increased patient safety, improved delineation of staff treatment areas, and family zones within the room.
- **ICUs** – All ICU rooms will be state-of-the-art universal rooms, adding tremendous flexibility in usage.
- **ORs** – The Surgical Suite will have been upgraded to world-class standards as defined. While BRAC is adding 3 large 800+ square foot interventional Operating Rooms (ORs), the 17 existing ORs will be transformed into fully capable ORs averaging over 600 square feet. All ORs will employ state-of-the-art equipment and technology.
- **Simulation Center** – Beyond BRAC, a full floor across Buildings 3 and 5 on the Medical Center's central campus will be renovated to support a technologically-advanced simulation center.
- **Amputee and Rehabilitative Care** – The most visible core missions of WRNMMC, Bethesda will continue to be amputee/rehabilitative and TBI care. The new clinic building consolidates all outpatient Physical Medicine and Rehabilitative Services with the Wounded Warrior Medical Home/Family Health Initiative module on its first three Levels. A satellite Laboratory, Radiology, and Pharmacy are also included in

this area. In total, approximately 150,000 square feet of space is dedicated to these services.

- **Inpatient TBI** – A sub-unit on the inpatient Mental Health Unit was recently converted into a dedicated six-bed, state-of-the-art inpatient TBI unit.
- **Outpatient TBI** – Acute Outpatient TBI care is provided through the Wounded Warrior Medical Home/Family Health Initiative on Level 2; Occupational Therapy on Level 1; and Behavioral Health, Neurology, the Defense/Veterans Brain Injury Center (DVBIC), and Partial Hospitalization on Level 6. Again, this is a world-class provision of TBI-related services.
- **Secondary Outpatient TBI** – The privately-funded NICoE for TBI care will be completed by summer 2010. This facility will be the state-of-the-art center for second-stage, “chronic” TBI care. This is follow-on care that is provided to the injured warrior after having been treated for his/her injury and placed back into the work environment. Some such patients may find that they have difficulty with re-assimilation into the workforce. Protocols are being developed to assess the likelihood that any exhibited abnormal behavior might stem from the sustained injury. Where such determination is made, many of these warriors will be brought back to the NICoE for a concentrated program of further evaluation, therapy, and construction of a treatment plan.
- **Comprehensive Cancer Center** – A consolidated cancer center, unique in DoD, is being constructed on the third floor of the outpatient clinic. Services for Breast Cancer, Surgical Oncology, Gynecologic Oncology, Medical Oncology, Prostate Cancer Center, and imaging—dispersed today at WRAMC and NNMC—will be colocated to optimize both patient care and research. The Women’s Domain is separate, and spaces for patient education, research, and even a cosmetic boutique, have been incorporated. While still a small footprint relative to major cancer centers, engagement with the NCI is underway to establish a partnership and eventual designation as a national center.
- **Vision/Eye Center** – The combination of BRAC and O&M construction funding will effect a virtual Vision Center by collocating all vision and eye functions on the same floor. This includes Ophthalmology, Optometry, Laser Surgery, and VCE (regenerative research).
- **Technology Insertion** – The latest state-of-the-art systems, such as OR utility provisions, Intensive Care Unit monitoring, nurse call, simulation, smart rooms, smart beds, RLTS, imaging, diagnostics, and analysis, are being included in new construction and renovations. The future medical information systems, including progress toward records automation, will be at the forefront of industry. Information reliability and responsiveness will be ensured through robust and redundant transmission loops.

- Wounded Warrior Campus** – A Wounded Warrior Campus consisting of the various amenities and services most frequently accessed by the outpatient wounded warrior is being developed. This includes the outpatient clinic, the Wounded Warrior Complex (which includes a broad variety of administrative and social assistance services and dining), Wounded Warrior Lodging, the fitness center (including a gym, pool, and aerobics center custom-appointed for wounded warriors), and other recreational and social activities. A physical environment for the wounded warriors will be defined, which will complete the holistic healing experience. A projected population of approximately 350 outpatient wounded warriors and up to 150 NMAs drives a total requirement of up to 500 rooms. The Wounded Warrior Complex under construction and the lodging expansion proposed in the FY 2011 President’s Budget will meet that need on the north side of the installation. Most of these rooms will be configured in suites such that the wounded warriors can be best supported by NMAs and/or by family members. Each suite has kitchen facilities. These lodging facilities are being sited in close proximity to Wounded Warrior Services—clinical, administrative, social, recreational and spiritual.

An overview of WRNMMC, Bethesda’s performance regarding the issues cited by the DHB is provided in Figure 24.

Figure 24: Overview of Defense Health Board Issues

Status	Issue	Strategy
	Plans meet JCAHO	Designs have been modified and, where required, additional funding has been secured to ensure that construction will conform to Joint Commission Standards.
	Single Bed Rooms	Once the BRAC renovations are completed, roughly half of WRNMMC 200+ Med/Surg beds will be situated in single-patient bedrooms with the other half remaining in double-patient bedrooms. Conversion from double- to single-patient bedrooms requires a significant increase in space that would likely require MILCON, and one of the central goals of the Facility Master Plan is to identify the appropriate solution. Mitigation until MILCON could be completed includes placing single patients in double-patient bedrooms as census allows, and “buddying up” younger warrior patients for social/psychological support.
	Surgical Suite	The O&M funded OR renovation project has been redesigned to expand the 17 existing ORs and support space, and funding has been secured. OR workload and utilization across the NCR is being modeled to optimize the use of all available resources and ensure adequate capacity across the transition period. The Facility Master Plan will evaluate the feasibility of a stand-a-lone Ambulatory Surgery Suite post BRAC. It will also assess optimization of pre-op, post op, APU and on-call rooms.
	Patient Observation	Observation units, as typically found in private sector hospitals, are normally collocated with the Emergency Department (ED) and are dedicated to patients who do not require immediate admission. This type of unit will not be required at WRNMMC, Bethesda. Based on the projected workload, WRNMMC, Bethesda will have capacity to admit patients to general Medical/Surgical Nursing Units without undue compromise of inpatient capability. In the event that the Medical and Surgical Units are full, other areas of the facility may be used for these patients. Current practice at NNM is utilization of the Ambulatory Procedures Unit (APU). With the creation of standard operating procedures this remains a viable contingency. In the event that the APU does not have capacity, the workload evaluations show the ED will have holding capability if necessary and consistent with patient needs, without affecting ED operations.

Status	Issue	Strategy
	On-site Simulation	Reconstructing the simulation center and medical education in an appropriately sized and proportioned area, supporting additional training elements and improved simulation operations, is necessary. The long linear floor plan of these buildings, limited capacity, and multiple public circulation intersections planned for Building 3 constrain the ability to achieve a full developed, world-class simulation center environment. To better optimize simulation training, enhanced capabilities and increased integration with other medical training are being considered as part of the new, post-BRAC construction effort.
	Cultural Integration	Following the completion of the Department’s four-phased approach to cultural integration, the Department sponsored a study on merging the cultures of the Service Medical Components in the NCR. The study was finished in February 2010. Based on the recommendations in the study, DoD is executing this plan achieve a long-term cultural cohesiveness.
	IMIT Infrastructure	The CMP-NCRM identifies \$13M of funding for the latest state-of-the-art systems such as OR utility provisions, ICU monitoring, nurse call, simulation, smart rooms, smart beds, RTLS, imaging, diagnostics, analysis are included in BRAC funded construction and renovation, and will be supported by the WRNMMC, Bethesda and FBCH internal infrastructure. The CMP-NCRM also identifies \$7M for external infrastructure requires \$6.8 million dollars for Synchronous optical networking, top-level architecture equipment, etc. Medical information systems, including progress toward records automation, will be at the forefront of industry. Information reliability and responsiveness will be ensured through robust and redundant transmission loops. The MHS has secured funding over the next 48 months to revamp the EHR to address inter-operability, ease-of-use, open-source applications and portability.
	Support Services	The Facility Master Plan will provide a long-range plan for facility renovations and construction including the sequencing, consistent with anticipated bed needs, clinical program plans, GME programs and capital funding opportunities. Some of the required support space renovations are included in the current Navy Medicine Special Project list, but are presently unfunded. Upon completion of the Master Plan, the appropriate funding source, and timing, will be determined.
	Dialysis Unit	Design precautions have been included in the current plan to provide redundant water barrier infrastructure under the dialysis equipment and utilities. Location of dialysis relative to central services will be investigated as part of the Master Plan.

F.8 Walter Reed National Military Medical Center: World-Class – “Raising the Bar”

An examination of leading health systems in the private sector underscores the importance that progressive institutions place on long-range planning. The innovation infrastructures at Mayo Health System and the Cleveland Clinic reveal that a cadre of planners is continuously engaged in the drafting and updating of plans that extend 15 years in the future.⁸ To maintain a consistent competitive advantage, these health systems have found it advantageous to create an economy of ideas, a pipeline of “visions,” to think beyond the bounds of traditional medical facility planning. To this end, this appendix describes a potential future state for how the WRNMMC, Bethesda campus can embody and maintain world-class design ideals through the year 2020.

Such a futures strategy will guide Master Facility Planning efforts and connect ongoing thinking with external audiences. Although necessarily notional and evolving, it projects a bold vision of the future WRNMMC, Bethesda, a world-class, state-of-the-art, patient-centered, EBD-focused, holistic, academic medical center that is best able to serve the Nation’s wounded, ill and injured and other beneficiaries. Necessarily, this future medical center will meet mission-essential readiness requirements, GME and provider team currency, through appropriate case-mix and case volume.

Pursuit of this strategy in no way diminishes operating world-class facilities or operations through continuous quality improvement, innovation, and breakthroughs.

F.9 Principles of the Vision

Four principles guide and inform this proposed future state:

- **Ensuring WRNMMC, Bethesda’s Complex is Positioned to Sustain the DHB’s Ideal of World-Class Care** – Delivering the best care available to patients is of paramount importance, as is educating and preparing ready medical teams for any contingency deployment. WRNMMC, Bethesda is positioned to become a national Center of Gravity (COG) for longitudinal cancer research, longitudinal wellness research, comprehensive cancer care, regenerative vision research, and research pathology. Several essential core competencies will be developed to the fullest, including amputee care, TBI, wound care, and pain management.
- **Creating a Holistic Wounded Warrior Campus** – An examination of healing environments across the MHS and beyond demonstrates that these settings contribute immensely to the healing process. The Wounded Warrior Campus must be patient-centered, logically organized, and thoroughly engaging. Partners such as the USO and Fisher Foundation will be included, and the best features of the Army’s Resiliency campuses and the USO’s vision of a “celebration space” will be incorporated to address all aspects of body, mind, and spirit. The Wounded Warrior Campus will become home to the Nation’s most seriously WII service members and their family members and other accompanying guests and the launch point for societal reintegration. Wounded warriors will be immersed in the greater Washington D.C. environment, via various outreach programs and sponsorships.
- **Optimizing the Educational and Research Components of the Complex** – USUHS will act as a full partner in this venture, to best ensure the delivery of optimal care, emphasizing medical education, training, and research.
- **Ensuring the Greater Environment** – The installation and the healthcare region is optimally developed to facilitate the proceeding three focuses. This facilitation includes provision of any number of installation services and amenities as well as circulation and traffic mitigation improvements. It also includes the development of a robust integrated delivery system (IDS) to optimize care distribution and referral within and across the NCR.

Three of the enabling activities are complete; the development of the WRAMC migration plan, the development of the DeWitt migration plan, and confirmation of the north as primary data center and confirmation of the south for Continuity of Operations (COOP). The other action areas will be addressed below.

G.1.1 Establish Joint Military Health System Network Infrastructure

The Department is integrating WRNMMC, Bethesda and FBCH into a Joint infrastructure that will support the sharing of pertinent information among MTFs in the JOA as well as with the VA and other external agencies. Specifically:

- The north data center at WRNMMC, Bethesda will be state-of-the-art and flexible, to accommodate future technologies
- The south data center at FBCH will be a state-of-the-art, warm/hot COOP site for critical systems
- South Campus IM/IT spaces will mirror the north's, but on a reduced scale
- JTF CAPMED is partnering with MHS Network Infrastructure Office to develop a new Wide Area Network (WAN) Configuration
- All JTF CAPMED facilities will have the latest information exchange solution used to share information with the VA and external agencies

The achievement of the integrated infrastructure is dependent in part on the Tri-Service Infrastructure Management Program Office (TIMPO). TIMPO delivers and manages the communications and computing infrastructure (C&CI) necessary to support information technology systems deployed throughout MHS. JTF CAPMED and TIMPO are coordinating architectural elements necessary for the build-out of the MHS Network Infrastructure for the north and south commands as well as for their Branch Medical Clinics. To increase coordination and transparency, TIMPO will provide one on-site, full-time staff to facilitate this effort in direct support to JTF CAPMED.

The Department is utilizing a multi-phased approach for transitioning from the “As-Is” to the “To-Be” target architecture. Phase 1 is under way and will be completed by March 2011. As part of this effort, the Bethesda and Fort Belvoir campuses will be converted into a Joint Medical Network (JMED) and operate a single Metro Area/Local Area Network (MAN/LAN) architecture.

DoD has nearly completed the definition of the requirements for communications infrastructure between WRNMMC, Bethesda and FBCH and has approved the establishment of 30,000 MHS DoD Internet Protocol (IP) addresses for the JMED, which is scheduled to be operational by January 2011.

In June 2010, TIMPO will provide the final architecture design for the JMED implementation plan, to include cost. Upon approval of funding, JTF CAPMED will maintain cost for two FYs, which will enable TIMPO time to POM for sustainment. The implementation of the Joint infrastructure project will be managed jointly by JTF CAPMED and TIMPO. In August 2010, JTF CAPMED Information Assurance Section will start the DoD Information

Assurance Certification and Accreditation Process (DIACAP), which includes formulating a DoD certification and accreditation process for the new JMED. The process will include the development of a requirements document for the Authority to Operate (ATO). In January 2011, the JMED will be operational.

During Phase 2, which will begin in April 2011, JTF CAPMED will expand the WAN telecommunications network. This network will incorporate a subset of “children” (clinics) into the Joint medical network. JTF CAPMED, in coordination with the Services, will realign a predetermined number of clinics, such as the Army’s Fort Meade clinic, so that they are incorporated into the Joint Medical WAN architecture. The Air Force’s Malcolm Grow Medical Center (MGMC) and the Army’s Kimbrough Ambulatory Care Center (KACC) will become an enclave with connections to the Joint Medical WAN for medical support.

Given current and continued collaboration among the JOA Chief Information Officers (CIOs), the TIMPO, and all the stakeholders, this enabling effort is on track to meet IOC and FOC requirements. There are several dependencies in meeting this objective:

- Resources for JMED accreditation
- Timely funding of appropriations for procurement of JMED equipment
- TIMPO completion of circuit requests

To mitigate the risks that these dependencies pose, JTF CAPMED is collaborating with MHS TIMPO and other necessary parties to ensure that this objective is achieved.

G.1.2 Construct Fort Belvoir Community Hospital Data Center with Continuity of Operation Capabilities

Bethesda’s data center will host all shared systems and applications, with the FBCH data center serving as the COOP site for JMED. In August 2009, the Chief Medical Information Officer—in coordination with the physicians from WRAMC, NNMC, and DACH—agreed that there are five mission-critical systems (Armed Forces Health Longitudinal Technology Application [AHLTA], Composite Health Care System [CHCS], Essentris, Radiology, and Email) that must be operational 24 hours a day, 7 days a week.

Standing up the FBCH Data Center relies on collaboration between JTF CAPMED facilities, contracting, and logistics to guarantee that the south data center is constructed on time. Construction of the data center is scheduled for completion in late Summer 2010. The FBCH CIO, with partner GDIT, will install and test the necessary hardware and software and transfer user data files from DACH to FBCH by Spring 2011.

The FBCH and WRNMMC, Bethesda CIOs are developing disaster recovery plans that will be tested and implemented prior to the opening of the facility.

There are several risks to meeting this objective:

- Facility and construction plans must remain on track
- Equipment must be purchased and delivered on time
- If building turnover or equipment arrival is delayed, it would condense the timelines to install equipment
- Fort Belvoir installation does not lay the outside fiber plant

To mitigate these risks, the south IM/IT planners are actively involved with the JTF CAPMED IM/IT team, DACH CIO, and MTF Chief Medical Information Officers who are collectively planning this effort. This group shares information to ensure that potential delays are recognized early.

G.1.3 Design, Renovate, and Stand Up the Walter Reed National Military Medical Center Data Center

In 2007, NAVFAC started the design process for the WRNMMC, Bethesda data center. Members from WRAMC Director of Information Management (DOIM), NNMC Information Technology Division (ITD), and NAVMED Nurse Candidate Program (NCP) participated in a phased design process. Upon design completion, NAVFAC issued a Statement of Work for the renovation of the data center. A contractor was selected, and renovation began in the Fall 2008. The data center is on track for completion in Summer 2010, which will include outfitting.

During a January 2009 CIO off-site, the participants determined that WRNMMC, Bethesda's data center will be the primary site for all shared systems, and FBCH's data center will be the COOP site for the NCP. In August 2009, the Clinical and Business Integration Working Group (CBIWG) developed a plan to migrate the shared systems and applications from WRAMC to WRNMMC, Bethesda and FBCH. The WRAMC and NNMC CIOs are collaborating on the virtualization strategy to migrate the WRAMC systems and applications. All shared systems and applications will be transferred by September 2011.

This objective relies on collaboration among JTF CAPMED, NNMC CIO, FBCH CIO, WRAMC CIO, MGMC CIO, KACC CIO, MTF Chief Medical Information Officers, and external vendors.

The north data center design and construction has been completed. Equipment (both new and re-use) is currently being installed. There is a risk that the remaining equipment is not purchased and installed according to the schedule. To mitigate this risk, the north IM/IT planners are actively engaged with vendors to ensure equipment arrives and is installed on time. There are several dependencies in meeting this objective:

- Adequate resources to move the systems and applications
- Adequate resources for each systems and applications DIACAP/Certificate of Networthiness
- Adequate resources for virtualization of applications and systems
- Timely funding appropriations for procurement of JMED equipment

G.1.4 Deploy Smart Technologies and Real Time Location System Technology

A growing body of science indicates that hospitals can achieve healthier and safer environments for patients and staff by identifying and improving inefficient processes and by linking EBD to important patient outcomes. To support facility EBD, there is a substantial requirement for IM/IT to support the new design. The Department has considered EBD principles that support patient and family-centered care.

DoD is leveraging the principles of EBD in the planning and implementation of technology that will be deployed throughout all medical facilities in the NCR JOA. For example,

it is incorporating “Smart Suite” technology—to help improve consumer care and clinician efficiency with smart beds, bed-side entertainment, patient education, two-way communication devices, high resolution audiovisual technology, RFID capability, and the ability for patients to control temperature and lighting at the bedside—into its facilities planning.

In January 2010, JTF CAPMED’s Transition Planning Group researched the reuse of 200 WRAMC Hill-Rom beds for conversion to Smart Bed technology for use at WRNMMC, Bethesda. Approximately 165 of the beds will be converted to Smart technology with minor costs. A second process action team was established to define the functional requirements for Smart Suite/Bed technology at WRNMMC, Bethesda and FBCH.

Planning is underway to procure beds for 120 Smart Suites in FBCH in alignment with construction timelines and outfitting in coordination with the GDIT partner. At present, clinician input has informed the target of approximately 170 smart suites and 132 smart beds at WRNMMC, Bethesda. The construction contractor will lay the infrastructure for the Smart Suites/Beds. The IO&T contractor will procure the technology and equipment for outfitting Smart Suites/Beds that incorporate Real Time Location System (RTLS) and device connectivity. This will include mobile and handheld technology that can access bed status.

There are several dependencies in meeting this objective:

- Adequate resources to purchase Smart Suite/Bed Technology
- Timely coordination of the DIACAP/CON with MHS
- Adaptable interfaces to Systems of Record (e.g., Essentris, CHCS, and AHLTA)

Currently these collaborative efforts are on schedule and will continue, and if any barriers or unplanned risks arise, they will be addressed and monitored appropriately.

G.1.5 Migrate Walter Reed Army Medical Center Information Technology

WRAMC is required to close no later than 15 September 2011. The WRAMC base closure process involves migrating and transitioning the Walter Reed Healthcare System (WRHCS)—composed of its clinical, business, and IM/IT functions—to two newly constructed, JTF CAPMED-operated facilities (WRNMMC, Bethesda and FBCH).

The Department has developed a plan to migrate the systems and applications from WRAMC to JMED. Clinical informaticists at each facility worked with the integrated department chiefs across the Services to reduce redundant systems and identify the best available of the shared and unique systems to support the overall goals for the JOA. The NCR CBIWG validated systems across all departments and services to determine what systems are in use and how the systems will operate. Once the data center is completed at WRNMMC, Bethesda (Summer 2010), the WRAMC and NNMC CIOs will begin virtualizing the WRAMC systems and applications for migration to the JMED. This process will take approximately 18 months.

For this effort, there are several interdependencies. The WRAMC DOIM is coordinating with the Bethesda CIO and FBCH CIO to ensure that equipment and clinical systems are transferred in an efficient and timely manner. Efforts are closely coordinated, as all the stakeholders have long-standing interdependent relationships that are inherent to the MHS IM/IT environment.

There are several dependencies in meeting this objective:

- Adequate resources to move the systems and applications
- Adequate resources for each systems and applications DIACAP/CON
- Adequate resources for virtualization of applications and systems
- Timely re-homing of the WRAMC data lines and resourcing

G.2 Health Information Technology

In addition, WRNMMC, Bethesda will pilot several Health Information Technology (HIT) initiatives that will enable better service and transition of Active Duty service members to the VA system. Among these initiatives is the Virtual Lifetime Electronic Record (VLER) that will keep an electronic record of all major inputs from a Service member's military career, including health data pertinent to care both in the field and within a civilian setting. The VLER record is intended to maintain a single, accessible record for quick and accurate determination of a Service member's military standing, health status, and coordination of Service member benefits. The VLER is also intended to help ease the transition from Active Duty to Veteran status and provide the VA with a comprehensive health record to promote seamless care for life. The VA has implemented My HealthVet, which has about 100,000 Veterans enrolled to date. My HealthVet allows Veterans to access their health records, and many improvements are planned, such as lab results availability and appointment scheduling. The VA is vigorously encouraging increased enrollment, and access to My HealthVet will eventually serve to ensure a more coordinated and seamless delivery of care between WRNMMC and VA healthcare facilities in the NCR. An ancillary benefit is that My HealthVet may assist in leveraging human resources by reducing manpower and space requirements at points of care.

APPENDIX H: ACCREDITATION AND CREDENTIALING

This appendix discusses how the MTFs will meet certain standards and maintain accreditation from multiple accreditation and certification sources, such as the Joint Commission, College of American Pathologists (CAP), and Accreditation Association for Ambulatory Health Care (AAAHC).

H.1 Accreditations, Licensures, and Certifications

Like NNMC, WRAMC, and DACH, WRNMMC, Bethesda and FBCH will continue to work closely with upwards of 50 accrediting and certifying organizations each year to ensure that the very best possible care is delivered. These accrediting and certifying organizations range from the CAP, which certifies laboratory operations, to The Joint Commission, which surveys and accredits DoD hospitals in its healthcare delivery missions.

The Department has assembled a cadre of experts currently responsible for the accreditations, licensures, and certifications of the WRAMC, DACH, and NNMC and has set in motion a series of steps to assure a seamless transition throughout 2011, when the Joint facilities will host site visits. JTF CAPMED is in dialog with The Joint Commission to develop a transition plan that ensures maintenance of accreditation through the transition to and opening of WRNMMC, Bethesda and FBCH. The current facilities (NNMC, WRAMC, and DACH) are aware of the factors that determine organizational and functional integration, which would be triggers for an accreditation survey. DoD is closely monitoring these factors to ensure that its MTFs do not reach the threshold for an unexpected accreditation survey.

Throughout the transition, residencies and other educational programs for health professionals will continue to be monitored for compliance with the standards set by their respective specialties. These efforts ensure that world-class care continues long after the transition from current service-centric delivery platforms to state-of-the-art facilities.

H.2 Credentialing, Privileging, and Adverse Action Management

MTFs follow Department of Defense Instruction (DoDI) 6025.13 (expected to transition to a DoD Manual 6025.13 by the end of FY 2010) regarding Credentials, Privileging, and Adverse Actions. These credentialing and privileging rules govern the processes to verify the education and professional qualifications of every healthcare provider and the decision-making processes governing the types of care that a healthcare professional may render to patients. The new Joint MTFs will be governed by a similar system administered by the MTF Commander.

The standing MTFs employ Service-specific formal processes to address adverse and near-miss events. These processes are equivalent but not identical. The new Joint facilities will operate under a single consistent process, which will continue to address physical and non-physical risks to patients and to staff members. When a risk is identified, immediate action will

be taken to determine whether a provider should be reinstated, be monitored closely, or have privileges held in abeyance (for up to 30 days) while a quality assurance investigation is conducted by the Medical Treatment Facility Credential Committee (MTF/CC). If the MTF/CC judges the action to be non-adverse, the provider either will be reinstated with full privileges or have privileges monitored closely. If the MTF/CC judges the action to be adverse, the case will be presented to a Peer Review Panel, which will return a recommendation to the MTF/CC. The MTF/CC then will have the option of returning the provider to duty, limiting duties, or withdrawing privileges and pressing for additional actions. If the action is judged to be adverse, the provider will have the right to a hearing and an appeal process. After appeals are completed, and once a decision is finalized, any adverse action decision will be reported to the National Practitioner Data Bank and the state in which the provider was licensed. This well-developed system will continue to ensure patient and staff safety as well as the integrity of the Services.

To date, each Service has a unique method to operationalize DoDI 6025.13. It is noteworthy that, for the sake of administrative simplicity, the Joint MTFs will align with a single yet-to-be-determined Service. The guidelines of that Service will govern credentialing, privileging, and adverse action management for both WRNMMC, Bethesda and FBCH. It is expected that the choice of Service will endure.

APPENDIX I: RESEARCH, EDUCATION, AND TRAINING

The NCR MTFs are engaged in a full spectrum of scholarly activities for the benefit of patients and their caregivers. These activities include formal and informal training opportunities, which aim to improve performance through development of knowledge, skills, abilities, and/or behaviors to accomplish a specific job, task, or goal. The system offers education and training opportunities such as on-the-job training, classroom, and electronic learning. Researchers in the NCR are encouraged to publish and speak on behalf of the NCR-based facility to showcase their current work and research findings. In the future, NCR clinicians will continue provide definitive surgical care and rehabilitation for battlefield-injured warfighters.

JTF CAPMED recently sponsored the AHLTA Innovators Conference. The goal was to implement a suite of AHLTA tools, enabled by an effective clinical informatics support structure and effective training, to improve clinicians' ability to use AHLTA and care for patients in Military Treatment

I.1 Graduate Medical Education

Schools of medicine, university hospitals, and other schools for the training of healthcare workers evolved in the 20th century into a new structure, the Academic Health Center. This civilian institution was an evolution of the transformation of the healthcare professions in the late 19th and early 20th centuries when society realized that the best care was delivered in a research and educational environment and that care transformed practice across the spectrum of society. Post-BRAC discussions of the new WRNMMC, Bethesda have centered on the creation of a world-class, academic health center, which requires that the medical care delivery structure be intimately associated with the research and educational programs of a healthcare university. USUHS is that healthcare university.

The NCR sponsors a multitude of training programs for military medical personnel. Currently, there are 65 integrated physician training programs in the National Capital Consortium (NCC). Approximately 250 physicians graduate from these programs each year. Nursing programs include critical care, psychiatric behavioral health, and a nurse transition program for new nurses. Over 150 nurses graduate from these programs annually. In addition, USUHS graduates over 80 nurses a year from its psychiatric mental health, certified registered nurse anesthetist, and family nurse practitioner graduate programs. The NCR also sponsors 23 Enlisted Phase II training programs from laboratory and radiology technicians to licensed practical nursing with over 700 graduates per year.

I.1.1 The World-Class Academic Health Center

The ultimate goal of the NCR Academic Health Center is to provide expert clinical care, exceptional medical education, and state-of-the-art clinical and basic science research. As noted by the DHB, the Academic Health Center “constantly envisions what could be and goes beyond the best known medical practice to advance the frontiers of knowledge and pioneer improved

processes of care so that the extraordinary becomes ordinary and the exceptional routine.” The Academic Health Center creates an environment of inquiry and discovery. Its scholars conduct research that spans across the basic science disciplines to clinical translational research. These breakthroughs, ultimately improving medical outcomes, allow NCR patients the opportunity to participate, contribute, and benefit from monumental healthcare advances. The Academic Health Center leads the nation in providing undergraduate, graduate, and post-graduate medical education; advanced practice nursing education; and numerous health profession education programs for the allied professions. USUHS is the academic foundation of the NCR Academic Health Center, developing the next generation of uniformed healthcare providers and leading novel research discovery and application to maintain and restore service members and their beneficiaries to optimal health, functionality, and quality of life.

I.1.2 Uniformed Services University of the Health Sciences Historical

The DoD Directive 5105.45—initially published in 1974 to establish the administrative framework for how USUHS and School of Medicine (SOM) would function—was revised in 1991. This update defined in detail the mission, organization, responsibilities, functions, relationships, authorities, and governance of USUHS. In 1996, the Graduate School of Nursing (GSN) was approved. In 2007, DoD Directive 5105.45 was reissued as a DoDI with updated mission, organization, and management; responsibilities and functions; and relationships and authorities for USUHS. This updated mission included establishing USUHS as a TMA component. The mission of USUHS as stated in DoDI 5105.45 is provided below:

- Prepare officers and others to carry out the medical missions of the Uniformed Services, including providing and maintaining readiness, providing medical services, and supporting members of the Armed Forces during military operations and providing medical services and support to members of the Uniformed Services, their family members, and others entitled to DoD medical care.
- Provide the highest quality education programs in the health sciences and grant applicable advanced academic degrees.
- Establish postdoctoral and postgraduate programs and technological institutes.
- Conduct medical readiness training and continuing education for members of the Uniformed Services in the health professions.
- Ensure continuity and leadership by preparing individuals for careers in the health professions of the Uniformed Services.
- Conduct health sciences research consistent with the academic undertaking of USUHS.
- Direct the Armed Forces Radiobiology Research Institute (AFRRI) as described in DoDI 5105.33 and conduct additional activities as directed by the Assistant Secretary of Defense for Health Affairs (ASD/HA) to further the DoD health mission.

The SOM, GSN, AFRRI, Graduate Education in the Biomedical Sciences Programs, GME, and Continuing Education for Health Professionals (CHE) are major academic

components of USUHS. Other important scholarly and academic components of the Academic Health Center based at the USUHS include the following:

- National Capital Area Medical Simulation Center (SIMCEN)
- Center for Prostate Disease Research (CPDR)
- Center for the Study of Traumatic Stress (CSTS)
- Center for Disaster and Humanitarian Assistance Medicine (CDHAM)
- Center for Deployment Psychology (CDP)
- United States Military Cancer Institute (USMCI)
- Center for Neuroscience and Regenerative Medicine (CNRM)
- Tri-Service Nursing Research Program (TSNRP)
- National Center for Disaster Medicine and Public Health (NCDMPH)

I.1.3 Uniformed Services University Staffing

USUHS employed 1,553 civilian and uniformed personnel while executing an O&M budget that has averaged \$127M as of July 2009. There were approximately 738 Federal personnel, 429 Henry M. Jackson grantees, 106 Corbin personnel, and 280 uniformed personnel, with 1,037 students enrolled throughout USUHS's academic programs, bringing the overall total for USUHS to 2,590.

I.1.4 Uniformed Services University Missions

The USUHS missions all contribute to an Academic Health Center concept and are best categorized as academic, biomedical, and clinical science research; clinical care; and consultative services. The academic mission is primarily charged with the development of service-oriented uniformed physicians, advanced practice uniformed nurses, and uniformed professionals with advanced degrees (Masters and Doctoral) in the biomedical sciences. The biomedical science research mission focuses on research central to national defense and the MHS. Currently, there are approximately 349 active extramural and intramural research grants with over 600 active protocols and a research budget totaling \$96.8M. Biomedical science research at USUHS covers a broad range of topics of special interest to the MHS, including infectious disease, trauma medicine, health maintenance, and cancer research.

I.2 Certifications and Recertification Offered to National Capital Region Medical Facility Staff

JTF CAPMED is currently proposing a continuing health education program for all 37 of its military treatment facilities. The program will include continuing education credit for all disciplines.

I.2.1 Standardized Joint Enlisted Medication Administration Course

The JTF CAPMED Executive Council unanimously approved the lesson plans and the medication administration guidelines for a Standardized Joint Enlisted Medication Administration Course for the JOA for the non-licensed Army (68W), Air Force (4N0), and Navy (Corpsman/Basic Skills) enlisted medical personnel. Over the coming months, the

Education, Training, and Research Directorate and the Enlisted Training Cell, in collaboration with nursing subject matter experts from each Service, will finalize the course pre-requisites, classroom training length, unit-based competency verification and ongoing annual competency assessment requirements. The intention is to coordinate with military treatment facility Education and Training Departments to pilot test the program in Fall 2010. The Enlisted Training Cell developed 18 lesson plans and a medication administration guideline for enlisted medical personnel in alliance with similar efforts being developed at San Antonio Military Medical Center (SAMMC). The Joint Medication Administration course was developed with a focus on compliance with Joint Commission standards as well as National Patient Safety Guidelines. The desired effect of this course is to facilitate interoperability and maximize cooperation among the three Services in JOA.

I.2.2 Competency-Based Orientation Program for Enlisted Medical Personnel

A unanimous decision was made by all three Services to implement the competency-based orientation program at all medical facilities in JOA with Joint personnel and/or supporting Joint rotations for enlisted medical personnel. Over the coming months, the Education, Training, and Research Directorate and Enlisted Training Cell, in collaboration with nursing subject matter experts from each Service, will coordinate implementation of this program with military treatment facility Education and Training Departments, establish a Joint training plan, and create a Joint training record for documentation of competencies. Additionally, this program meets all of the CJTF's priorities of casualty care, care for the caregiver, "be ready now," regional healthcare delivery, and common standards and processes.

I.2.3 Joint Education and Training Dashboards

A unanimous decision was made by all three Services and USUHS to implement the Education and Training Dashboard concept for all training programs in JOA. Over the coming months, the Education, Training, and Research Directorate cells overseeing education programs will finalize determination of key metrics and begin to explore data collection and population of the dashboards.

I.3 Research within the National Capital Region

Medical practitioners and educators alike engage in scientific research to maintain thought leadership in their fields and improve overall healthcare delivery to patients.

I.3.1 Medical Research in the National Capital Region

In addition to the research listed above being conducted at USUHS, the Services in the NCR are currently conducting world-class research that is at the forefront of medicine and patient care. For many of the research projects, the Services are partnering with academic and industry institutions. Owing to a change in leadership, the MGMC IRB stopped accepting new protocols and arranged for protocol continuing review functions to be assumed by collaborator IRBs. New protocols are now reviewed by the IRB at the Uniformed Services University (USU) under new agreements and a new assurance. Most of the ongoing, active protocols were transferred to the USU, and a few were transferred to WRAMC. In compliance with Base Realignment and Closure directives, it made sense to transition residual IRB regulatory oversight

activities from MGMC to others in the Nation Capital Area. Table 8 provides a breakdown of the number of research studies in 2009.

Table 8: Total Research Protocols in the NCR

	Navy	Army	Air Force	Total
New Research	87	211	0	298
Active Research	306	882	≤ 10	≤ 1,198

Examples of world-class medical research projects include:

- Colorectal Neoplasm Screening by Computed Tomography (CT) Virtual Colonoscopy
- Wartime Critical Care Air Transport
- Factors that Influence Pass Rate of Sailors in the United States Navy
- Comparing a Web-Based Diabetes Management System
- Military Extremity Trauma and Amputation Limb Salvage (METALS)
- Clinical Knowledge Development: Continuity of Care for War Injured Service Members
- Observational MRI Protocol of New Pulse Sequences
- Risk Stratification in Multicenter Automatic Defibrillator Implantation Trial (MADIT) II Type Patients
- Transfusion Associated Microchim in Military Trauma
- Comparison of Inflammatory Indicators of Bone and Joint Disease
- Prospective, Randomized, Single-Blind Trial
- Pulse II: The Vertical Clinical Learning Lab
- Serum and Exudates Calcitonin Precursors as Predictors
- An Early Motion Rehabilitation protocol for Treatment

METALS, listed above, is currently one of the military’s most high-profile research protocols. The study is being researched in the Department of Orthopedics and Rehabilitation at WRAMC, and its objective is to describe the long-term consequences of major limb trauma sustained by U.S. service members during the Global War on Terror (GWOT); identify significant clinical, environmental, and patient characteristics that explain variations in secondary conditions, physical, and psychosocial outcomes and quality of life; determine differences in long-term outcomes for amputation versus limb salvage for patients with upper and lower extremity trauma; identify significant clinical, environmental, and patient characteristics that predict poor functional outcome for amputation versus limb salvage; identify unmet needs for prosthetic devices and related services as well as gaps in health services delivery; and make recommendations for treatment adjustments and changes in acute care, rehabilitation, and prosthetic services.

The METALS research team is partnering with a variety of academic and industry groups including Orthopedic Traumatology, NNMC; Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health; Survey and Epidemiology Services Division; and Social & Scientific Systems, Inc.

I.3.2 National Capital Region Researchers in Peer-Reviewed Publications and Presentations

Military medical personnel from the NCR regularly participate in presentations and speaking engagements to highlight their research and publish their research in peer-reviewed medical journals.

During the past two years, there were 427 presentations and publications related to original research at WRAMC. There were an additional 457 presentations and publications prepared by WRAMC providers as experts in their fields. At NNMC, there were a reported 194 presentations at professional medical conferences and 123 publications in medical journals.

The following influential Professional Journals have included publications from the NCR Medical Researchers:

- Journal for Specialist in Pediatric Nursing
- The American Journal of Nursing
- The Journal of Trauma
- Urological Oncology: Seminars and Original Investigations
- The Journal of Bone and Joint Surgery
- Orthopedics
- The Journal of Head Trauma Rehabilitation
- The Clinical Neuropsychologist
- Annals of Surgery
- Foot and Ankle Clinics of North America

I.4 Integrated Electronic Medical Library

There will be an Integrated Electronic Medical Library and medical information system for the NCR JOA, which will be a multi-phased process that occurs over the next two years with the following tasks and milestones. Phase 1 of the plan is to integrate the WRAMC Library server/software systems into the USUHS Learning Resource Center (LRC). Phase 1 is nearly complete and thus far has been very successful.⁹ Phase 2 of this project is designed to stand up electronic library services to all personnel assigned to WRNMMC, Bethesda. Librarians at the USUHS LRC and the MTF libraries used feedback from physician, nursing, and enlisted education, research, and administrative leaders to create a program that will offer access to more than 4,000 electronic journals. Phase 3 involves the physical integration of the Stitt and Darnall Libraries at NNMC. Future proposed phases will involve utilizing lessons learned from Phase 2 to roll out electronic library services to all personnel assigned to NNMC and all remaining facilities in the JOA and to transition the NNMC Library server/software systems into the USUHS LRC. At the end of this project, systems will be in place that are user focused, technology dependent, and easily accessible to all personnel in the JOA.

Figure 26: Integrated Electronic Medical Library Timeline



I.5 Simulation Training

Plans are underway for the WRNMMC, Bethesda to have state-of-the-art simulation laboratories to train and educate practitioners and provide excellent patient care. Through the use of simulation training, WRNMMC, Bethesda will ensure patient safety, clinical competency, and operational readiness. The goals of the simulation center are to establish medical simulation as a critical, integrated component of graduate education; provide learners with ready access to cutting-edge simulation techniques, including high-fidelity physiologic manikins, task-trainers, and computer-based simulation models; improve patient safety through education, team training, and simulation of high-risk, low-volume scenarios; and ensure clinical competency through modern education techniques and standardized evaluative processes.

The Simulation Center will offer interns, residents, and hospital clinical staff the opportunity to train in a virtual patient care environment using simulated patients and sophisticated technology. The center will contain overhead cameras that record the medical team's efforts, allowing leaders to provide feedback after the simulated training. The center will also play a key role in maintaining patient safety and ensuring the operational readiness of all hospital staff.

I.5.1 Types of Simulation Training

The spectrum of types of simulation technology experiences and simulators currently available is vast. Simulation experiences include basic role-playing scenarios where trainees act out varying clinical scenarios that mirror real-world situations.

For example, students may role-play delivering bad medical news to actors performing as patients or family members. This teaching modality is helpful with instruction related to communication and interpersonal skill development. Another common type of simulation is the standardized or simulated patient. Like role-playing, simulated patients create teaching platforms that support learning communication skills. In addition, this mode of simulation also creates experiences by which students can learn psychomotor skills such as physical assessment and history taking proficiency with individuals trained to depict patients. Individuals recruited as standardized patients are trained to act out characteristics frequently seen in real-world patients.

Simulation trainers are designed to imitate different parts, systems, and/or physiological processes of the human body. Use of this type of simulation, called partial task trainers, is usually accomplished with a specified task or procedure in mind. For example, partial task trainers such as intubation heads and wrists are used to learn specific procedural skills, such as endotracheal tube and intravenous catheter insertion.

Complex task trainers are another mode of simulation referred to as high fidelity. Designed to be more advanced than partial task trainers, complex task trainers involve the use of very realistic materials and equipment to represent the task that the trainee must perform. Technologically-advanced visual, audio, and touch cues are integrated with computers to allow

Figure 27: Simulation Training



students to sense the stimuli. These highly developed systems are used to replicate clinical procedures such as ultrasound, bronchoscopy, laparoscopic surgery, arthroscopy, and sigmoidoscopy.

Figure 28: Integrated Simulator



Integrated simulators, also called human patient simulators, are capable of providing a learning experience that encompasses use of partial- to full-body manikins. These manikins, interfaced with computer technology, are adept in carrying out interventions in which physiological parameters such as breath sounds, heart tones, and palpable pulses can be assessed. Additionally, these simulators have a monitor that can display physiological factors such as electrocardiogram patterns, pulse oximeter readings, blood pressure measurements, arterial wave forms, pulmonary artery wave forms, and anesthetic gases patterns. Examples of physiologic procedures that can be performed on integrated simulators include chest compressions, bag-mask ventilation, intubation, defibrillation, needle decompression, chest tube placement, cricothyrotomy, and others. Human patient simulators are also able to respond to certain types of medications such as oxygen, epinephrine, and atropine. Integrated simulators allow for essential, real-time feedback to trainees.

Finally, full mission simulators or simulated work environments, are used to reconstruct real-world workplace environments that provide learning experiences for entire professional teams. Full-mission simulators accurately portray environments that individuals will operate in. For example, operating room scenarios can be carried out in replicated operating room suites. Battlefield environments can also be imitated in preparation for teams to be deployed to wartime environments. These simulated environments reproduce actual sounds, visual scenes, and motions in order to create a realistic environment. This type of simulation is highly beneficial for training effective teams, team building, communication, planning, and collaboration.

1.5.2 Partnering for Simulation Training

Since fall 2008, the Department has partnered with DoD and civilian academic and other healthcare institutions to create a world-class simulation platform in the NCR.

When JTF CAPMED was established in 2007, the organization was directed by the Department to partner on education and training initiatives whenever and wherever possible. In addition, as plans for establishing medical-center-based simulation progressed for WRNMMC, Bethesda and FBCH, the DHB recommended exploring partnerships with the aviation industry. Simulation as an educational tool has strong ties to aviation.

Progressively, simulation has become an increasingly important aspect of healthcare education and training over the past 40 years. Many lessons learned regarding safety and teamwork have been transferred from the aviation industry to healthcare. As in the field of aviation, simulation provides healthcare professionals with the opportunity to effectively work together as a team in stressful scenarios while reducing safety risks through a method of learning and practice which occurs in a safe, controlled environment.

Transformation of education and training in the NCR related to BRAC has resulted in increased attention to simulation training as a vehicle to meet training needs, especially as it relates to preparing military personnel to care for wounded troops both on the battlefield and at home. The Department partnered with the USUHS National Capital Region Medical Simulation Center (Silver Spring, Maryland) and community leaders in simulation training such as Washington Hospital Center (WHC) Innovative Clinical Simulation Center (Washington, D.C.), and the Adventist Hospital and Lockheed Martin simulation partnership (Rockville, Maryland) to explore ways to provide simulation training for military medical personnel. JTF CAPMED, USUHS, and WHC Adventist Hospital – Lockheed Martin are collaborating to develop simulation training and educational programs to assist military medical personnel in assessing competencies and to provide educational benefits to enhance the delivery of world-class care to medical treatment facilities in the NCR and on the battlefield.

The USUHS Simulation Center uses high-fidelity human patient mannequins, a full-scale immersive virtual reality environment, patient examination rooms, and surgical simulation using a full-scale operating room mock-up and virtual reality to provide highly realistic scenarios for training. The simulation environment also provides a training platform to assess communication, interpersonal, professional, physical exam, and diagnostic reasoning skills of learners. The USUHS Simulation Center is accredited by the American College of Surgeons (ACS) Program for Accreditation of Education Institutes.

WHC is the largest private hospital in the NCR. The not-for-profit hospital is a member of the MedStar Health network, a regional healthcare system with nine hospitals and other health-related businesses across Maryland and Washington, D.C. Through the federally funded Project ER One, WHC is building a next-generation emergency department with special capabilities to deal with the medical consequences of terrorism, disasters, and epidemics. In addition to an increased physical capacity is a thoroughly integrated and sophisticated world-class training program that encompasses programs for the Department. Simulation training and educational efforts will be driven by the following three major themes:

- Skill set mastery
- Deliberative decision-making processes
- Medical team synchronization. WRNMMC, Bethesda will use various simulation training approaches, including blended training, mobile simulation (including out-of-hospital), and distance learning

The Department is also exploring partnering with Adventist Hospital– Lockheed Martin, who are working together to combine the most advanced simulation and training with evidence-based clinical best practices to optimize healthcare training. Headquartered in Bethesda, Maryland, Lockheed Martin is a global security company principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products, and services. Working together, the Department, Lockheed, and Adventist are committed to developing learning technologies aimed at improving healthcare outcomes and saving lives. Better-trained military healthcare professionals result in better patient outcomes.

The vision of the Department is to create a simulation learning environment that will move military education and training into the future in the NCR JOA. JTF CAPMED, in

partnership with USUHS, WHC, and Adventist Hospital, worked with the WRNMMC, Bethesda architects to create a simulation center that is fully dedicated to supporting a paradigm shift in healthcare education and training that recognizes the importance of simulation.

The simulation and training environment of WRNMMC, Bethesda will include simulation laboratory and Web-based electronic learning modules supported by USUHS, WHC, and Adventist Hospital – Lockheed Martin. The multifaceted simulation and training environment center of WRNMMC, Bethesda will initially consist of the renovation of approximately 5,000 square feet of space, but further expansion, enhanced capabilities, and increased integration with other medical training is being considered as part of the new, post-BRAC construction effort. The center will be fully equipped with support for role-playing scenarios, standardized patients, partial task trainers, and complex task trainers. The layout of the simulation center is designed to provide maximum flexibility for simulating full mission scenarios such as trauma, care of mass casualties, or simulation of military environments such as deployment locations. In addition to the full-size manikins, there will also be specific obstetric, pediatric, and laparoscopic manikins. Fully stocked patient care equipment and supplies needed during simulation will be readily available. Special emphasis is also placed on communication, collaboration, and teamwork.

Beyond WRNMMC, Bethesda’s hard assets, out-of-hospital patient simulation, and training will also be available through collaboration with USUHS, WHC, and Adventist Hospital – Lockheed Martin. Using high fidelity manikins, a simulated patient can be manipulated remotely for the different training requirements and needs of the out-of-hospital provider.

This ability has been shown useful in mock disaster exercises and tactical training. In addition to the WRNMMC, Bethesda simulation center, electronic learning will be an integral part of training for competencies and just-in-time learning. Electronic training can be accomplished for any topic or requirement. Desired project goals of simulation and web-based training at WRNMMC, Bethesda and across the NCR include:

- Ensuring that every level of healthcare professional, from basic to advanced provider, is fully trained and competent to provide the desired level of world-class medical care in any environment
- Using blended learning to allow healthcare personnel to achieve competency in the appropriate level of training and team synchronization required of a world-class medical center
- Developing electronic distance learning modules for NCR military healthcare personnel
- Developing electronic distance learning modules for use outside the NCR region to be used by forward-deployed military personnel for skill sustainment and training

This collaborative approach to simulation will result in a training system that optimizes patient safety and clinical outcomes, provides capability to monitor training effectiveness, and increases positive outcomes of low-frequency procedures.¹⁰

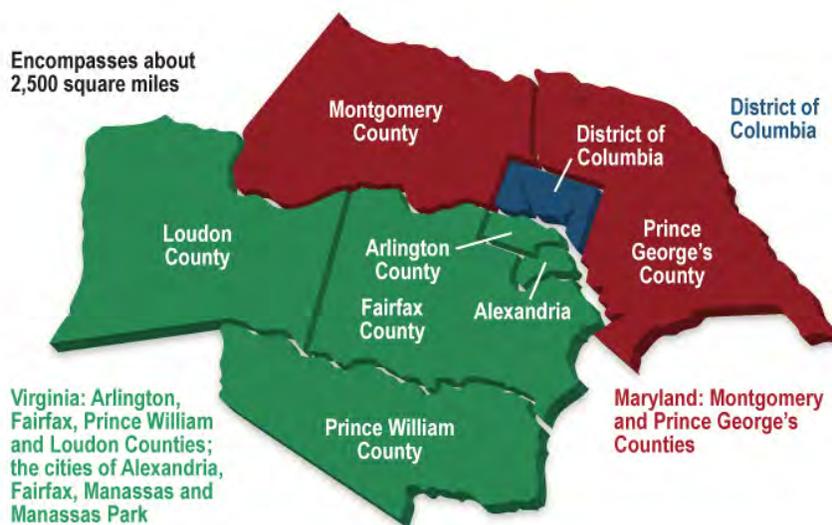
APPENDIX J: READINESS AND CONTINGENCY PLANNING

This appendix discusses contingency planning by JTF CAPMED and the JTF CAPMED Family of Plans, which provides overall guidance to subordinate commands and coordinating guidance to other federal, state, and local agencies concerning how the JTF CAPMED will provide response capabilities (such as medical care and tracking of patients) in the event of a disaster or public health emergency that occurs in the NCR/JOA.

J.1 Overview of Readiness and Contingency Planning – The Area of Responsibility

The JOA for this plan includes the entire NCR extant in public law, Section 2674(f) of title 10 U.S. Code. For JTF CAPMED response planning purposes, it also includes approximately 2,500 square miles encompassing Washington, D.C.; Virginia counties including Arlington, Fairfax, Prince William, and Loudon Counties and the cities of Alexandria, Fairfax, Manassas, and Manassas Park; and Maryland counties including Montgomery and Prince George’s Counties as well as the Raven Rock Mountain Complex.

Figure 29: National Capital Region



Contingency planning is a requirement established by numerous directives to include National Security Presidential Directive (NSPD)-51, DoD Directives (DoDDs), Homeland Security Presidential Directive (HSPD)-20, the National Response Plan (NRP), National Incident Management System (NIMS), Department of Health and Human Services (HHS), and Emergency Services Function (ESF) #8. All contingency response planning, operation activities, and recovery planning will be initiated and executed in compliance with these and all appropriate and applicable directives. JTF CAPMED’s contingency response and recovery planning is

focused on developing and coordinating collaborative, interagency, and multi-jurisdictional operational activities, training exercises, and incident responses.

J.2 JTF CAPMED Partners with Military and Civil Federal, State, and Local Authorities

Federal Partners: Department of Homeland Security (DHS) is the primary agency for coordinating federal resources used in response to or recovery from terrorist attacks, major disasters, Incidents of National Significance (as declared by Secretary, DHS) or other emergencies. DHS uses the NRF and NIMS structure to manage and coordinate the federal response to disaster incidents.

HHS is the primary agency for the public health, medical preparation, and medical planning for response to a biological incident and other medical emergencies arising from a Chemical, Biological, Radiological, Nuclear, and High Yield Explosives (CBRNE) incident. HHS coordinates with appropriate organizations to activate and deploy health and medical personnel, equipment, and supplies in response to requests for federal public health and medical assistance. HHS also provides technical personnel, medical, and public health assets, and supporting equipment during CBRNE consequence management operations.

Figure 30: JTF CAPMED Partners

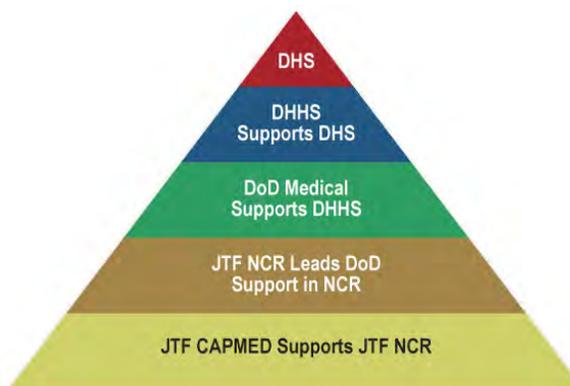


Table 9: NCR Military and Interagency Relationships

Unity of Command	Unity of Effort
<ul style="list-style-type: none"> Office of Secretary of Defense/Homeland Security 	<ul style="list-style-type: none"> Department of Health and Human Services
<ul style="list-style-type: none"> Joint Defense Operations Center, J4/Health and Social Service Department, The Joint Staff 	<ul style="list-style-type: none"> Federal Emergency Management Agency
<ul style="list-style-type: none"> U.S. Joint Forces Command 	<ul style="list-style-type: none"> National Park Service
<ul style="list-style-type: none"> U.S. Northern Command 	<ul style="list-style-type: none"> Congressional Office of Attending Physician
<ul style="list-style-type: none"> 3rd Infantry Regiment (The Old Guard) 	<ul style="list-style-type: none"> Metro Council of Governments
<ul style="list-style-type: none"> D.C. Guard (Title 32) 	<ul style="list-style-type: none"> D.C. Department of Health
<ul style="list-style-type: none"> North Atlantic Regional Medical Command 	<ul style="list-style-type: none"> D.C. Fire and Emergency Medical Service (EMS)
<ul style="list-style-type: none"> Navy Medicine National Capital Area 	<ul style="list-style-type: none"> U.S. Capital Police
<ul style="list-style-type: none"> 79th Medical Wing 	<ul style="list-style-type: none"> U.S. Park Police
	<ul style="list-style-type: none"> Maryland and Virginia County Fire and EMS Departments

State and Local Partners: State and local governments have primary responsibility for protecting life, mitigating disaster effects, and restoring law and order in civilian communities. The employment of federal military forces for disaster response will be specifically authorized

by the President through the Secretary of Defense to provide support of civil authorities. When directed by the President or Secretary of Defense, and upon assumption of OPCON of military medical forces in the NCR, JTF CAPMED will provide timely disaster response to assist civil authorities in establishing control of the situation, save lives, mitigate human suffering, and facilitate recovery operations. JTF CAPMED will respond to Requests for Assistance (RFAs) in accordance with the National Response Framework (NRF) and DoD policy and guidance. Support ranges from small-scale efforts to large-scale operations, which may involve thousands of DoD personnel.¹¹

Through JTF CAPMED's quarterly NCR Emergency Managers' Conferences, JTF CAPMED has begun to incorporate its civilian planning partners—those comprising the public health and healthcare providers of the capital region—into its effort to accomplish a synchronized and integrated approach to preparedness and emergency response within the NCR JOA. At the state and local levels, JTF CAPMED engages in Joint planning with Maryland Institute for Emergency Medical Service Systems, Metro Washington Council of Governments, D.C. Department of Health, D.C. Fire and Emergency Medical Services (EMS), U.S. Capitol Police, Maryland and Virginia County Fire and EMS Departments, the National Park Service, U.S. Park Police, and the Congressional Office of Attending Physician.

J.3 JTF CAPMED Planning and the Family of Plans

The contingency preparedness vision of JTF CAPMED reflects an NCR JOA-wide partnership of military and civilian healthcare communities ensuring world-class medical care in the event of a natural or manmade disaster. JTF CAPMED has a mission to design, develop, and maintain a capability to deliver quality military medical care to the victims and responders of an NCR disaster. It is JTF CAPMED's planning guidance to ensure quality care is provided, whether under stark conditions of a disaster scene, during transport of the injured from the scene, or once the injured are within the state-of-the-art receiving facilities. To accomplish this, JTF CAPMED is actively developing and will maintain a "Family of Plans" to prepare this command to respond to multiple disaster scenarios and issues of contingency preparedness.

The CJTF guidance includes disaster (contingency) preparedness. The lessons learned from the attacks on 11 September 2001 demonstrate a heightened need for leaders to develop plans and be prepared to adjust and react when the worst scenarios happen. The attacks of 11 September 2001 redefined the concept of the battlefield. It is no longer valid to imagine the battlefield as a distant location. JTF CAPMED is planning domestic security and contingency response today, as it has planned for the traditional national security objectives in the past.

J.3.1 Planning Assumptions about the Incident

To plan for attacks on these targets and other disasters in the NCR, JTF CAPMED has enumerated a set of assumptions about the nature of the incident and its consequences.

- There will be little or no warning before a contingency/disaster incident; therefore, JTF CAPMED will conduct evacuation and crisis response operations without notice
- The Secretary of Defense will approve civilian agency requests for DoD assistance in accordance with the NRF and applicable laws and policies

- DoD forces in the local area will respond to the incident under Immediate Response authority; if medical forces are involved in the response, CJTF will request OPCON of those forces, if not already assumed
- A terrorist attack or imminent threat of attack in the NCR triggers simultaneous execution of multiple plans
- There may be insufficient air, land, and maritime assets immediately available within or near the NCR to support simultaneous execution of emergency evacuation and other crisis-related operations
- An incident resulting in numerous casualties and disruption of normal life-support systems will overwhelm capabilities of local, state, and federal agencies, and the Primary Federal Agency (PFA) will submit a RFA to DoD
- DHS will not be able to achieve a detailed/credible common operating picture for at least 24–48 hours after the incident. As a result, federal response activities must begin without benefit of a detailed or complete situational/critical needs assessment
- In the event of a major incident, local road networks within the NCR JOA will not be available (useable) for approximately 24–48 hours

J.3.2 Planning Essentials – Critical Factors for Success

Along with the planning assumptions above, JTF CAPMED grounds its response plans in these high-priority capabilities that must be secured in order for the response effort to be successful.

- The U.S. Government assembles an emergency response capability that includes the use of DoD forces in conjunction with other federal, state, and local agencies. The PFA will request DoD support/assistance through the Defense Coordinating Officer (DCO)
- The strategic COG is public trust. The decisive points to protect this COG are the media and public confidence. JTF CAPMED fosters and retains public trust by conducting operations that save lives, mitigating human suffering, and facilitating recovery operations. Loss of public trust may manifest itself in civil disturbance and security problems that affect CJTF’s freedom of action. Loss of public trust further complicates managing a disaster response when the public does not willingly comply with public health and safety measures
- The tactical COGs are transportation/mobility and logistics. Decisive points are access to critical main supply routes (MSRs), communications nodes, and logistics support. Tactical success depends on ensuring a synchronized and timely response to the incident site and/or affected area
- Critical factors at the operational level are the ability of DoD to flow tailored forces to the vicinity of the disaster site. These factors include airlift availability, Port of Embarkation/Debarcation (POE/POD) availability, and accessibility

- Critical factors at the tactical level are the availability of Base Support Installation (BSI) and PODs, the availability of inter-state lines of communication, the ability to protect DoD forces from disaster effects, and the distribution of critical supplies to forces operating in an adverse environment
- Timely integration and establishment of a Communication System (C4) structure is key to operational success and will enable situational awareness and the ability to provide Defense Support of Civil Authorities (DSCA). Efficient information management ensures higher HQ and PFA awareness of DoD actions and is critical to timely and effective DoD support to PFA. The ability to establish communications with higher HQs, subordinate Commands, and Units and local, state, and federal responders is vital to the overall success of disaster response operations
- The Posse Comitatus Act generally prohibits Title 10 forces from engaging in direct law enforcement activities. During disaster response operations, the Posse Comitatus Act prohibitions are assumed to be in force. During disaster response operations, Title 10 forces may provide indirect support to law enforcement activities, such as the use of military facilities or equipment by law enforcement officials, and training on and maintenance of proffered equipment

J.3.3 Commander’s Critical Information Requirements

CJTF requires specific information to make informed and appropriate decisions during an actual contingency response, the execution of a plan, or activation of the crisis action planning process. Along with the assumptions used to guide the planning effort, the following information is required by CJTF, as he maintains situational awareness, and it is considered critical to CJTF’s decision process.

Table 10: Commander’s Critical Information Requirements

▪ Indications or actual acts of terror against the United States/territories/JOA
▪ Indications/actual CBRNE incident in the JOA
▪ Death/serious injury to key military/political/cabinet members of the U.S. Government
▪ Significant change in ability to execute Homeland Defense, DSCA, or emergency evacuation
▪ Receipt of Warn Order, Alert Order, or Executive Order from Higher Headquarters (HHQ)/Components
▪ Loss of critical systems/communication w/HHQ, Subordinate Commands/Units negatively effecting mission
▪ Natural disaster forecast in 48 hours impacting JOA
▪ Change in Force Protection Condition (FPCON), Defense Readiness Condition (DEFCON), Information Operations Condition (INFOCON), or Homeland Security Advisory System (HSAS)
▪ Significant accident/incident involving DoD forces in JOA that would draw national media attention or would have potential adverse effect on the mission
▪ Health/environment issues that directly affect operations/planning in JOA
▪ Indications of cyber attack or attempted intrusion into information systems
▪ Unusual incidence of operational relevant diseases
▪ Any significant change in a critical medical asset capability or saturation of a significant medical asset within the NCR/JOA

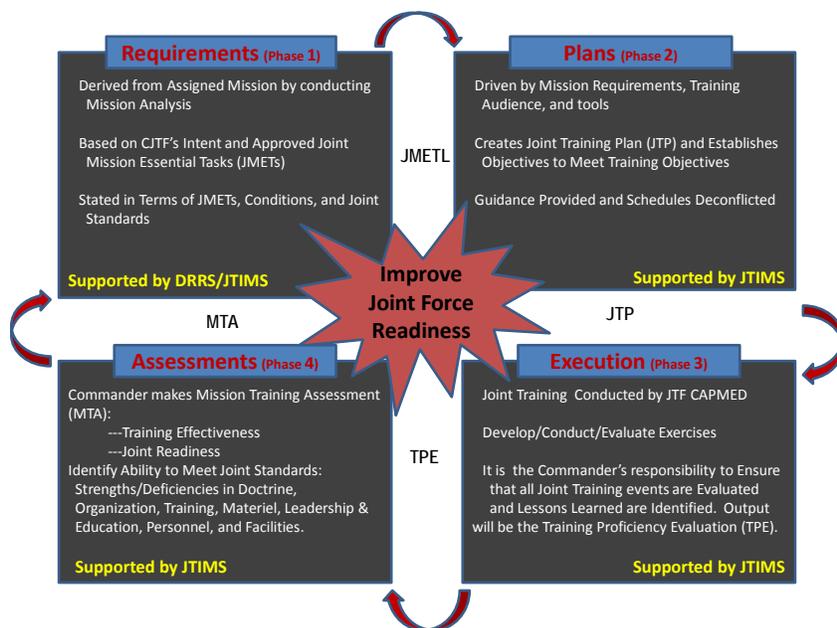
J.4 Responsibilities

JTF CAPMED uses JOPP, even though it has no Joint Operation Planning Execution System (JOPES) responsibilities. JTF CAPMED tasks that are addressed in the JOPP and executed in a contingency response include:

- Perform as the Lead Operational Authority for disaster medical response planning and execution in the NCR JOA. Advise JTF CAPMED on the doctrine, organization, training, and exercise of Joint forces for disaster medical response.
- Develop and maintain supporting plans for operations in the NCR/JOA. Conduct planning for likely NCR contingencies in conjunction with DHS, United States Secret Service (USSS), Federal Emergency Management Agency (FEMA), NCR civil authorities, Service Components in the NCR, JTF CAPMED, and other federal agencies' standard operating procedures.
- Provide the appropriate medical forces based on the magnitude of the contingency, to include but not limited to; Advanced Cardiac/Trauma Life Support (ACLS/ATLS) teams, litter-carrying ambulances, drivers, and medical personnel to expand care to first aid sites in support/vicinity of disaster event
- Provide a Commander's assessment identifying likely civil authority requests as soon as possible after JTF CAPMED personnel arrive at the incident site.
- Develop and maintain relationships with agencies and first responders in the NCR JOA in order to support contingency operations and complete all Higher Headquarters (HHQ)-directed and Secretary of Defense-approved requests for assistance.
- Develop Indications and Warning parameters for likely events and maintain continuous situational awareness for potential disaster operations and events in the NCR JOA. Recommend additional missions required to save lives, mitigate human suffering, and facilitate recovery operations.
- Develop the Joint Manning Document and the Personnel Estimate; provide prioritization of force flow recommendation to U.S. Northern Command (USNORTHCOM).
- Develop command resource requirements and a management control process for rapid-response commercial contracting. Identify funding sources and control and distribute JTF CAPMED funds.
- Provide post-deployment health surveillance/assessment of medical forces.
- Develop and establish the Command and Control (C2) architecture and coordinate with subordinate commands to determine communications shortfalls to support JTF CAPMED operations within the JOA.
- Develop relationships with agencies and first responders in the NCR JOA and, when directed and in coordination with federal agencies, conduct collaborative, pre-incident planning for designated National Special Security Events and other designated special

- events to increase preparedness for incident response. Develop and maintain an Interagency Coordination Annex to all contingency plans.
- Review and analyze city emergency operations plans, metropolitan medical response system plans and other relevant local, regional or state plans to obtain specific knowledge about community capabilities and procedures. Establish, maintain and update necessary databases to preserve data integrity and facilitate ready access to key local information.
- Develop staff table-top exercises (TTXs), war-games, and staff training to evaluate staff knowledge and comprehension of contingency plans and preparedness to effectively respond to a disaster situation.
- Implement the JTF CAPMED Joint Lessons Learned Program (JLLP), Joint Lessons Learned Information System (JLLIS), and Joint Training Information Management System (JTIMS) to capture and disseminated after-action reports (AARs) and assessments.
- AARs and follow-on assessments will be utilized to identify, then correct, any gaps, weaknesses, or challenges in current capabilities.
- Defense Readiness Reporting System (DRRS) will be used as the readiness assessment reporting system for both JTF CAPMED staff and JOA facilities. The DRRS is the integrator of a command’s JMETL (Joint Mission Essential Task List), JTIMS, and JLLIS in order to determine the command’s capability readiness to perform its mission.
- Develop and maintain Public Affairs Annexes to all JTF CAPMED contingency plans.

Figure 31: JTF CAPMED Joint Training System Overview



J.5 Resources used for JTF CAPMED Contingency Planning

There are numerous contingency and planning resources available. JTF CAPMED considers the following as key planning tools and essential planning assets.

- Joint Pub 3-0, *Joint Operations* (17 September 2006)
- Joint Pub 3-33, *Joint Task Force Headquarters* (16 February 2007)
- Joint Pub 5-0, *Joint Operation Planning* (26 December 2006)
- CJCSM 3122.01A, JOPEs Volume I – *Joint Operation Planning and Execution System (JOPEs) Planning Policies and Procedures* (29 September 2006)
- CJCSM 3122.03C, JOPEs Volume II – *Planning Formats & Guidance* (17 August 2007)
- CJCSM 3122.02C, JOPEs Volume III – *Crisis Action Time-Phased Force Deployment Data Development and Deployment Execution* (22 March 2004)
- The Joint Forces Operations & Doctrine SMARTbook, *Guide to Joint, Multinational & Interagency Ops*, 2nd Revised Edition (2009)
- CJCS 3150.25D, *Joint Lessons Learned Program* (10 October 2008)
- DoD Directive 7730.65; "Department of Defense Readiness Reporting System (DRRS)", June 3, 2002, Certified Current as of April 23, 2007.

APPENDIX K: ACRONYM LIST

AAAHC	Accreditation Association for Ambulatory Health Care
AAR	After-action report
ACLS	Advanced Cardiac Life Support
ACS	American College of Surgeons
AD	Active Duty
ADA	Americans with Disabilities Act
ADCON	Administrative Control
ADFM	Active Duty Family Members
AFB	Air Force Base
AFI	Air Force Instruction
AFIP	Armed Forces Institute of Pathology
AFRRI	Armed Forces Radiobiology Research Institute
AHLTA	Armed Forces Health Longitudinal Technology Application
AHRQ	Agency for Healthcare Research and Quality
AMACR	Alpha-Methylacyl-CoA Racemase
AMEDD	Army Medical Department
APU	Ambulatory Procedures Unit
APV	Ambulatory Patient Volume
ASD/HA	Assistant Secretary of Defense for Health Affairs
AT/FP	Anti-Terrorism/Force Protection
ATLS	Advanced Trauma Life Support
ATO	Authority to Operate
BEQ	Bachelor Enlisted Quarters
BHEPP	Bethesda Hospitals' Emergency Preparedness Partnership
BLS	Basic Life Support
BMP	Best Management Practices
BOD	Beneficial Occupancy Date

BRAC	Base Realignment and Closure
BSI	Base Support Installation
BUMED	Bureau of Medicine and Surgery
BX	Base Exchange (United States Air Force)
C&CI	Communications and Computing Infrastructure
C2	Command and Control
C4	Command, Control, Communications, and Computers
CAC	Common Access Card
CAP	College of American Pathologists
CAPMED	National Capital Region Medical
CAPS	Center for Advanced Project Support
CARHED	Center for Advanced Research in Healthcare Environment and Delivery
CBIWG	Clinical/Business Integration Working Group
CBRNE	Chemical, Biological, Radiological, Nuclear, and High Yield Explosives
CCDR	Combatant Commander
CCQAS	Centralized Credentials and Quality Assurance System
CDHAM	Center for Disaster and Humanitarian Assistance Medicine
CDP	Center for Deployment Psychology
CEIPECQ	Center of Excellence for Integrated Patient Experience and Care Quality
CEQ	Council on Environmental Quality
CFI	Center for Innovation
CFOIC	Chief Financial Officer Integration Council
CHCS	Composite Health Care System
CHE	Continuing Education for Health Professionals
CHRC	Civilian Human Resources Council
CI	Configuration Item
CIO	Chief Information Officer
CJTF CAPMED	Commander, Joint Task Force National Capital Region Medical
CLR	Clear and Legible Report
CLV	Critical Lane Volume

CMIO	Chief Medical Information Officer
CMP – NCRM	Comprehensive Master Plan – National Capital Region Medical
CMS	Command Management System
CNIC	Commander, Navy Installations Command
CNRM	Center for Neuroscience and Regenerative Medicine
CO	Commanding Officer
CO ₂	Carbon dioxide
COA	Course of Action
CoE	Center of Excellence
COG	Center of Gravity
CON	Certificate of Networthiness
CONOPS	Concept of Operations
COOP	Continuity of Operations
CPDR	Center for Prostate Disease Research
CST	Center for the Study of Traumatic Stress
CT	Computed Tomography
CTO	Chief Technology Officer
DACH	DeWitt Army Community Hospital
DAR	Defense Access Road
DAS	Distributed Antennae System
DCO	Defense Coordinating Officer
DCoE	Defense Centers of Excellence
DEERS	Defense Eligibility Enrollment Reporting System
DEFCON	Defense Readiness Condition
DEIS	Draft Environmental Impact Study
DEPSECDEF	Deputy Secretary of Defense
DFAS	Defense Finance and Accounting Service
DHB	Defense Health Board
DHIMS	Defense Health Information Management Systems
DHP	Defense Health Program
DHS	Department of Homeland Security
DIACAP	DoD Information Assurance Certification and Accreditation Process

DMLSS	Defense Medical Logistics Standard Support
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DOIM	Director of Information Management
DQMC	Data Quality Management Control
DRRS	Defense Readiness Reporting System
DSCA	Defense Support of Civil Authorities
DUSD(I&E)	Deputy Under Secretary of Defense for Installations and Environment
DVBIC	Defense/Veterans Brain Injury Center
EA	Environmental Assessment
EBD	Evidence-Based Design
EBRT	External Beam Radiation Therapy
ECD	Estimated Completion Date
ED	Emergency Department
EDR	Executive Director's Recommendation
EEO	Equal Employment Opportunity
EIS	Environmental Impact Study
EMS	Emergency Medical Service
EPAAct	Energy Policy Act
ER	Emergency Room
ERG	Emergency Response Guidebook
ESF	Emergency Support Function
FAD	Funding Authorization Document
FBCH	Fort Belvoir Community Hospital
FCI	Facility Condition Index
FEMA	Federal Emergency Management Agency
FIAR	Financial Improvement and Audit Readiness
FM	Financial Management
FOC	Full Operational Capability
FPCON	Force Protection Condition
FSRE	Financial Statement Reporting Entity

FTE	Full-time equivalent
FY	Fiscal Year
FYDP	Future Year Defense Plan
GDE	Graduate Dental Education
GDIT	General Dynamics Information Technology
GI	Gastrointestinal
GME	Graduate Medical Education
GPMRC	Global Patient Movement Requirements Center
GPP	Guaranteed Placement Program
GS	General Schedule
GSN	Graduate School of Nursing
GUI	Graphical User Interface
GWOT	Global War on Terror
HA/TMA	Health Affairs/TRICARE Management Activity
HAC-D	House Appropriations Subcommittee on Defense
HCM	Human Capital Management
HEDIS	Healthcare Effectiveness Data and Information Set
HEPA	High-efficiency particulate arresting
HHS	Department of Health and Human Services
HIFU	High Intensity Focused Ultrasound
HIT	Health Information Technology
HPE	Health Professions Education
HQ	Headquarters
HQE	Highly Qualified Expert
HR	Human Resources
HSAC	House Armed Services Committee
HSAS	Health Systems Advisory Subcommittee
HSI	Health Services Inspection
HSPD	Homeland Security Presidential Directive
IAWG	Information Assurance Working Group
ICHP	Integrative Cardiac Health Project
ICU	Intensive Care Unit

IDE	Integrated Delivery Enterprise
IDS	Integrated delivery system
IIP	Information Interoperability Program
IM/IT	Information Management/Information Technology
IMD	Intermediate Manpower Document
IMPC	Information Planning Committee
INFOCON	Information Operations Condition
IO	Initial Outfitting
IO&T	Initial Outfitting and Transition
IOC	Initial Operational Capability
IP	Internet Protocol
IRB	Institutional Review Board
ISA	Installation Support Agreement
ITD	Information Technology Division
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
JEP	Joint Operating Area (JOA) Enrollment Plan
JFC	Joint Force Commander
JLLIS	Joint Lessons Learned Information System
JLLP	Joint Lessons Learned Program
JMED	Joint Medical Network
JOA	Joint Operations Area
JOPEs	Joint Operation Planning Execution System
JOPP	Joint Operations Planning Process
JPC	Joint Pathology Center
JPG	Joint Planning Group
JPTA	Joint Patient Tracking Application
JTD	Joint Table of Distribution
JTF	Joint Task Force
JTF CAPMED	Joint Task Force National Capital Region Medical
JTIMS	Joint Training Information Management System
KACC	Kimbrough Ambulatory Care Center
KAMC	Kimbrough Army Medical Clinic

LDRP	Labor/Delivery/Recovery/Postpartum
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LRC	Learning Resource Center
LRR	Locally Resourced Requirements
MADIT	Multicenter Automatic Defibrillator Implantation Trial
MAN/LAN	Metro Area Network/Local Area Network
MCFAS	Managed Care Forecasting and Analysis System
MCI	Military Cancer Institute
MCSC	Managed Care Support Contractor
MDG	Medical Group
MDW	Medical Wing
MEB/PEB	Medical Evaluation Board/Physical Evaluation Board
MEPRS	Medical Expense and Performance Reporting System
METALS	Military Extremity Trauma and Amputation Limb Salvage
MFP	Master Facilities Plan
MGMA	Medical Group Management Activity
MGMC	Malcolm Grow Medical Center
MHS	Military Health System
MHT	Maryland Historical Trust
MIC	Manager's Internal Control
MILCON	Military Construction
MMIG	MEPRS Management Improvement Group
M-NCPPC	Maryland-National Capital Park and Planning Commission
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSMO	Multi-Service Market Office
MSR	Main Supply Route
MTF	Medical Treatment Facility
MTF/CC	Medical Treatment Facility Credential Committee
MTFB	Mass Transportation Fringe Benefit

MTP	Master Transition Plan
MUIC	Maintenance Unit Identification Code
N0x	Nitrogen Oxide
NAF	Numbered Air Force (USAF) or Naval Air Facility (USN)
NRMC	Northern Regional Medical Command
NAS	National Academy of Sciences
NAVFAC	Naval Facilities Engineering Command
NAVMed	Navy Medicine
NCC	National Capital Consortium
NCDMPH	National Center for Disaster Medicine and Public Health
NCI	National Cancer Institute
NCP	Nurse Candidate Program
NCPC	National Capital Planning Commission
NCR	National Capital Region
NCRM	National Capital Region Medical
NDAA	National Defense Authorization Act
NEPA	National Environmental Policy Act
NEX	Navy Exchange (United States Navy)
NHPA	National Historic Preservation Act
NICoE	National Intrepid Center of Excellence
NIH	National Institutes of Health
NIMH	National Institute of Mental Health
NIMS	National Incident Management System
NIPRNet	Non-classified but Sensitive Internet Protocol Router Network
NMA	Non-Medical Attendant
NMCNCR	National Medical Command, National Capital Region
NNMC	National Naval Medical Center
NOA	Notice of Availability
NOI	Notice of Intent
NPDS	Naval Postgraduate Dental School
NRF	National Response Framework
NRP	National Response Plan

NSA Bethesda	Navy Support Activity, Bethesda
NSPD	National Security Presidential Directive
O&M	Operations and Maintenance
OASD/HA	Office of Assistant Secretary of Defense for Health Affairs
OB-GYN	Obstetrics and Gynecology
OCM	Organizational Change Management
OEF	Operation ENDURING FREEDOM
OEM	Occupational/Environmental Medicine
OHI	Other health insurance
OIF	Operation IRAQI FREEDOM
OIPT	Overarching Integrated Product Team
ONCR	Outside National Capital Region
OPCON	Operational Control
OPLAN	Operations Plan
OPNAVINST	Office of Chief of Naval Operations Instructions
OR	Operating Room
OSD	Office of the Secretary of Defense
OSD-HLS	Office of the Secretary of Defense for Homeland Security
OSHA	Occupational Safety and Health Administration
OTSG	Office of the Surgeon General
PACS	Picture Archiving Communication System
PAD	Patient Administration
PALS	Pediatric Advanced Life Support
PB&E	Program, Budgeting, and Execution
PCA3	Prostate Cancer Antigen 3 (test)
PCCWG	Primary Care Capacity Work Group
PFA	Primary Federal Agency
PM2.5	Particulate Matter 2.5
PMO	Program Management Office
PMP	Performance Measurement Plan
POD	Port of Debarkation
POE	Port of Embarkation

POM	Program Objective Memorandum
PPS	Prospective Payment System
PRPWG	Population Resource Projection Workgroup
PSR	Patient Safety Reporting System
PTSD	Post-Traumatic Stress Disorder
PX	Post Exchange (United States Army)
QA	Quality Assurance
QC	Quality Control
RADM	Rear Admiral
RESPECT-Mil	Re-Engineering Systems of Primary Care Treatment in the Military
RFA	Request for Assistance
RFID	Radio Frequency Identification
RFP	Request for Proposal
RMP	Risk Management Plan
RMSC	Resource Management Steering Committee
ROD	Record of Decision
ROFR	Right of First Refusal
ROI	Region of Influence
RTLS	Real Time Location System
SAMMC	San Antonio Military Medical Center
SFAC	Soldier Family Assistance Center
SIMCEN	National Capital Area Medical Simulation Center
SMA	Service Medical Activities
SO ₂	Sulphur Dioxide
SOM	School of Medicine
SOV	Single Occupant Vehicle
SRM	Sustainment, Restoration, and Modernization
STARTC	Soldier Transfer and Regulating Tracking Center
TACON	Tactical Control
TARA	Technology Assessment and Requirements Analysis
TBI	Traumatic Brain Injury
TIMPO	Tri-Service Infrastructure Management Program Office

TIWG	Technical Infrastructure Working Group
TMA	TRICARE Management Activity
TMP	Transportation Management Plan
TNCC	Trauma Nursing Core Course
TPMRC	Theater Patient Movement Requirements Center
TPY	Tons per year
TRAC2ES	United States Transportation Command (USTRANSCOM) Regulating Command and Control Evacuation System
TSNRP	Tri-Service Nursing Research Program
TTX	Table Top Exercise
UBO	Uniform Business Office
UME	Undergraduate Medical Education
URL	Uniform Resource Locator
USA	United States Army
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USAF/IE	United States Air Force Installations, Environment, and Logistics
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USMC	United States Marine Corps
USMCI	United States Military Cancer Institute
USN	United States Navy
USO	United Services Organizations
USSS	United States Secret Service
USTRANSCOM	United States Transportation Command
USUHS	Uniformed Services University of the Health Sciences
UV	Ultraviolet
VA	Department of Veterans Affairs
VADM	Vice Admiral
VCE	Vision Center of Excellence
VDOT	Virginia Department of Transportation
VFA	Vanderweil Facility Advisors

VHA	Veteran's Health Administration
VIWG	Visual Information Working Group
VLER	Virtual Lifetime Electronic Record
VOC	Volatile Organic Compound
WAN	Wide Area Network
WFCC	Warrior Family Coordination Cell
WHC	Washington Hospital Center
WII	Wounded, Ill, and Injured
WIT	Warriors in Transition
WMATA	Washington Metro Area Transportation Authority
WRAMC	Walter Reed Army Medical Center
WRHCS	Walter Reed Healthcare System
WRNMMC	Walter Reed National Military Medical Center

END NOTES

¹ Review of the NCR’s Military Health System (NCR MHS), Bain & Company Incorporated, 2003.

² Review of the NCR’s Military Health System (NCR MHS), Bain & Company Incorporated, 2003.

³ NCR Market Analysis – Executive Summary Report, Noblis, 2009.

⁴ The complete findings of this workshop can be found in “Joint Task Force National Capital Region Medical, Cultural Integration Workshop Findings and Recommendations Report,” 30 June 2009, Deloitte

⁵ For a review of the literature linking healthcare design and care delivery to patient, family, staff, and organizational quality and safety outcomes, see: Ulrich, R. S., Zimring, C. M., Zhu, X., DuBose, J., Seo, H., Choi, Y., et al. (2008). A review of the research literature on evidence-based healthcare design. *Health Environments Research & Design*, 1(3), 61-125.

⁶ Some examples of organizations pursuing significantly improved outcomes through integrated facility and process evidence-based design include:

- Ohio Health’s new evidence-based facility, Dublin Methodist Hospital, has been open for 15 months and has had a total of five healthcare-acquired infections, a 95 percent reduction from national averages.
- Emory Health Sciences has applied evidence-based design to create a neurocritical care unit that helps patients with severe brain injuries go home more quickly and involves families in their care.
- The Center for Health Design is working with 53 healthcare organizations to implement evidence-based design as part of their Pebble Program.

⁷ The medical capability is also consistent with the NDAA FY 2010 Sec. 2714 stipulations and the Base Realignment and Closure (BRAC) Act of 2005.

⁸ “Innovation Infrastructure,” The Advisory Board Company, 2009.

⁹ The URL for viewing the link between the LRC catalogue and the catalogues for the WRAMC, Kimbrough, and DeWitt libraries is <http://pac.lrc.usuhs.mil/search~S5>.

¹⁰ Murray, J.S. (in review). World-class healthcare: Simulation on the cutting edge. *Military Medicine*

¹¹ The National Response Framework provides the coordinating framework for support provided under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (PL 93-288) (Title 42 United States Code Section 5121, et. seq.). The Stafford Act and the Economy Act (Title 31 United States Code Section 1535) are the major pieces of legislation that govern the federal response, which includes DoD.

