THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

FEB 6 2006

The Honorable John W. Warner
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510-6050

Dear Mr. Chairman:

The enclosed report responds to Section 723 of the National Defense Authorization Act for Fiscal Year 2000 which requests the Assistant Secretary of Defense for Health Affairs submit an annual report on the quality of health care furnished under the health care programs of the Department of Defense (DoD). The report focuses on health outcomes and use of health report cards, standard clinical pathways, and innovative processes for surveillance. The timeframe of this report is Fiscal Year 2004.

The report provides an overview of health outcome measures and report cards used by DoD to assess the quality of care provided to our beneficiaries in comparison to national recognized benchmarks. With rare exception, DoD performed as well as, if not better than, the national norms on various health outcomes and report card indicators. Working collaboratively, DoD and Department of Veterans Affairs have jointly established over 27 clinical practice guidelines available for internal and public use. DoD has established or expanded capabilities of several innovative surveillance methodologies to ensure essential health information is available for planning, response, and decision-making, especially in theater. Taken together, these initiatives create a multi-dimensional picture of the TRICARE Program performance as compared with national benchmarks and enhance the ability of the Military Health System to provide quality health care to all beneficiaries. Thank you for your continued support of the Military Health System.

Sincerely,

William Winkenwerder, Jr., MD

Enclosure:
As stated

cc:
Senator Carl Levin

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The Honorable Lindsey O. Graham
Chairman, Subcommittee on Personnel
Committee on Armed Services
United States Senate
Washington, DC 20510-6050

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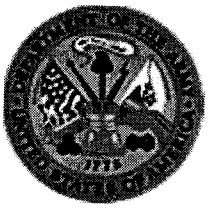
As stated

cc:
Senator Ben Nelson

Department of Defense Health Care Quality

A report to Congress
on the quality of health care
provided by the
health care programs of the
Department of Defense
during FY 2004



Health Care Quality

Health Programs of the Department of Defense

The requirement for this report is outlined in Public Law as follows:

> Health Care Quality Information and Technology Enhancement - Section 723 of the National Defense Authorization Act FY 2000 (Public Law 106-65): The Assistant Secretary of Defense for Health Affairs shall submit to Congress on an annual basis a report on the quality of health care furnished under the health care programs of the Department of Defense. The report shall cover the most recent fiscal year ending before the date the report is submitted and shall contain a discussion of the quality of the health care measured on the basis of each statistical and customer satisfaction factor that the Assistant Secretary determines appropriate, including, at a minimum, a discussion of the following:
>
> (1) Health outcomes.
> (2) The extent of use of health report cards.
> (3) The extent of use of standard clinical pathways.
> (4) The extent of use of innovative processes for surveillance.

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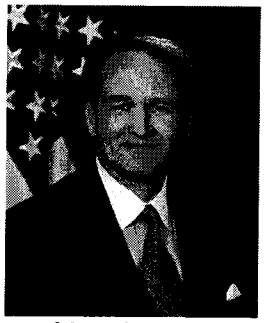


William Winkenwerder, Jr., MD, MBA
Assistant Secretary of Defense (Health Affairs)
Director of the TRICARE Management Activity

I am pleased to submit this annual report to Congress on the quality of healthcare provided by the Department of Defense (DoD) during FY 2004. The Military Health System (MHS) is the unrivaled "industry leader" in providing cutting edge medical care to the war fighter anywhere in the world. Combat death rates from Iraq and Afghanistan are lower than they have been in the recorded history of warfare. Patients are moved from the acute injury in combat to definitive care in the United States with incredible speed, sometimes before the patient awakens from anesthesia. At the same time, the TRICARE benefit, a tremendous value, is threatened by growing costs for an expanding, and aging beneficiary population. Fortunately, increasing clinical health care quality usually reduces cost. Maintaining health and fitness is also less expensive than treating predictable complications of poor lifestyle choices. Pursuit of system-level health quality excellence and active promotion of healthy lifestyles are both part of the MHS strategy for maintaining and sustaining the TRICARE benefit.

The MHS intentionally benchmarks with civilian healthcare organizations. DoD participates in Joint Commission on Accreditation of Healthcare Organization hospital performance measures, Health Plan Employer Data Information Set measures, and the National Research Corporation Health System Satisfaction Surveys. I am pleased to report that these measures and surveys clearly indicate that the care received by DoD beneficiaries is equivalent to or superior to that provided by brand name U.S. commercial health plans. In the provision of evidence-based management of chronic diseases such as asthma and diabetes, MHS performance compares favorably with the U.S. Surgeon General's Healthy People 2010 targets.

In safety and quality, the MHS is uniquely positioned to pursue innovation and excellence. The Army, for example, has been recognized by the National Quality Forum with the 2004 John M. Eisenberg Award for Innovation in Patient Safety and Quality for its new distance-learning Patient Safety course. Even under operational conditions, patient safety and clinical quality can now be monitored as injured warriors move swiftly and seamlessly between MTFs using a new centralized, web-based Patient Movement Quality Tool.

It is my privilege to serve alongside the skilled, highly dedicated medical professionals of the MHS. Together, we strive to provide the highest standard of quality health care to the patriots who have offered their lives in the defense of our nation, and to their families. You are part of this team, and your leadership and support are essential to the continued success of the MHS mission.

William Winkenwerder, MD, MBA

Executive Summary

The Military Health System (MHS) is a worldwide healthcare delivery system operated by the DoD, offering healthcare benefits to an estimated 8.9 million beneficiaries. With its mission to enhance the Department's and our nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care, assessing the quality of health care is vitally important. The MHS is composed of two complementary parts: the direct care system provides services to patients in MTFs while the purchased care system provides care to military beneficiaries through civilian providers in private offices or non-military facilities.

One of the TRICARE purchased care system partners is the United States Family Health Plan (USFHP). The USFHP provides care in six areas of the United States to TRICARE Prime members including families of active duty military, retirees and their eligible family members, including those age 65 and over. During 2004, a major portion of the purchased care system restructured into three regions from eleven. The new structure was designed to provide beneficiaries with improved access to care, better customer service and enhanced quality of care. In light of the significant changes in the purchased care system during FY 2004, the majority of the information in this report focuses on the direct care system.

The assessment of the quality of health care provided by the DoD is measured in a variety of ways, with use of civilian benchmarks whenever possible. Evaluation involves information obtained from electronic administrative and clinical data, abstraction of medical records, and perhaps most importantly, surveys of DoD beneficiaries.

Health Outcomes

Health outcomes are the actual end results of healthcare interventions. In FY 2004, DoD used three separate and distinct programs to evaluate health outcomes:

- Joint Commission on Accreditation of Healthcare Organizations ORYX® Performance Measures
- National Perinatal Information Center (NPIC) Benchmark Database
- National Quality Management Program (NQMP) Special Studies

The ORYX® and NPIC programs use recognized and validated measures that allow DoD to compare its performance to national norms. NQMP Special Studies use a combination of DoD-specific norms and national norms to assess the care provided.

With rare exception, DoD performed as well as, if not better than, the national norms on the various indicators in the core ORYX® measure sets (Pregnancy

and Related Conditions, Acute Myocardial Infarction, Heart Failure, and Pneumonia) and on the NPIC perinatal measures. The FY 2004 NQMP Special Studies included Prevalence of Obesity, Blood Pressure Measurement and Management, Post-Deployment Healthcare Screening and Evaluation, and Depression.

The MHS is piloting the National Surgical Quality Improvement Program (NSQIP) at three MTFs. NSQIP is the only nationally recognized, validated, risk-adjusted surgical quality improvement program designed to compare observed to expected operative morbidity and mortality rates.

Health Report Cards

The term "health report card" refers to compiling and reporting comparative data on healthcare organizations, plans or providers. The Military Health System (MHS) participated in three nationally-respected sets of standards and clinical measures during FY 2004 including:

- Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Standards
- National Committee for Quality Assurance (NCQA) Health Plan Employer Data and Information Set (HEDIS®)
- The National Research Corporation and the Picker Group Survey

Taken together, these measures create a multi-dimensional picture of the TRICARE Program and its clinical and service performance as compared with large commercial health plans.

The DoD requires accreditation of all fixed hospitals and ambulatory care facilities by JCAHO. Accreditation decisions, compliance with National Patient Safety goals and status of attaining Quality Improvement goals for MHS facilities, are publicly posted on the Quality Check area of the JCAHO website along with those of all JCAHO participating institutions.

HEDIS® shows how well health plans deliver preventive care and how well members with acute illnesses or chronic diseases are managed to avoid or minimize complications. For those HEDIS® measures used within the MHS (cervical cancer screening rates; breast cancer screening rates; use of appropriate medications for people with asthma; and diabetes care), DoD performed at least as well as other health plans that voluntarily agreed to participate in reporting.

The National Research Corporation in partnership with the Picker Group (NRC+Picker), a leader in health system performance measurement, conducted inpatient surveys for medicine, surgery and obstetric care in FY 2004. MHS findings were comparable to or better than NRC comparative data, suggesting that the majority of MHS patients were more satisfied with their care than the NRC reference patients.

Evidence Based Clinical Practice

Evidence based clinical practice guidelines (CPGs) focus on the delivery of consistent, high quality care and expedite the diffusion of proven best practices in medicine. Each of the military services has committed to use of the DoD and the Department of Veterans Affairs (VA) CPGs as the backbone of their evidence-based prevention and condition management processes. All future special studies that include a clinical condition for which a CPG exists will include an evaluation of compliance with the guideline. The MHS Dental Services initiated publication of practice guidelines to provide a framework for high quality oral healthcare services and to sustain continuous quality improvement in dental care.

Innovative Processes for Surveillance

The DoD has implemented or expanded the capabilities of several innovative surveillance methodologies to ensure essential health information is available for planning, response and decision-making. During FY 2004, the focus of representative programs included:

- Safe patient care
- Management of healthcare information
- Health status of beneficiaries
- Surveillance and response to infections and exposures

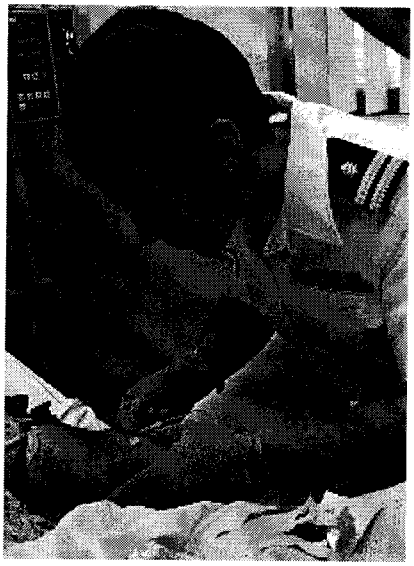
The DoD Patient Safety Program seeks to avoid medical harm and improve patient safety by improving systems and increasing communication among members of health care teams. Trained Patient Safety Managers (PSMs) are in place in most MTFs. The Patient Safety Center received and analyzed data from 144 MTFs through monthly summary reports and the MEDMARX® medication error reporting system. The Patient Safety Reporting System (PSR) was funded by the MHS in 2004 as a means to standardize the reporting of medical errors among the Services as well as facilitate reporting within the MTF's. The PSR is a web-based system that will report all medical errors and near misses up the chain of command and eventually into the Data Repository at the Patient Safety Center.

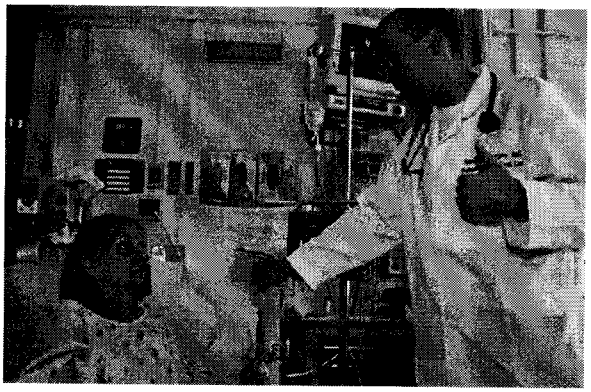
Current, accurate and available patient information is an essential component in providing quality healthcare. The MHS has developed and launched information management systems to support theater operations and the MTFs. The Composite Health Care System II, a medical and dental clinical information system, is the most comprehensive technology system ever implemented in the health industry. Upon completion of full implementation, the system establishes a life-long MHS beneficiary medical record continually accessible across the

armed services and the VA. The Theater Medical Information Program provides automated medical information to support the war fighter. This medical information system was established to ensure precise, interoperable support for rapid mobilization, deployment, and sustainment of all theater medical services anywhere, anytime, in support of any mission. The Pharmacy Data Transaction Service, a centralized data repository containing information about prescriptions filled worldwide for DoD beneficiaries, electronically monitored all DoD pharmacy transactions in FY 2004 for potential adverse reactions, appropriate dosing, duplicate medication prescriptions, and medication utilization trends.

The MHS Population Health Portal transforms clinical and administrative data into actionable information for DoD healthcare teams. The information provided helps medical professionals monitor the health of their enrollees and improve the delivery of preventive services and chronic disease management programs. The portal provides critical, real-time feedback to providers, MTF commanders, and to MHS clinical leadership on the effectiveness of evidence-based clinical practice initiatives.

The Department of Defense, Global Emerging Infections Surveillance and Response System (DoD-GEIS) is a network of DoD medical professionals committed to mitigating the effects of emerging infectious threats. DoD-GEIS partners worked collaboratively with key civilian organizations to address influenza and avian influenza outbreak concerns and acinetobacter baumannii infections. One of the most important lessons learned from Operations Desert Shield and Desert Storm was the importance of knowing what potentially hazardous exposures service members might encounter. The Environment Surveillance System in Theater was developed to capitalize on the knowledge gained from the past by focusing on early identification of environmental exposures that can impact operational forces and the mitigation of exposures.





Health Outcomes

Quantifying results of care for continuous performance improvement

Health Outcomes

Health outcomes are the actual end results of health care interventions. They are an extremely important indicator of the quality of care provided by a health plan or healthcare delivery system.

In 2004, DoD monitored health outcomes through three separate and distinct programs:

- Joint Commission on Accreditation of Healthcare Organizations ORYX® Performance Measures
- National Perinatal Information Center Benchmark Database
- National Quality Management Program Special Studies

In addition to these three programs, the MHS is piloting the National Surgical Quality Improvement Program (NSQIP) at three MTFs, San Diego Naval Medical Center, Walter Reed Army Medical Center and Wilford Hall Air Force Medical Center. NSQIP is the only nationally recognized, validated, risk-adjusted surgical quality improvement program designed to compare observed to expected operative morbidity and mortality rates.

Joint Commission on Accreditation of Healthcare Organizations ORYX® Performance Measures

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is a nationally recognized healthcare accrediting body focusing on continuous improvement in safety and quality of care. JCAHO introduced its ORYX® initiative to integrate performance measures into the accreditation process. Accredited hospitals serving patient populations with conditions covered under the initial core measures were required to report results in three of four available core measure sets:

- Acute Myocardial Infarction
- Heart Failure
- Pneumonia
- Pregnancy and Related Conditions

In July of 2004, the Surgical Infection Prevention measures were added to the list of ORYX® measures sets. The three measures included in the Surgical Infection Prevention set are prophylactic antibiotic received within one hour prior to surgical incision, appropriate prophylactic antibiotic selection for surgical patients and prophylactic antibiotics discontinued within 24 hours after surgery end time. The initial comparative data for these measures will be available in fiscal year 2005.

In some situations, the JCAHO core measure sets are not applicable to the patient populations served at the hospital. To ensure the ORYX® measures are useful to the hospital, a combination of core measure sets and non-core

measures can be selected to meet the accreditation requirement. Non-core measures are identified by the hospital and submitted to the JCAHO for approval. The DoD has approval for two non-core measure sets: disease management of diabetes and asthma. A set of measures on hypertension is in development.

Each core and non-core measure set includes scientifically-proven **process measures** (the percentage of cases in which widely accepted evaluations or interventions essential to quality care took place) and/or **outcome measures** (end results of care). An example of a process measure would be how often aspirin is given to a patient seen in the emergency room with an acute heart attack. Examples of outcome measures include the rate of major lacerations occurring in labor and delivery and neonatal mortality. Since JCAHO publishes national averages for each set each quarter, the ORYX® program allows DoD to gauge its clinical performance against the benchmarks established by the Joint Commission national rates. This program provides the Department with an abundance of clinically-relevant data in each of the four core measure sets.

The **ORYX® Pregnancy and Related Conditions Measures (PR)** set includes three measures that assess obstetrical care, vaginal birth after cesarean section (VBAC), perineal lacerations during vaginal deliveries and neonatal mortality. The DoD performed as well as or better than the JCAHO national rate on all three indicators, with the DoD rates for VBAC and neonatal mortality being significantly better than the national rates.

Obstetrical care was DoD's largest and a very important product line, with more than 52,000 babies delivered in the direct care system in FY 2004. High quality perinatal care is extremely important to MHS beneficiaries.

Pregnancy and Related Conditions Measures (PR)

PR-1 Vaginal birth after cesarean section (risk-adjusted)

PR-2 Inpatient neonatal mortality: live born infants who expired less than 2 days after birth (stratified by birth weight) (risk-adjusted)

PR-3 Third- or fourth-degree laceration: patients with third- or fourth-degree perineal laceration during vaginal deliveries (risk-adjusted)

2004 ORYX® Pregnancy Measures data demonstrated:

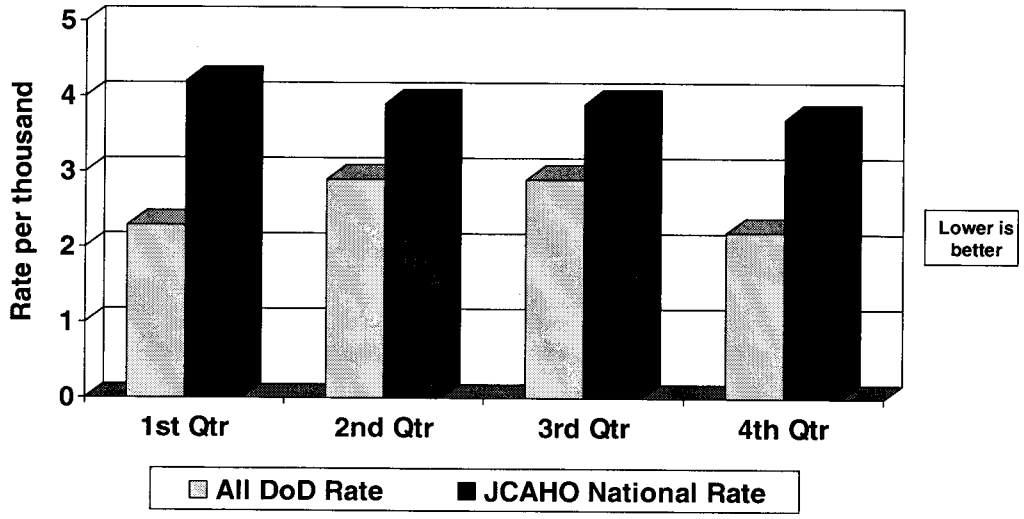
DoD performed as well as or better than the Joint Commission national rate for the vaginal birth after cesarean section and third- or fourth-degree laceration indicators.

The inpatient infant mortality rate for DoD patients was significantly less than the Joint Commission national rate.

ORYX® Pregnancy and Related Conditions:

Inpatient Neonatal Mortality

FY 2004



The **ORYX® Acute Myocardial Infarction (AMI)** set measures processes of care recognized to improve survival and recovery from an acute myocardial infarction (heart attack). The nine indicators assess care provided immediately after a heart attack, during the hospital stay, and at the time of discharge, as well as mortality.

Analysis of the 2004 data for the AMI set revealed that medical management of DoD's patients with acute heart attack was consistent with the national benchmarks established by the Joint Commission data. In fact, DoD performed better than the national rates in seven of the nine measures. The two areas in which the national rate was better than the DoD rate were; time from arrival to initiation of primary percutaneous transluminal coronary angioplasty (PTCA), an intervention intended to reestablish blood flow to the injured part of the heart; and smoking cessation counseling. The worse than expected result on AMI-8 was due to a combination of small sample size and a single case in which additional time was appropriately taken to assess a concurrent medical condition prior to proceeding with PTCA. Analysis of AMI-4 revealed that smoking cessation counseling was provided in MTFs more frequently than it was documented in the medical record. Smoking cessation has been identified as an area of focus across the MHS. Steps are being taken to decrease DoD beneficiary smoking rates in the MTFs and in the wider DoD community.

Acute Myocardial Infarction (AMI) Measures

AMI-1	Aspirin at arrival
AMI-2	Aspirin prescribed at discharge
AMI-3	Patients with left ventricular systolic dysfunction prescribed angiotensin converting enzyme inhibitor (specific blood pressure medication) at discharge
AMI-4	Smoking cessation advice or counseling
AMI-5	Beta blocker (class of medication active on heart and blood pressure) prescribed at discharge
AMI-6	Beta blocker administered upon arrival
AMI-7	Time from arrival to initiation of thrombolytic (clot-breaking) medication
AMI-8	Time from arrival to initiation of primary percutaneous transluminal coronary angioplasty
AMI-9	Inpatient mortality (risk-adjusted)

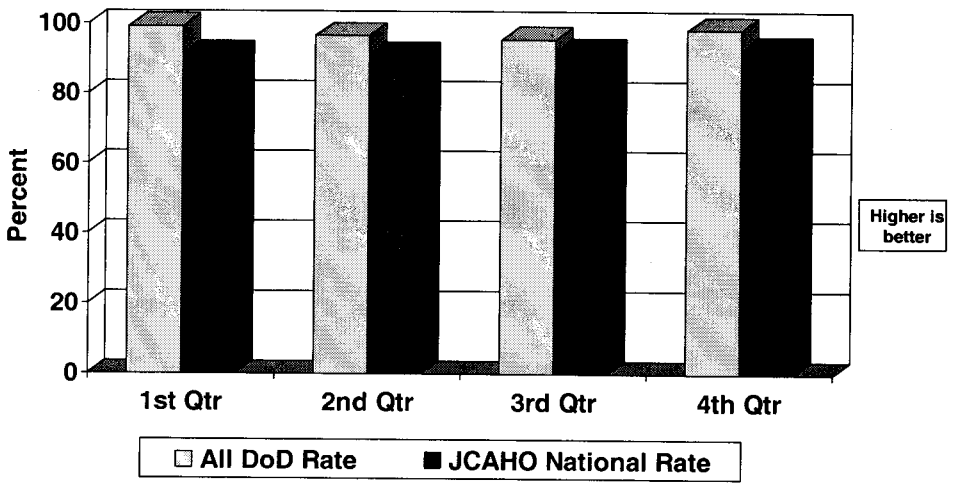
2004 data for the AMI measure set revealed that the medical management of DoD patients with acute heart attacks was consistent with national benchmarks established by Joint Commission data. DoD performed better than the national benchmark in seven of the nine measures.

One area identified for improvement was counseling about smoking cessation. A review of practices at MTFs indicated that smoking cessation advice or counseling was frequently provided, but it was not consistently documented in the medical record. DoD will be focusing on tobacco cessation as a health promotion priority over the next several years.

ORYX® Acute Myocardial Infarction:

Beta Blocker Prescribed at Discharge

FY 2004



The **ORYX® Heart Failure (HF)** set assesses processes of care that are known to improve outcomes in patients hospitalized with heart failure (decreased pumping capacity of the heart). The four measures include the assessment and care of patients during their hospitalization and at the time of discharge. The data for DoD patients indicated that evaluation of left ventricular pumping function and prescription of angiotensin converting enzyme (ACE) inhibitor medications at discharge, two processes that improve patient outcomes, were frequently better than data for other hospitals participating in these ORYX® indicators. Two areas where the national benchmarks exceeded the DoD rates were documentation of discharge instructions and smoking cessation counseling. With focused attention to discharge documentation, this indicator improved significantly during the last two quarters of the year. As noted, tobacco cessation is being resourced as an MHS health promotion priority. In discharge instructions, documentation of counseling on monitoring of weight was less robust in the DoD compared to national benchmarks. All other recommended areas of discharge planning were consistently present. A focused study on the correlation of the completeness of discharge instruction with morbidity, readmission, and outpatient healthcare utilization in the direct care system is in progress. On completion of this study, focused education will be available on this subject to all MTF staff.

Heart Failure (HF) Measures

HF-1	Heart failure patients with complete discharge instructions in the medical record
HF-2	Heart failure patients not admitted on ACE inhibitor or angiotensin receptor blocker (blood pressure medication) with left ventricular function evaluated before or during hospitalization or planned after discharge
HF-3	Patients with left ventricular ejection fraction <40 percent (Left Ventricular Systolic Dysfunction, LVSD) prescribed ACE inhibitor at discharge
HF-4	Adult smoking cessation advice/counseling

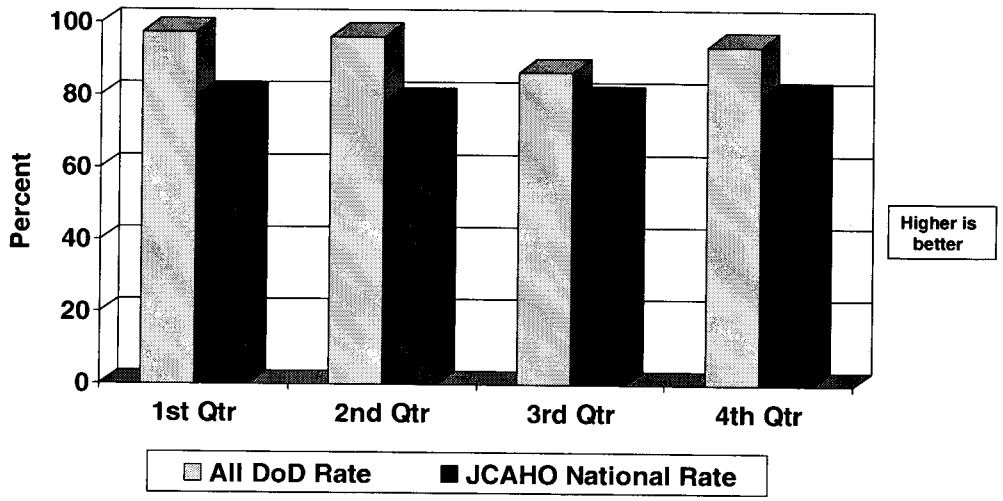
The data for DoD patients indicated that evaluation of left ventricular function and prescription of angiotensin converting enzyme (ACE) inhibitors at discharge were frequently better than for patients at other hospitals participating in these ORYX® indicators.

Documentation of discharge instruction for CHF was the subject of a focused quality study in 2004 under the National Quality Monitoring Program (NQMP). Based on the results of the study, educational materials on discharge instruction for CHF patients will be developed and made available to MTF staff though an electronic web based education site. Tobacco cessation will be an MHS health promotion priority for the next several years

ORYX® Acute Myocardial Infarction:

ACE Inhibitor for LVSD

FY 2004



The **ORYX® Pneumonia (PN)** set measures four processes of care of proven value in improving outcomes for patients with pneumonia. During 2004, the DoD data for all measures except smoking cessation counseling were consistent with data reported by other ORYX® participating organizations across the nation. The measures for oxygenation assessment and antibiotic timing slightly, but consistently, exceed that of other ORYX® participating organizations. Timing of blood cultures demonstrated a strong upswing in the 4th quarter of 2004. The data on smoking cessation revealed results similar to those seen in other ORYX® smoking cessation-related measures. Smoking cessation counseling was frequently provided, but was not well documented in the medical record. Tobacco cessation will be a priority health promotion focus for the MHS for the next several years. Documentation of pneumococcal vaccination status for inpatients with pneumonia was identified as a potential area for improvement.

Pneumonia (PN) Measures

PN-1	Oxygenation assessment within 24 hours of hospital arrival
PN-2	Inpatients screened for and/or given pneumococcal vaccination
PN-3	Blood cultures obtained prior to first antibiotic administration
PN-4a	Adult smoking cessation advice/counseling
PN-4b	Pediatric smoking cessation advice/counseling
PN-5	Time from initial hospital arrival to first dose of antibiotic

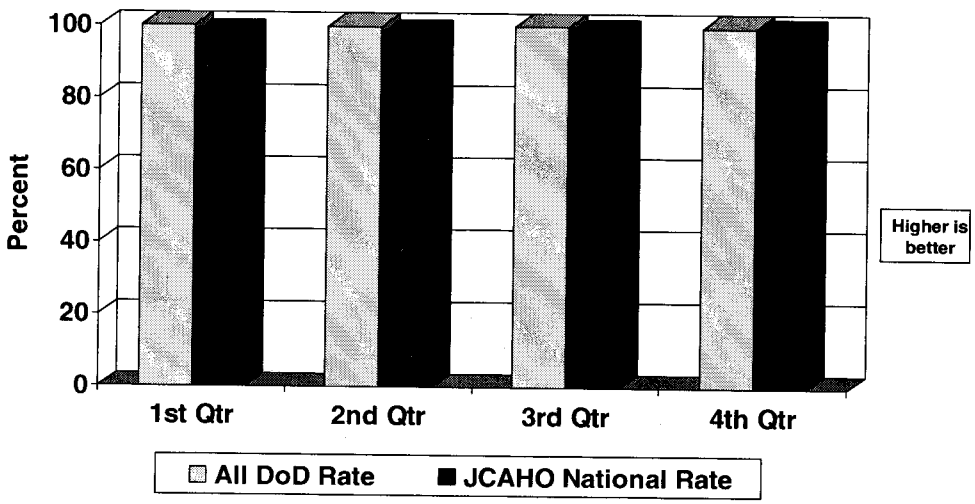
The 2004 DoD data on oxygenation assessment was slightly, but consistently, superior to other ORYX® participating organizations. Timing of blood cultures and first dose of antibiotics were comparable to national benchmarks and demonstrated an upswing in the last quarter of 2004.

Smoking cessation advice/counseling was consistent with the results seen in other DoD ORYX®smoking cessation related measures. Documentation of inpatient screening for pneumococcal vaccination was also identified as a potential area for improvement.

ORYX® Community Acquired Pneumonia:

Oxygenation Assessment

FY 2004



Non-Core Measures

The MHS selects clinical areas for non-core measurement development based on an analysis of the patient populations served at the MTFs. The measure development process includes representation from each of the Services and begins with a review of current literature; existing measures established by organizations focused on healthcare quality; and established VA/DoD evidence based guidelines. This process ensures the measures are aligned with proven best clinical practices and are applicable across the MHS.

The **Disease Management of Diabetes** ORYX® non-core measure set includes eight measures. Five of the measures are focused on processes while the remaining three are outcome based. The measure set addresses management of diabetes and related comorbid conditions. The data collection is accomplished by chart abstraction from the patient's medical record at the MTF.

Disease Management of Diabetes Measures

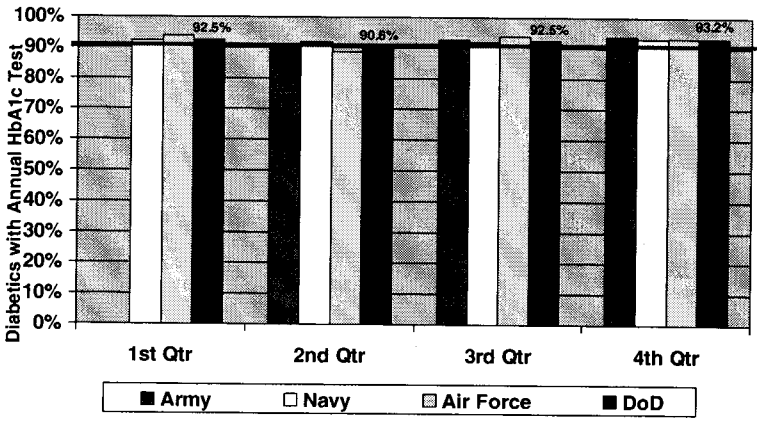
1. HbA1c management test values
2. Timing of HbA1c test
3. Blood pressure values
4. Timing of LDL cholesterol test
5. Timing of urine protein test
6. LDL-cholesterol management test values
7. Timing of eye examination
8. Timing of foot exam

34 MTFs use the diabetes measure set to meet their ORYX® requirements.

Each MTF receives quarterly feedback on the measures they selected.

The DoD average for each measure is stable and comparable with the HEDIS® 90th percentile.

ORYX® Non-Core Measure
Diabetes Care: Timing of HbA1c Test
FY 2004



An estimated 90% of adults with diabetes had a hemoglobin A1c measurement at least once in past year.

National Healthcare Quality Report. 2004, AHRQ

Data collected by medical record abstraction at MTFs that selected Diabetes Care as an ORYX® Non-Core Measure.
No Army MTFs selected Diabetes Care during the 1st quarter of FY 2004.

The **Disease Management of Asthma** ORYX® non-core measure set consists of four process measures. The measures were developed to complement a National Quality Management Program special study conducted. During the first quarter of the year, only Air Force MTFs selected the asthma measures to meet the JCAHO standards.

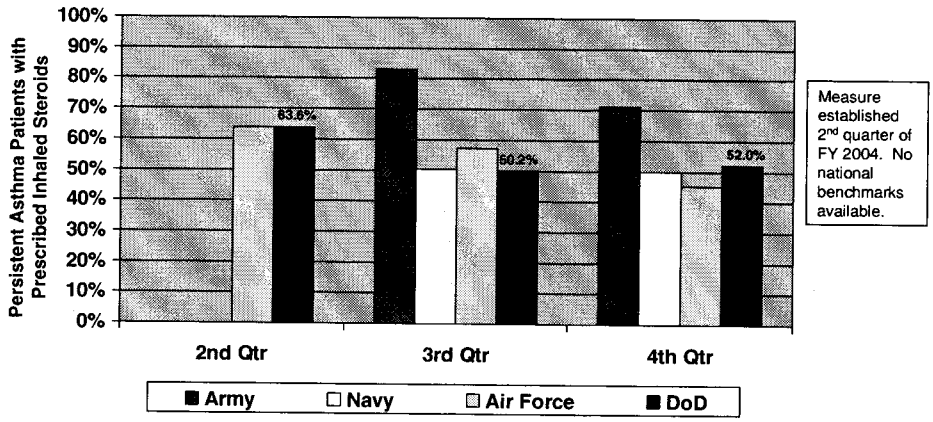
Disease Management of Asthma Measures

1. Persistent asthma patients with documented action plan
2. Documentation of asthma severity level
3. Persistent asthma patients who are prescribed inhaled steroids
4. Asthma patients with spirometry documented

29 MTFs report asthma measures to the JCAHO to meet the ORYX® requirements.

The evidence on medication use for asthma patients has evolved. Inhaled corticosteroids (ICS) are now considered the best clinical practice. National benchmarks specific to ICS are under development.

ORYX® Non-Core Measure
Asthma Care: Prescribed Inhaled Corticosteroids
FY 2004



Data collected by medical record abstraction at MTFs that selected Asthma Care as an ORYX® Non-Core Measure. No Army or Navy MTFs selected Asthma Care during the 1st quarter of FY 2004.

Perinatal Outcomes

Today's military is a dedicated and resilient force composed of a significant number of young people, many of whom are just starting their families. Childbirth remains the number one reason for hospitalization in the MHS with over 50,000 births in military hospitals per year.

Since FY 2003, a transformation program, Family Centered Care - aimed at the delivery of care before, during and after childbirth - has been underway. Through the family-centered care initiative, military hospital staff serve as an extended "family," knowledgeable about military life, to ensure that expectant mothers and families get the best possible coordinated care during this special time in their lives. Information-sharing and collaboration between patients, families, and healthcare staff are cornerstones of family centered care and ensure the best possible health outcomes for the mother and infant.

The perinatal database created by the National Perinatal Information Center provides a means to compare childbirth data from across the nation. Validated, risk-adjusted, perinatal information from multiple women's and infants' hospitals is analyzed to provide benchmarks for infant and maternal outcomes, utilization of services and staffing data.

The data from twenty-four MTFs from the three Services were used in the analysis of perinatal processes and outcomes.

National Perinatal Information Center Comparative Data

Outcome Measures	Military Treatment Facility	Perinatal Center Database
Cesarean birth rates	24.0%	30.5%
Major complication rates	7.7%	10.4%
Extreme complication rates	0.4%	0.7%
Operative delivery rate	7.9%	9.4%
Induction rate	17.9%	17.6%
Major complications for the neonates	5.5%	5.5%
Extreme complications for the neonates	0.6%	1.3%
Mortality rate for special care neonates	0.4%	0.6%

Note: Lower scores are better

The MHS results, which exceed the national norms established through the Perinatal Information Center benchmark database, attest to a high quality of care delivered to military families.

National Quality Management Program Special Studies

DoD uses the National Quality Management Program (NQMP) to monitor clinical performance in MTFs and compare that performance to the civilian sector.

NQMP Special Studies quantify the impact of the DoD healthcare system's structures, processes, and outcomes on quality of care for MHS beneficiaries through systematic, state-of-the-art data collection, analyses, reviews, and reports. Information and clinical outcomes gleaned from collected and analyzed data are provided back to MTF staff, enhancing the ability of MTFs to serve beneficiaries throughout the enterprise.

Each year, a multidisciplinary panel of MHS experts, the NQMP Scientific Advisory Panel (SAP), selects several areas of interest and identifies research questions to enhance the understanding of what is occurring in the MHS, usually at the corporate or national level. Selection criteria include:

- High prevalence or incidence
- Significant preventable disability
- High cost
- Problem prone
- Operationally significant

The SAP also considers whether there is a recognized standard of care with national benchmarks available for comparison, as well as whether a proposed study is feasible and the results likely to be actionable. If a DoD Clinical Practice Guideline (CPG) exists for the condition being evaluated, the SAP incorporates an evaluation of compliance with the guideline into the study framework. Finally, the SAP identifies the metrics that will be explored through analysis of electronic data sets, record abstraction, and/or survey tools.

During FY 2004, four special studies were completed.

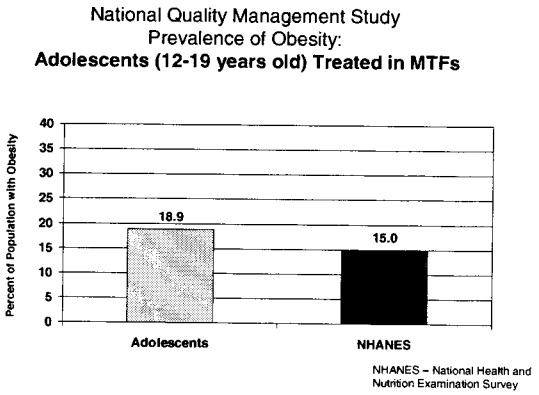
- Prevalence of Obesity
- Blood Pressure Measurement and Management
- Post-Deployment Health Care Screening and Evaluation
- Depression

A synopsis of each study follows.

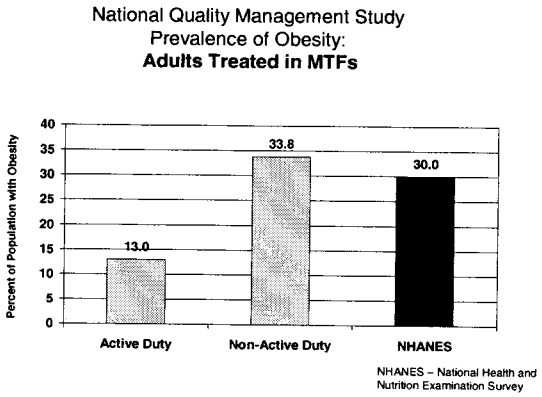
Prevalence of Obesity

In America, almost one in three adults and 16 percent of children are obese. The adverse health effects of obesity are substantial. Obese adults are at greater risk for many chronic conditions such as heart disease, diabetes, hypertension and osteoarthritis. An estimated $100 billion is spent annually on obesity-related health care costs. Given the prevalence and cost of obesity nationally, the NQMP designed this study as a baseline assessment of obesity prevalence among users of the direct care system. This study quantified obesity-associated co-morbidities, and documentation of patient counseling/education for diet and exercise.

Adolescents



Adult Active and Non-Active Duty



Conclusion

The prevalence of obesity among active duty personnel is below the National Health and Nutrition Examination Survey (NHANES) rate. However, the prevalence of obesity among both adolescents and non-active duty adults seeking care at MTFs is higher than national estimates for similar groups. This study complements the findings of the 2002 Health Related Behaviors Survey. Approximately one-fourth of the study population had documentation of at least one of the select study co-morbid conditions (hypertension, gastro-esophageal reflux disease, abnormal menstrual patterns, and coronary artery disease). Thirty percent of beneficiaries received documented education targeting diet and exercise. The DoD will be standing up a Weight Management Demonstration Project in 2006. Collaboratively with the VA, an Overweight/Obesity Clinical Practice Guideline under development.

Blood Pressure Measurement and Management

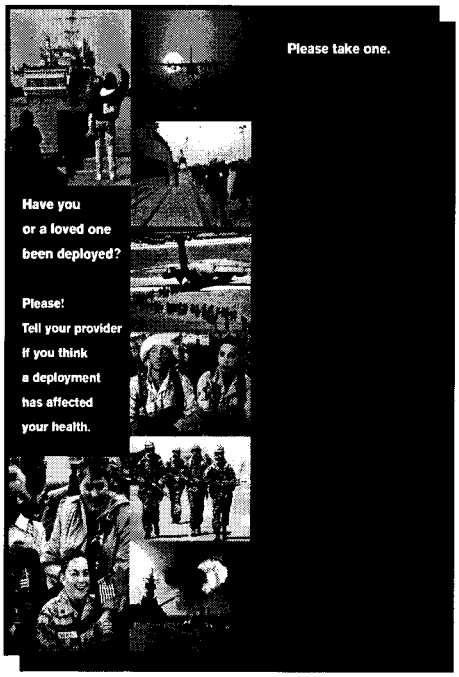
High blood pressure (HBP), or hypertension (HTN), is a major health problem affecting approximately 50 million Americans age 6 and older. One in five Americans (and one in four adults) has high blood pressure. It is known as the "silent killer" and remains a major risk factor for coronary heart disease, stroke, and heart failure. Nearly one-third of adults with hypertension do not know that they have the condition, thereby increasing the risk of associated complications and diseases.

Established procedures and guidelines facilitate detection and subsequent management of the disease. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure sets target blood pressures for hypertension management and provides information for use of specific drugs depending on the patient's pattern of comorbid characteristics. The Department of Defense, in collaboration with Veterans Health Administration, has developed and updated a clinical practice guideline to address the management of this condition. The DoD NQMP quality study, *Blood Pressure Measurement and Management in the Military Health System*, examined the process of care for hypertension detection and management in the MHS direct care system. The areas of study and findings are listed below. The DoD has developed an ORYX® non-core measure set for hypertension. If adopted, this measure set will provide MTFs with the ability to track facility compliance with evidence-based hypertension management over time.

Measurement of Blood Pressure	MHS beneficiaries receive timely blood pressure measurement during face-to-face visits in the direct care system. Overall, blood pressure measurements were noted for 97% of beneficiaries.
Prehypertension	Overall, 39 % of MHS beneficiaries enrolled to an MTF could be classified as prehypertensive. The rate varied by beneficiary type, ranging from 50% for active-duty personnel to 31% for non-active-duty beneficiaries. Lifestyle counseling was not consistently documented on pre-hypertensive patients.
Prevalence of Hypertension	The prevalence of hypertension among non-active duty TRICARE-eligible beneficiaries seeking care in the MHS was 20%. The prevalence of hypertension among active-duty beneficiaries range from 3 to 4%.
Management of Hypertension	80% patients with hypertension received prescription blood pressure medications. A trial of lifestyle change may be appropriate between diagnosis and initiation of medication.

Post-Deployment Health Care Screening and Evaluation

A post deployment health (PDH) clinical practice guideline was developed and implemented to support healthcare providers in meeting beneficiary deployment-related health needs. The PDH guideline is performed in addition to required pre- and post-deployment screening processes. It provides on-going surveillance for deployment-related health issues over time. Active duty personnel and their family members are included in the guideline as a deployment may have both direct and indirect affects.



The PDH practice guideline consists of three basic components:

- Screening - all outpatient clinic patients are asked whether the health concerns that led to a visit are deployment-related
- Classification - a patient's deployment-related concern is classified into one of three categories:
  - asymptomatic with a health concern
  - identifiable diagnoses (e.g. rash, fracture)
  - medically unexplained physical symptoms (MUPS)
- Management of the patient - according to the type of problem identified

The FY 2004 National Quality Management Program study "Post-Deployment Health Care Screening and Evaluation in the Direct Care System" is the third in a series of studies on implementation of the PDH practice guideline. It examined evidence of screening, detection and management of deployment-related concerns for which the PDH CPG was specifically developed. The purpose of the FY 2004 study was to describe the screening and evaluation of care for beneficiaries with a deployment-related concern, using the CPG as a standard for comparison.

Conclusions

Among the 8,331 beneficiaries that were screened, 1.2 percent overall reported a deployment-related concern (i.e. screened positive), while 2.8% of active duty reported a concern. Specialty referrals were requested for 27% of the beneficiaries with deployment-related concerns. Many post-deployment health concerns can be evaluated and managed by the primary care manager and the PDH practice guideline emphasizes the importance of reassurance, validation, and maintaining open communication between patient and provider.

Depression

Depression is a highly prevalent, costly, and debilitating chronic illness that is frequently under-diagnosed and under treated. Depression affects nearly 5% of the U.S. population. Unfortunately only 31% of depressed adults actually seek care, and only 40% of those who seek care actually receive minimally effective treatment. Depression is frequently associated with other co-morbid medical conditions and complaints. In 2004, the NQMP conducted a study of depression care in MHS primary care clinics. This study audited medical records to assess the extent of depression screening. Administrative data was used to estimate depression prevalence, and to identify treatment patterns, and co-morbid medical conditions and complaints.

Conclusions

The overall 12 month depression screening rate in the primary care areas for the direct care system was nearly 12%. Active duty service members appeared more likely to be screened for depression than non-active duty beneficiaries. Significant variation between clinics and facilities suggested an opportunity for process improvement. While there are no comparative data available from the civilian sector, formal depression screening is felt to be uncommon in most primary care settings. The NQMP study findings have been shared with the primary care consultants in the Services, and strategies to improve screening rates are being considered.

Depression (12 month prevalence) was more commonly diagnosed in non active duty beneficiaries (3.87% prevalence) than in active duty service members (1.93% prevalence). This is slightly below but comparable to the 4.9%, 12 month prevalence for the U.S. population aged 15-54 years estimated by the 1994 National Co-morbidity Survey. Prevalence varied by age, gender, and duty status.

As expected, diagnosis of depression was associated with referral to mental health specialty care and use of antidepressant prescriptions. Based on limited administrative data, there was variation in the utilization of mental health specialty care and antidepressant medications with some subgroups more commonly receiving mental health care and others more commonly receiving medications. Further evaluation of medical records would be needed to refine treatment and referral patterns associated with the initial diagnosis of depression in the various subgroups.

A high percentage (95%) of depression patients were seen for multiple other diagnoses in the year prior to diagnosis. The most commonly coded complaint was "symptoms, signs, and ill-defined conditions". Co-morbidity rates were also high for musculoskeletal concerns, diseases of the respiratory system, diseases of the nervous system, and other mental disorders. This phenomenon is commonly observed in the clinical care of depression and is another indicator for the importance of depression screening in primary care populations.

National Surgical Quality Improvement Program (NSQIP)

In 2003, the Military Health System initiated a pilot of the National Surgical Quality Improvement Program (NSQIP) at three MTFs. Designed by the Veterans Health Administration, NSQIP is the only nationally recognized, validated, outcomes-based, risk-adjusted, surgical quality improvement program. Comparison of "observed to expected" risk-adjusted operative morbidity and mortality rates allow participating hospitals to identify best practices and improvement opportunities.

In 2004, a pilot DoD NSQIP web portal and database were created. Between July and Dec 2004 data was abstracted on 1600 surgical procedures at the three pilot sites.

The initial DoD data set has provided important preliminary data on the demographic and clinical differences between the VA and DoD surgical patient populations critical for validation of the VA risk adjustment model for use by DoD facilities. Clarification of data definitions and refinement of the quality assurance features of the web-portal have also taken place.

Data has been collected on Operation Enduring Freedom and Operation Iraqi Freedom patients using the NSQIP data collection instrument. Initial combat trauma surgeries are not currently included in the risk adjustment model, but the validated clinical data for this unique population will undoubtedly be studied extensively to improve combat-related surgical care in both the DoD and DVA health systems.

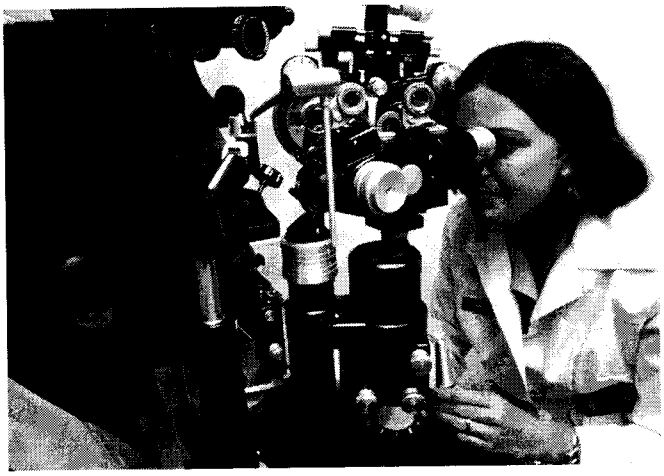
DoD NSQIP Timeline

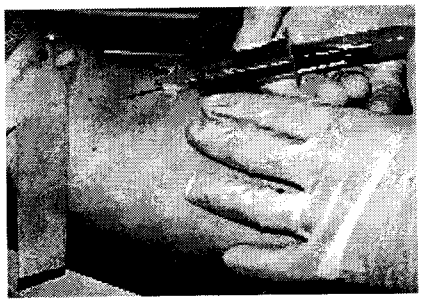
2003
- NSQIP selected as DoD's Surgical Quality Improvement Program

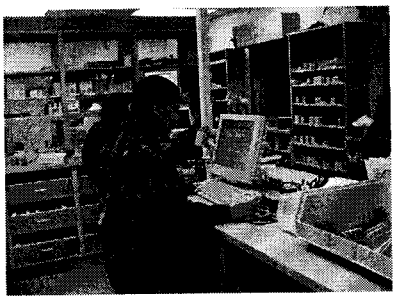
2004
- Initiate NSQIP at 3 pilot sites (Walter Reed Army Medical Center, Wilford Hall Air Force Medical Center and Naval Medical Center San Diego)
  - Hire and train a dedicated clinical nurse reviewer at each pilot site
  - Validate data consistency and quality
  - Establish a DoD NSQIP web portal for data entry
  - Collect and submit data from standardized instruments; validate sample selection

2005
- Formal report of 2004 DoD data compared to national clinical database
- Feedback to pilot sites
- Identify and disseminate "best practices"
- Ongoing collection of 2005 data
- Complete first full year of data collection; submit and analyze

2006
- Determine next steps for the program
  - Determine the return on investment
  - Identify funding sources
  - Refine program oversight







Health Report Cards

Measuring today's performance, shaping tomorrow's care

Health Report Cards

Increased public attention to healthcare quality in the United States has stimulated consumer and purchaser interest in performance information for health plans, healthcare facilities, and providers. Patients and payers want to make informed choices. Health plans strive to optimize cost, quality, and access to care without compromising their competitive position in the marketplace. Establishing consistent, comparative measures, collecting accurate, timely data, and reporting actionable information to consumers and other stakeholders have posed challenges for the healthcare industry.

In this report the term **"health report card"** refers to comparative data on healthcare organizations, plans or providers. A number of organizations have led the way in establishing well-defined measures and informative reports. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has been a leader in evaluation of health care institutions (including hospitals and clinics) in areas that impact patient rights, health, and safety using published sets of standards and clinical measures. Data from the Joint Commission accreditation process facilitates comparison of healthcare organizations, and highlights potential improvement opportunities for the participating facilities. While the Joint Commission is perhaps the best recognized accreditation organization for U.S. healthcare institutions, the National Committee for Quality Assurance (NCQA) has developed methodology for comparison of health plans. The NCQA Health Plan Employer Data and Information Set (HEDIS®) monitors health plan performance in delivering preventative health services, and in managing selected chronic and acute illnesses according to widely accepted standards of practice. Perception of care measures capture service and interpersonal aspects of the patient experience that are not well captured by clinical process or outcome measures. The National Research Corporation and the Picker Group are industry leaders in the standardized measurement of patient perception of care.

In FY 2004, the MHS participated in each of the above nationally-respected measures. Taken together, they create a multi-dimensional picture of the TRICARE Program and its clinical and service performance as measured against large American commercial health plans. As a learning organization, the MHS welcomes opportunities to look at structure, process, and outcome indicators to continuously improve the experience of our beneficiaries.

Information from a representative sample of the measures, data, and other reports used by the MHS in FY 2004 is provided for review.

Joint Commission Accreditation Report for Department of Defense Military Health System

The JCAHO is an independent organization focused on improving the quality and safety of healthcare through the development of standards and the evaluation of the performance of healthcare facilities through an accreditation process. JCAHO accredits more than 15,000 healthcare organizations including hospitals, ambulatory care clinics, behavior health care facilities, home health agencies, long term care facilities, and laboratories. The DoD has participated in the Joint Commission accreditation process since the late 1980's to facilitate the comparison of care provided in MTFs with civilian healthcare organizations and to ensure the quality of care provided in MTFs meets current healthcare standards.

Healthcare Accreditation Standards

In 2004, the Joint Commission revised the accreditation standards to enhance compliance. A healthcare organization's compliance with the standards is determined by evaluating the newly developed elements of performance and measures of success listed for each standard. The standards utilized to evaluate the care provided at healthcare organizations across the nation are grouped into three functional areas:

Patient Focused	Organization	Structure
Standards related directly to the provision of patient care, services, and treatments.	Standards essential to the organization's ability to operate effectively	Standards linked to the management of the medical staff and nursing services.
• Ethics, Rights and Responsibilities • Medication Management • Provision of Care, Treatment and Service • Surveillance, Prevention and Control of Infections	• Improving Organization Performance • Leadership • Management of the Environment of Care • Management of Human Resources • Management of Information	• Medical Staff • Nursing

Survey Process

All DoD MTFs complete an on-site review by a multidisciplinary team of Joint Commission surveyors at least once every three years. The survey process incorporates staff interviews, direct care observations, and documentation reviews to determine the level of compliance with the standards. Opportunities for improvement and best practices are identified during the survey and shared with the facility leadership. Areas of focus during the survey process include:

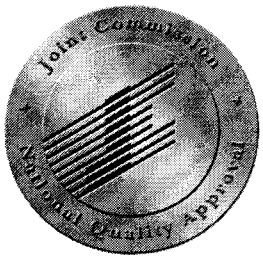
Priority Focus Areas

- Assessment and Care\Services
- Communication
- Credentialed Practitioners
- Equipment Use
- Infection Control
- Information Management
- Medication Management
- Organizational Structure
- Orientation and Training
- Patient Safety
- Physical Environment
- Quality Improvement Expertise/Activities
- Rights and Ethics
- Staffing

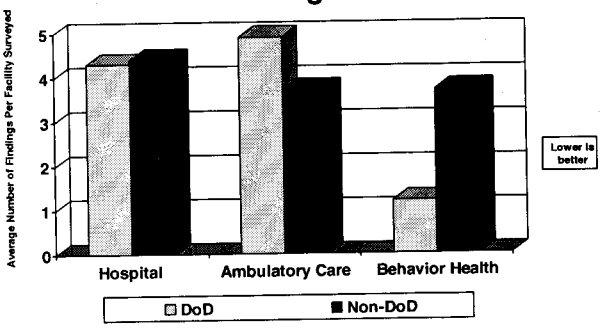
Healthcare organizations are required to maintain compliance with the standards throughout the three year survey cycle. To better assess continual compliance, the JCAHO is implementing unannounced surveys. The DoD has worked collaboratively with the Joint Commission, and has already implemented the unannounced survey process to insure that MTFs maintain a consistently high level of performance throughout the survey cycle

After the survey process is complete, the Joint Commission compiles the results and issues each facility an organization-specific performance report identifying all deviations from standards as recommendations for improvement. To maintain accreditation, MTFs must develop and implement an action plan to correct deficiencies identified. All facilities surveyed in 2004 have successfully maintained JCAHO accreditation.

The average number of recommendations for improvement identified at MTFs is comparable to non-DoD healthcare organizations.



2004 Comparison Data DoD and Non-DoD JCAHO Survey Findings

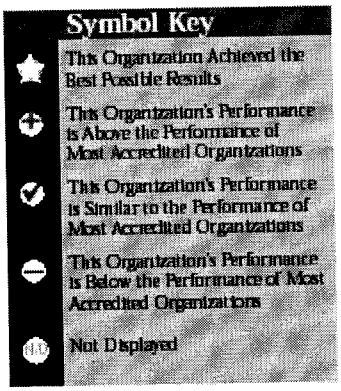


Public Reporting

Committed to providing meaningful information about the performance of accredited organizations to the public, the Joint Commission posts survey results on the JCAHO website in Quality Check. Survey results for DoD MTFs can be compared to all other accredited healthcare organizations by beneficiaries and other interested members of the public.

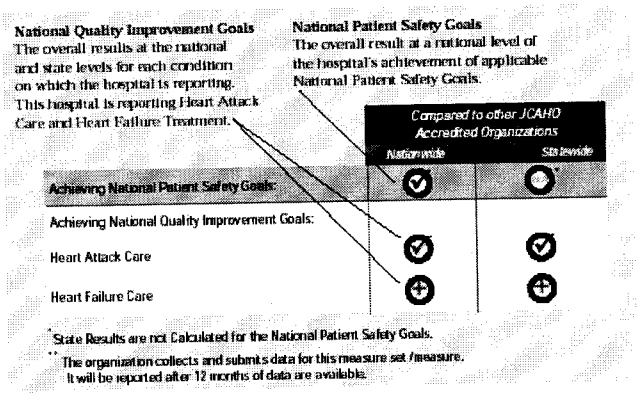
The Joint Commission Quality Report contains organization specific compliance and performance data for the following:

- Summary of Quality Information
- National Patient Safety Goals
- National Quality Improvement Goals



The rating system is based on the organization's performance in relationship to other accredited facilities.

The National Quality Improvement Goals are the facilities' ORYX® measures. Quality Check provides for a quick and easy means to view the hospitals' comparative performance on their selected evidence based measures. A quality report is also available to provide a overview of an organization's accreditation history.



Joint Commission
on Accreditation of Healthcare Organizations

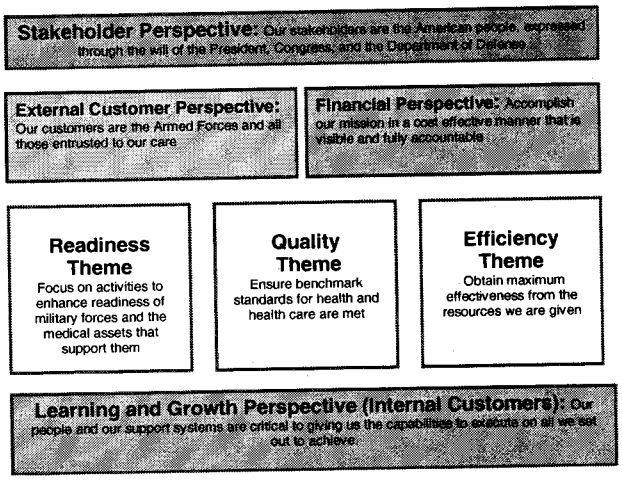
MHS Strategy and Balanced Score Card

The MHS continually focuses on the mission of enhancing DoD and our Nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care. Though the mission is a constant, strategically planning for the future is an essential part of leadership's ongoing work.

MHS Goals

- Improve service to external customers
- Enhance financial stewardship
- Improve Readiness
- Improve Quality
- Improve Efficiency
- Value our internal customers and leverage technology

MHS Strategy Architecture



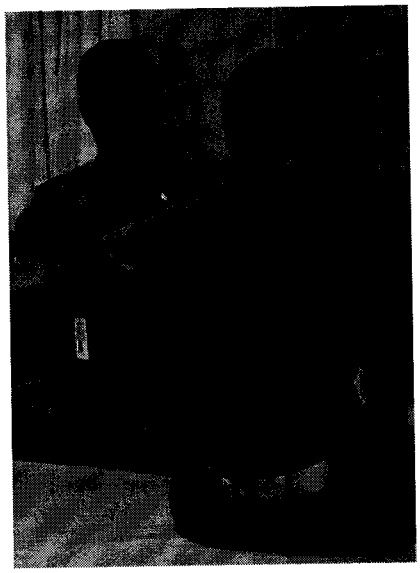
At the highest level, the Balanced Score Card is a framework that helps organizations translate strategy into operational objectives that drive both behavior and performance.

The function of the Balanced Score Card includes:

- **Translating** a strategy into operational terms
- **Ensuring** that the components of the strategy—the objectives, measures, & initiatives are aligned and linked
- **Communicating** the strategy throughout the MHS
- **Forming** the basis of an effective and integrated strategic management process

The MHS Balanced Score Card instrument panel displays measures on key areas for internal review and analysis. The measures are developed from a variety of perspectives including external customer, financial, quality, efficiency, learning, and growth. Both clinical care and business related measures are incorporated into the scorecard. Under the Quality Theme, selected JCAHO ORYX ® and HEDIS® measures are used to monitor clinical quality at the enterprise level. The ongoing information provided by the Balanced Score Card serves as a guide to support the decision making of MHS leadership.

Clinical Performance Metrics



The National Committee for Quality Assurance (NCQA) developed the Health Plan Employer Data and Information Set (HEDIS®) to provide reliable, comparative data about health care quality, using data from health plans across the country.

HEDIS® monitors how well health plans deliver preventive care (e.g., breast cancer screening, cervical cancer screening), and how well members with acute illnesses (e.g. acute myocardial infarction) or chronic diseases (e.g., asthma, diabetes) are managed to avoid or minimize complications.

The HEDIS® measures selected for use in the MHS are related to outpatient processes, since the Joint Commission ORYX® initiative includes inpatient process and outcomes measures. Based on a review of the beneficiaries served by the MHS, the selected outpatient HEDIS® measures in FY 2004 included:

- Cervical cancer screening rates (Pap tests)
- Breast cancer screening rates (mammography)
- Use of appropriate medications for people with asthma
- Diabetes care (HbA1c testing and control, retinal exams, low density lipoprotein screening and control)

The data for these clinical performance metrics were gathered from an electronic central database which includes inpatient, outpatient, and pharmacy information. Reports on the clinical performance measures, with comparative data internal and external to the MTF, were provided to MTF and MHS leadership. Clinicians can continually monitor the status of the patients they serve to ensure their healthcare needs are met.

The following examples of the data and comparative analysis included in the report card demonstrate the value of using consistent, nationally recognized measures. For those HEDIS® measures used within the MHS (cervical cancer screening rates; breast cancer screening rates; use of appropriate medications for people with asthma; and diabetes care), DoD performed as well as or better than the 50th percentile of health plans voluntarily agreeing to participate in reporting in FY 2004.

DoD FY 2004 Clinical Performance Measures

Breast Cancer Screening

The HEDIS® defined measure of performance for breast cancer screening represents the percentage of women, continuously enrolled to a MTF, ages 52 to 69, who had a mammogram in the past 24 months.

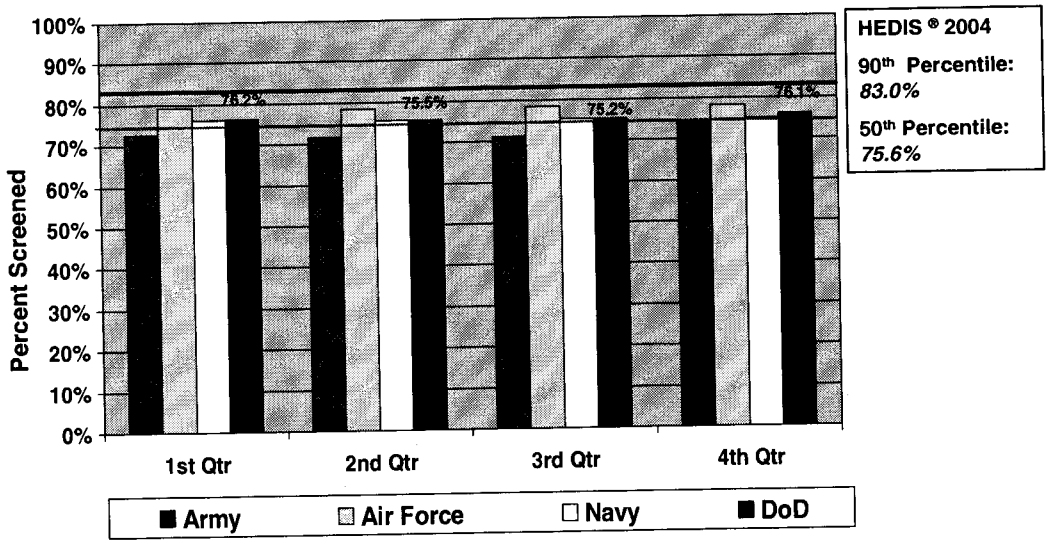
Mammograms can detect breast cancer one to three years before a woman can feel a lump. Early detection and improved treatment have led to a decline in the death rates from breast cancer.

The MHS rates for breast cancer screening were comparable to the HEDIS® 50th percentile for health plan performance.

HEDIS®

MHS Breast Cancer Screening

FY 2004



Data Source and Analysis: Informatics Team
Population Health Support Division, U.S. Air Force

Asthma Medication Management

The HEDIS® defined measure of performance on appropriate medications for asthma represents the percentage of TRICARE prime patients continuously enrolled to a MTF, ages 5 to 56, with persistent asthma that are prescribed medications considered acceptable as the primary long-term control of asthma.

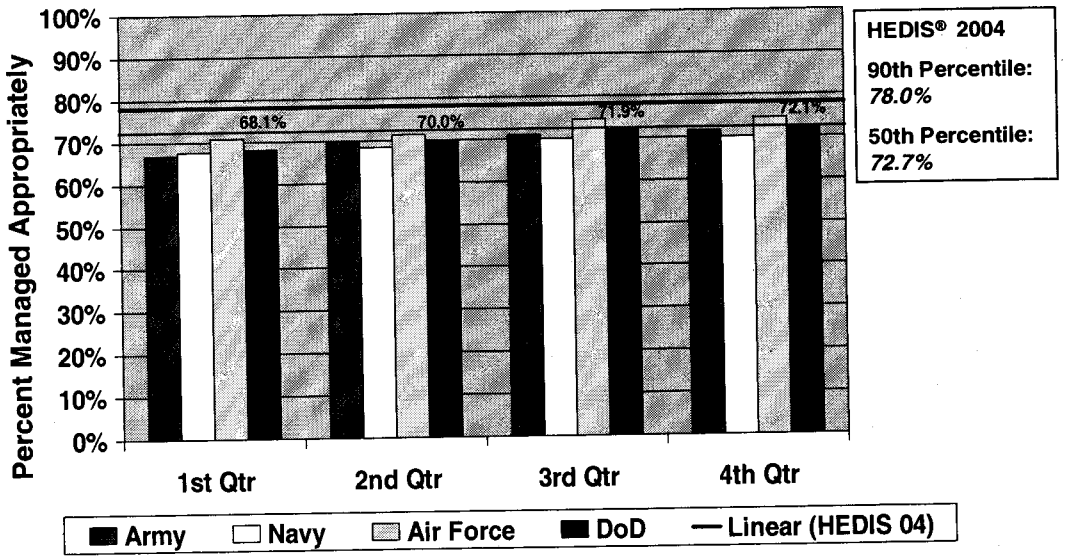
Asthma, like diabetes, is a national epidemic. Asthma results in 9 million health care visits, 1.8 million emergency department visits, and more than 460,000 hospitalizations each year. Medication management is one of the keys to reducing emergency room visits and hospitalizations.

The MHS rates for asthma medication management were comparable to the HEDIS® 50th percentile for health plan performance.

HEDIS®

MHS Use of Appropriate Medications for Enrollees with Asthma

FY 2004



Data Source and Analysis: Informatics Team
Population Health Support Division, U.S. Air Force

Diabetes Care – HbA1c Testing

The performance measure HbA1c testing represents the percent of beneficiaries with diabetes mellitus, ages 18 to 75, continuously enrolled to a MTF, who had a HbA1c test during the preceding 12 months.

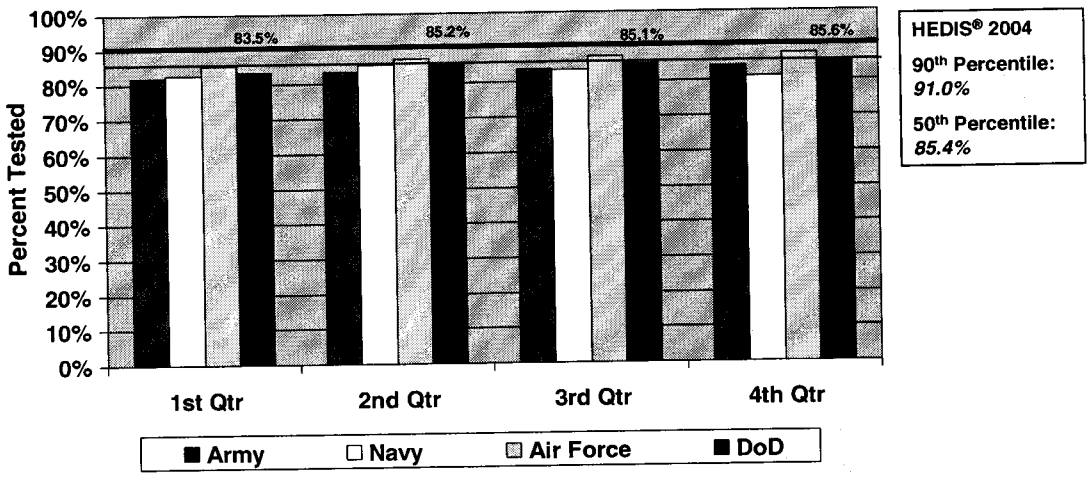
The HbA1c (glycosylated hemoglobin) test reveals the average blood glucose over a period of two to three months and provides the patient and provider with a good idea of how well a patient's diabetes treatment plan is working. Keeping the blood sugar at ideal levels helps prevent or delay the onset of diabetes complications.

The MHS rates for glycosylated hemoglobin testing were comparative to the HEDIS® 50th percentile for health plan performance.

HEDIS® Diabetes Care:

MHS Annual HbA1c Testing

FY 2004



Data Source and Analysis: Informatics Team
Population Health Support Division, U.S. Air Force

Cervical Cancer Screening

The performance measure for cervical cancer screening represents the percentage of women, ages 21 to 64, continuously enrolled in a MTF, who had a Papanicolaou (Pap) test in the preceding 36 months.

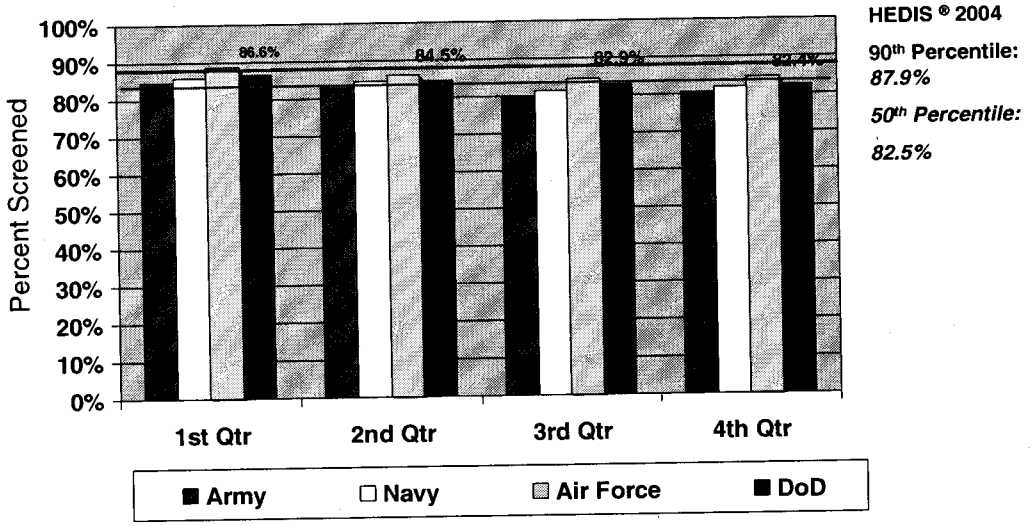
Cervical cancer is one of the most successfully treated cancers, if detected early. Cervical cancer screening with a Pap test reduces cancer cervical mortality by 70 percent.

The DoD data on cervical cancer screening approached the HEDIS® 90th percentile for health plan performance.

HEDIS®

MHS Cervical Cancer Screening

FY 2004



Data Source and Analysis: Informatics Team
Population Health Support Division, U.S. Air Force

The information gathered from the comparative analysis of these measures established baseline data which allowed providers and leadership to identify areas for improvement. During FY 2004, the MHS Population Health Portal was deployed to all the services as a tool to facilitate the identification of patients requiring the above screenings or tests. Once completely implemented, the portal will support clinical staff in meeting these performance measures. More information on the Portal is included in the Innovative Processes for Surveillance section of this report.

TRICARE Inpatient Satisfaction Survey

The TRICARE Inpatient Satisfaction Survey (TRISS) is conducted annually by a survey research vendor, National Research Corporation in partnership with the Picker Group (NRC+Picker). A leader in health system performance measurement, the NRC+Picker survey methodology focuses on patient centered dimensions of care for comparative analysis. The inpatient comparative database contains response data from a large number of treatment facilities, many belonging to large health care systems.

The measures comprising the NRC+Picker survey are focused on the aspects of care that matters most to patients. The Picker dimensions of patient centered care include the following areas:

Dimensions of Care

- Respect for patient preferences
- Information and education
- Involvement of family and friends
- Physical comfort
- Continuity and transition
- Coordination of care
- Emotional support
- Surgical specific
- Childbirth specific

In FY 2004, the TRISS incorporated questions developed by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Medicare and Medicaid Services (CMS). The goal of this change was to support the establishment of a uniform set of measures for public reporting on the patients' perspective of their inpatient care. The DoD is one of the first organizations to utilize this survey as part of their ongoing measurement programs. In 2004 NCR+Picker conducted MHS inpatient surveys for medicine, surgery and childbirth care.

The 2004 TRISS results for medical, surgical, and childbirth inpatient admissions have been provided to MTFs and to MHS leadership along with national comparative data. The TRISS, together with patient satisfaction surveys which focus on indicators related to the TRICARE health plan, primary care provider, customer service, ease of access for appointments, communication and clinical care, provide a richly textured picture of the TRICARE program as it is experienced by beneficiaries. Data on DoD patient satisfaction is posted on the TRICARE website and published in the annual "Evaluation of the TRICARE Program" report.

Conclusions

Surgical

A total of 4,389 Military Health System patients who received care while hospitalized for surgical conditions in MTFs were surveyed from July 1, 2004 through September 30, 2004. The response rate was 19 percent.

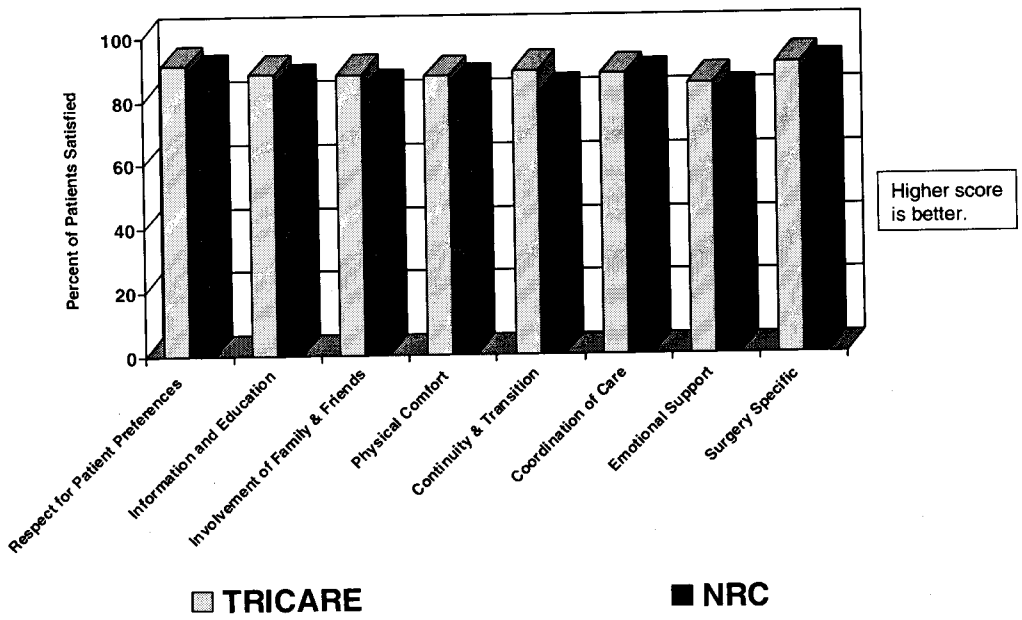
The comparative analysis of the surgical data revealed a statistically significant difference in the care received by the MHS patients. They were more satisfied in every dimension with the care received. The MHS data for three of the dimensions:

- respect for patient preferences
- information and education
- surgery specific measures

demonstrated improvement from the FY 2003 survey.

National Research Corporation:

2004 Health System Satisfaction Survey
Surgical Inpatient



Source: National Research Corporation Inpatient Satisfaction Survey – Surgery, Medicine and Childbirth Experience; Military Health System July – Sept 2004

Medical

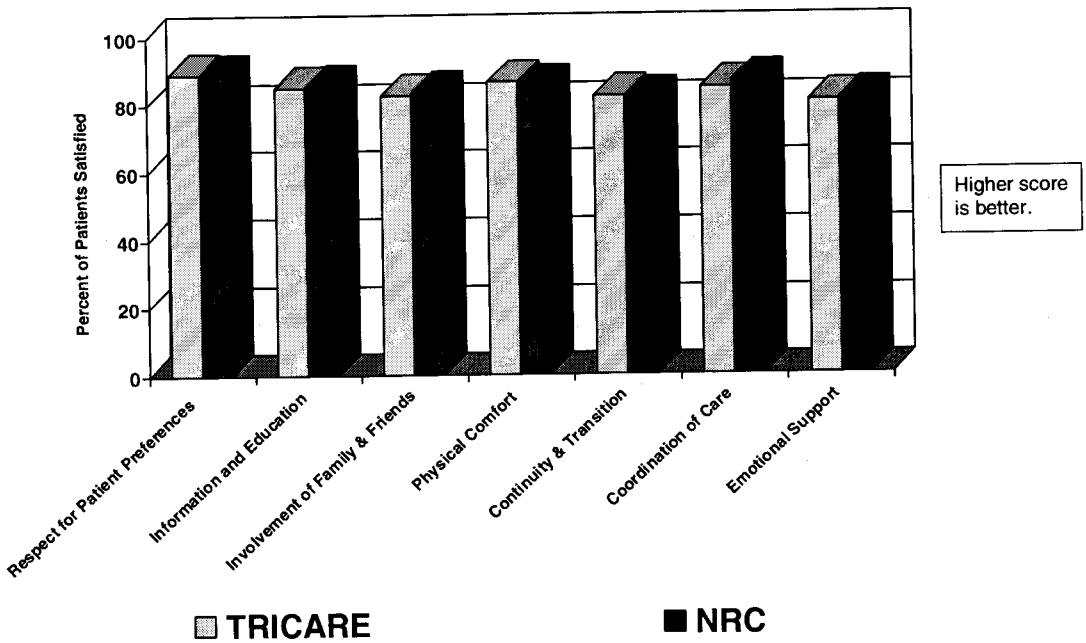
A survey of 6,912 Military Health System patients who received care while hospitalized for medical conditions in MTFs was conducted from July 1, 2004 through September 30, 2004. The response rate was 30 percent.

The inpatient survey results for MHS medical patients revealed that patient satisfaction in all the dimensions of care was comparable to civilian benchmarks.
Improved scores from the MHS FY 2003 survey were noted in four of the of the dimensions:

- emotional support;
- involvement of family and friends;
- information and education; and
- respect for patient preferences.

National Research Corporation:

2004 Health System Satisfaction Survey
Medical Inpatient



Source: National Research Corporation Inpatient Satisfaction Survey – Surgery, Medicine and Childbirth Experience; Military Health System July – Sept 2004

Childbirth Experience

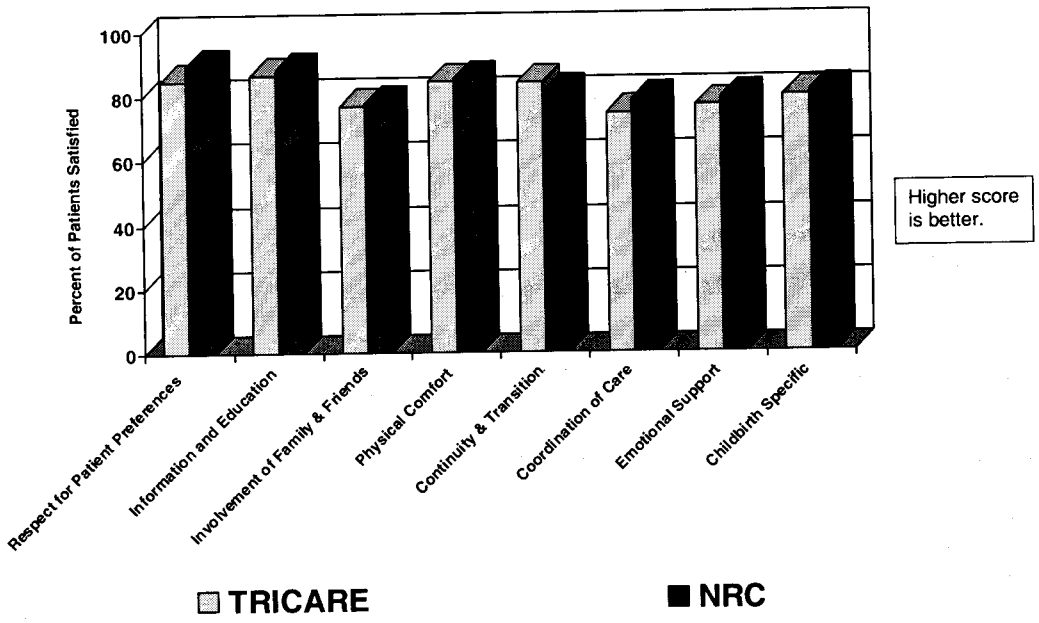
A survey of 4,134 Military Health System patients who received care while hospitalized for childbirth in MTFs was conducted from July 1, 2004 through September 30, 2004. The response rate was 34.5 percent.

The inpatient survey results for MHS childbirth experience patients revealed that patient satisfaction in all the dimensions of care closely align with the civilian benchmarks. Improved scores from the MHS FY 2003 survey were noted in three of the dimensions:

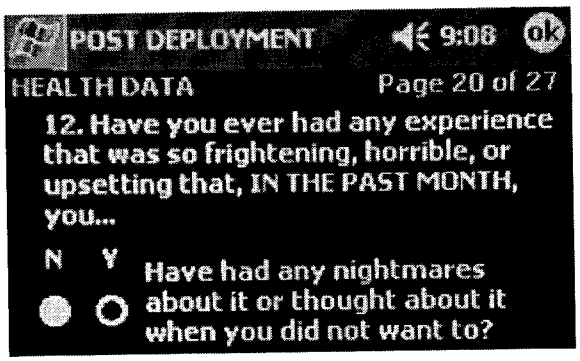
- continuity and transition;
- information and education; and
- respect for patient preferences

National Research Corporation:

2004 Health System Satisfaction Survey
Childbirth Experience



Source: National Research Corporation Inpatient Satisfaction Survey – Surgery, Medicine and Childbirth Experience; Military Health System July – Sept 2004


POST DEPLOYMENT
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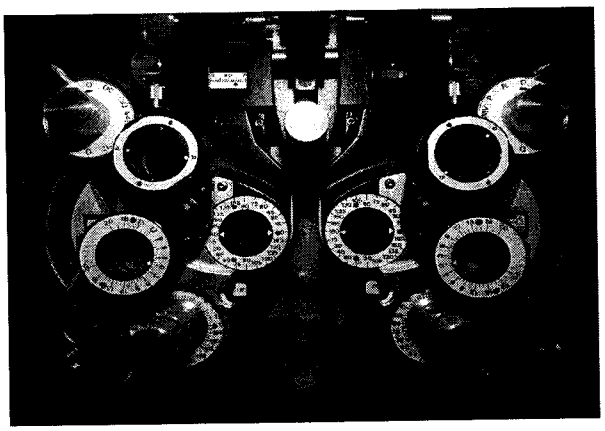
HEALTH DATA
Page 20 of 27
12. Have you ever had any experience that was so frightening, horrible, or upsetting that, IN THE PAST MONTH, you...
N
Y
Have had any nightmares about it or thought about it when you did not want to?



Evidence-Based Clinical Practice

Bringing the best of medical knowledge to every patient

Evidence Based Clinical Practice

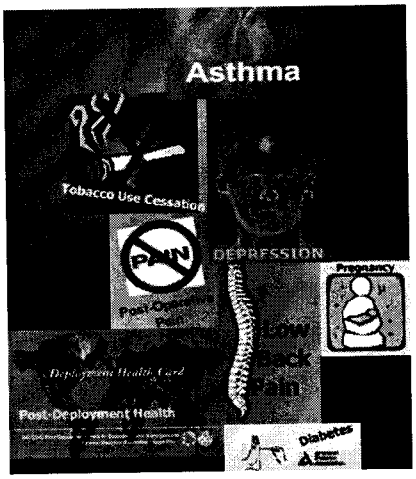
Evidence based clinical practice is the integration of medical research evidence, a practitioner's clinical expertise and the patient's individual care needs to create a treatment plan likely to produce the optimal health outcome. The concept of integrating the knowledge gained from observed patient outcomes and clinical research has been discussed in medical literature for many years. However, implementation of evidence-based practices in day-to-day patient care processes has more recently become an area of focus in the healthcare industry.

A variety of factors have contributed to the implementation of evidence based practice. Healthcare is based on a dynamic, very complex, and constantly expanding body of knowledge. New knowledge on clinical practice is gathered on a continual basis as millions of articles on healthcare are published annually. The developments in information management and technology significantly impact the healthcare industry and providers. Patients are becoming more informed on health promotion, diseases and treatment modalities as more information is readily available. All of these factors contribute to the need to integrate evidence based medicine into the care process as a means of supporting healthcare providers and enhancing clinical decision making.

Clinical Practice Guidelines

One approach to the implementation of evidence based clinical practice is the development of clinical practice guidelines. Clinical practice guidelines are developed through a systematic review and analysis of research, clinical outcomes, and practitioner experience information available on a healthcare condition to determine the care modalities that result in the best patient outcomes. The guidelines, coupled with the expertise of the healthcare provider, serve to unify the science and art of medicine to ensure the patient receives the best care possible.

Evidence-based clinical practice guidelines (CPGs) focus on the delivery of consistent, high quality care and expedite the diffusion of proven best practices in medicine. Using a collaborative approach, the DoD and Veterans Health Administration (VHA) develop and maintain the CPGs that serve as the foundation for interagency population health prevention and condition management initiatives. With expanding use of CPGs, we expect to see improvement in the quality and cost-effectiveness of care provided.



Guideline Selection and Implementation Process

A criterion based, cyclical process is used to develop and revise the VA/DoD clinical practice guidelines utilized by the DoD and VA healthcare practitioners. The process consists of the following steps:

- **Selection** – concentrate on high volume and high cost conditions within both the VA and DoD
- **Adaptation** – assess current peer reviewed literature, with a focus on primary care, and use the information to form a guideline meeting unique DoD/VA requirements
- **Toolkit Development** – develop provider, patient and system-specific tools to aid guideline implementation
- **Dissemination** – launch with a live satellite broadcast, facility conferences and site assistance visits
- **Implementation** – establish and empower facility champions and action teams to implement guideline
- **Evaluation** – monitor patient outcomes locally and centrally, using appropriate metrics
- **Maintenance** – review and update guidelines every two years to incorporate current clinical evidence and provider feedback

DoD / VA Guidelines

Guidelines available for use throughout the Military Health System and the Veterans Health Administration.

- Hypertension
- Glaucoma
- Low Back Pain
- Tobacco Use Cessation
- Asthma
- Diabetes Mellitus
- Chronic Obstructive Pulmonary Disease
- Major Depressive Disorder
- Dysuria in Women
- Pre-End Stage Renal Disease
- Chronic Heart Failure
- Erectile Dysfunction
- Substance Use Disorder
- Post-Deployment Health
  - Biological, Chemical, and Ionizing Radiation Terrorism – Pocket Card
- Dyslipidemia
- Ischemic Heart Disease
- Post-Operative Pain
- Health Promotion and Disease Prevention
  - Breast Cancer
  - Cervical Cancer
  - Chlamydial Infection
  - Colorectal Cancer
  - Lipid Abnormalities
  - Problem Drinking
  - Tobacco Use
  - Immunizations (influenza, pneumococcus)
- Uncomplicated Pregnancy
- Stroke Rehabilitation
- Gastro-esophageal Reflux Disease
- Opioid Therapy for Chronic Pain
- Psychosis
- Post Traumatic Stress Disorder

DoD/VA Evidence-Based Practice Work Group

Partnering to improve the quality, efficiency and effectiveness of the delivery of healthcare benefits and services to veterans, service members, military retirees, and their families

The FY 2004 accomplishments in integrating CPGs into the MHS included goal development for the future, the implementation and revision of guidelines, toolkit development, and advancing the use of the Military Healthcare System Population Health Portal (MHSPHP).

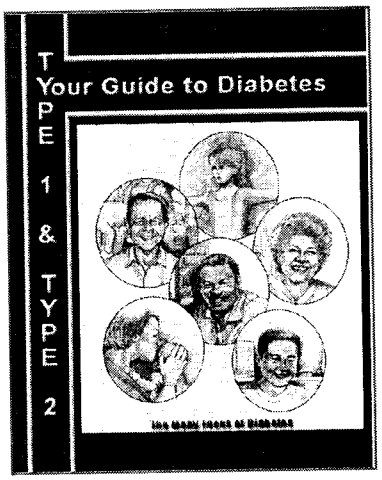
Planning for the Future

During FY 2004, the VA/DoD Evidence-Based Practice Work Group reviewed and analyzed the past successes and challenges in establishing clinical practice guidelines as a consistent part medical care. The areas identified as strategic for the continued success of guideline integration were the implementation of the guidelines and evaluation of the outcomes.

Guideline Updates

In light of the ongoing advancements in clinical care, CPGs require period review and revision to reflect the latest research and clinical practice evidence available. Guidelines reviewed and updated in 2004 include:

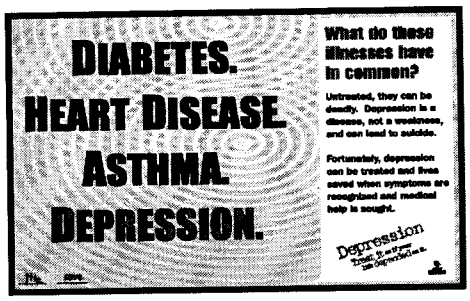
- Diabetes Guideline and Toolkit
- Tobacco Use Cessation
- Management of Hypertension



Guideline Development and Implementation

Obesity has been identified as one of the most significant health threats in the United States. Studies on obesity in the MHS concur with national findings. To support the treatment of obesity in the MHS, the development of a guideline on Management of Overweight & Obesity in adults is planned for FY05.

The pilot implementation conference to launch the Cardiovascular Disease Guideline was conducted to test the tools designed to support the hypertension, chronic heart disease and ischemic heart disease guidelines.



ToolKit Development

Provider, patient and process/system support tools are developed for key high volume guidelines. The tool kit development is a collaborative effort coordinated by the U.S. Army Medical Command. Examples of these tools include brochures, videos, wallet cards and posters. Toolkits are available through an easy, convenient on-line order process.

Dental Clinical Practice Guidelines

Dental practice guidelines support the implementation of evidence-based dentistry. These guidelines, developed by the MHS Dental Services, are based on valid, scientific evidence and are designed to assist practitioners in making diagnostic or treatment decisions regarding specific patient care issues in dentistry. Dental practice guidelines enhance dental quality of care, and facilitate performance improvement by increasing the consistency of treatment processes, and reducing patient risk to produce the best achievable outcomes.

Evidence Based Dentistry

"An approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences."

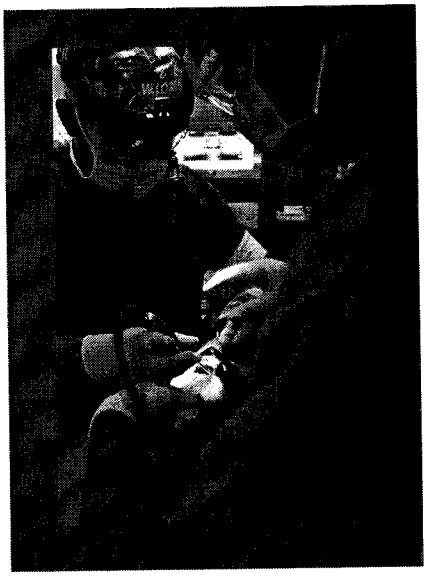
American Dental Association

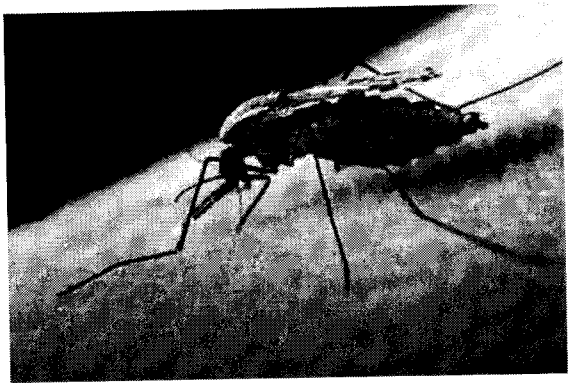
In FY 2004, the MHS Dental Services continued to update the clinical practice guidelines (CPGs) to provide a framework for high quality oral healthcare services, reduce unnecessary variation in practice and sustain continuous quality improvement in dental care.

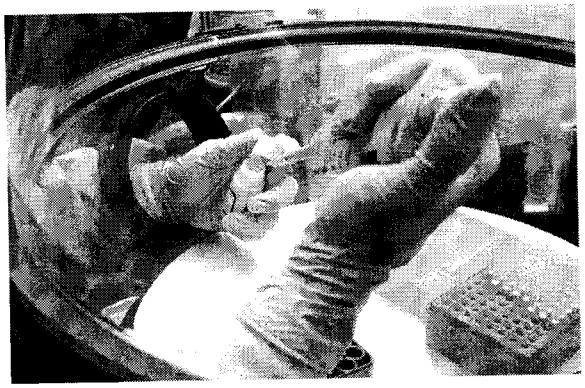
Individual practitioners from all three Services received copies of the guidelines. Additionally, the Air Force and Army have posted the guidelines on their websites for easy reference. They have also been functionally integrated into the Air Force's internal Clinical Practice Assessment and Improvement Program which audits a sample of providers' records against one of the CPGs on a monthly basis.

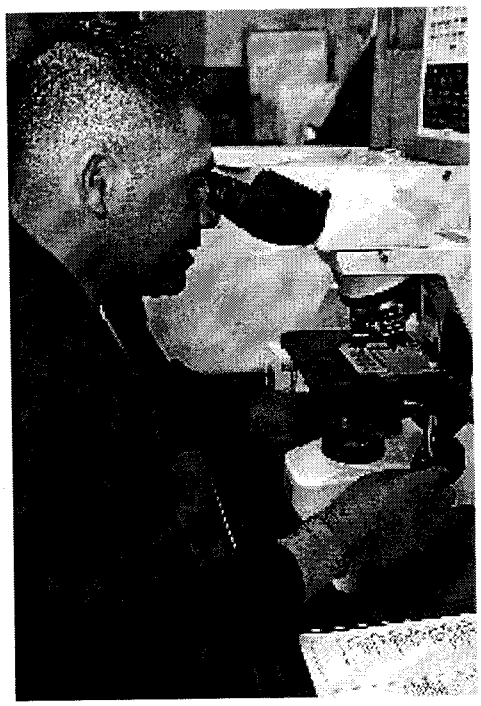
Available dental practice guidelines include:

- Biopsies
- Examination / Diagnosis
- Dental Implants
- Obstructive Sleep Apnea
- Oral Disease Risk Management
- Orofacial Pain
- Preventive Dentistry
- Sealants
- Sedation and Anxiety Control
- Third Molar
- Topical Fluoride









Innovative Processes for Surveillance

Identifying potential threats to the health of our beneficiaries

Military Health System Surveillance Processes

Effective health surveillance processes provide timely, actionable health information to decision-makers at all levels. The DoD has implemented several innovative surveillance methodologies to ensure essential health information is available for planning, response and decision-making.

The representative initiatives selected for inclusion in this report focus on:

- ensuring our beneficiaries receive safe patient care;
- information availability across the entire health care system especially in theater; and
- collaborative monitoring of emerging infections and environmental risks.

Department of Defense Patient Safety Program

The goal of the DoD Patient Safety Program (PSP) is to avoid medical harm and improve patient safety by focusing on improving systems and communication among health care teams. This program continually monitors data submitted by MTFs to identify actual and potential problems in medical systems and processes. Identified issues and opportunities are reported to the military leadership, and preventative action is taken throughout the Department to avoid future harm, and to continuously improve safety and quality of care.

FY 2004 Accomplishments

- MHS Patient Safety Culture Survey
- Annual DoD Patient Safety Awards
- Medical Team Training Initiative
- Patient Safety Reporting (PSR) System

MHS Patient Safety Culture Survey

A DoD Tri-Service Survey on Patient Safety was approved by the Patient Safety Executive Council (PSEC) in May 2004 for dissemination to all MTFs. This web-based anonymous survey is scheduled for deployment in the Fall 2005. The survey will serve as a tool to assess the culture of patient safety within MHS facilities. The survey asks for staff opinions about patient safety, medical error, and event reporting in their facilities. This survey is expected to increase staff awareness of patient safety, assess patient safety and improvement efforts, and help MTFs meet several of the Joint Commission on Accreditation of Healthcare Organizations standards. Results of the survey will be shared at the facility, Service, and MHS levels.

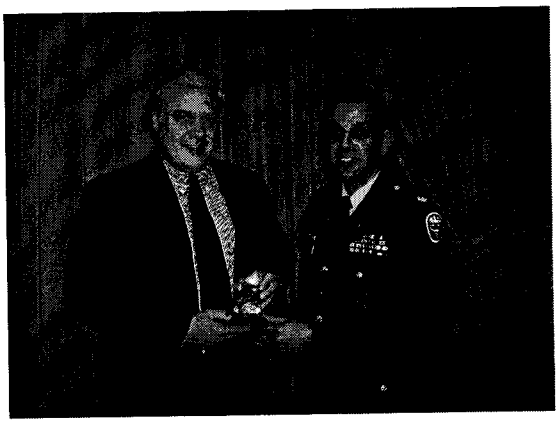
Safety Reporting System

The MHS funded the Patient Safety Reporting (PSR) System in 2004 as a means to standardize the reporting of medical errors among the Services as well as facilitate reporting within the MTFs. The PSR system is a web-based system that supports uniform reporting of medical error and near misses up the appropriate Service chain of command, and ultimately into the Data Repository at the DoD Patient Safety Center. The PSR system is being evaluated in a proof of concept at three MTFs.

Department of Defense Patient Safety Initiatives

National Recognition

Army MAJ(P) Danny Jaghab received the prestigious 2004 John M. Eisenberg Award for Innovation in Patient Safety and Quality at the National Quality Forum Annual Meeting in Washington D.C.. MAJ(P) Jaghab was honored for his Patient Safety Training Program, a digitized audio-video, distance learning course comprising thirty-four scripts related to patient safety and the Joint Commission patient safety goals and recommendations which provide comprehensive patient safety training.



MAJ(P) Danny Jaghab (right) and Kenneth W. Kizer, MD, MPH, President and CEO, National Quality Forum. Photo by: COL Little, U.S. Army CHPPM.

Recognition of the training program by the National Quality Forum gives MAJ(P) Jaghah's initiative national recognition, and places it alongside leading national patient safety efforts. The Patient Safety Training Program is posted on the DoD Patient Safety Website (www.patientsafety.satx.disa.mil) for other Commands to incorporate into their patient safety initiatives.

Annual DoD Patient Safety Awards

DoD Health Affairs created the Patient Safety Award to reward successful patient safety efforts, particularly those forwarding the development of a safety culture, and to inspire organizations to increase their patient safety efforts. The award recognizes leadership and innovation in quality, safety, and commitment to MTF patient care. The projects selected are data driven, practical, creative, and potentially transferable across the MHS. The DoD Safety Award has three categories: technology, policy and procedure and team training. The 2004 winners include:

2004 Patient Safety Awards

Policy and Procedure

Patient Movement Safety Program

Utilized an integrated systems approach encompassing all aspects of patient movement between military medical facilities to create a safe environment of care by facilitating sharing of information as patients move through military medical and transportation systems. A centralized web-based Patient Movement Quality tool was developed and used to document, trend, analyze, and disseminate information pertaining to patient movement safety events and high interest safety items.

U.S. Transportation Command, Scott AFB

Medical Team Training

Safety Training Vignettes

Enhanced the Command Medical Team Management training by producing four "reality training" videotaped vignettes based on actual events experienced at the facility. The videos highlighted the relevance and immediacy of patient safety training greatly stimulating staff interest.

55 Medical Group Offutt AFB

Trauma Team Training Program

Created a new program in trauma training to incorporate the essential knowledge, skills and attitudes contained within the TMA Medical Team Management curriculum to transform individuals into an effective team focused on safe, effective trauma care for wounded service members.

U.S. Army Trauma Training Center

Technology

MPEG Training

Established a comprehensive distance learning patient safety course consisting of thirty-four scripts based on Joint Commission patient safety goals and recommendations.

Brooke Army Medical Center

Maximum Daily Dose Project

Implemented a warning system within the electronic medical information system, Composite Healthcare System (CHCS), to alert providers and pharmacy staff when a medication dose ordered for a pediatric patient exceeds the maximum daily dose.

U.S. Naval Hospital Okinawa

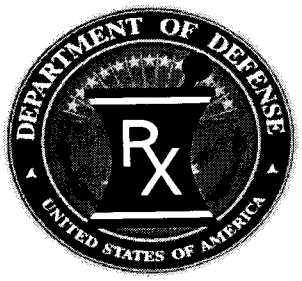
An overview of each initiative submitted for the annual Patient Safety Awards was posted on the DoD patient safety website. This provides an opportunity for other MTFs to review the initiatives and enhance their knowledge on patient safety.

DoD Healthcare Team Coordination Program (HCTCP)

Communication failures continue to be the leading cause of medical errors both nationally and in the MHS. The FY 2001 NDAA mandated that Medical Team Training be offered to all MTFs. Additionally, the Joint Commission on Accreditation of Healthcare Organizations adopted improved communication among caregivers as a 2004 National Patient Safety Goal. During FY 2004, the DoD Medical Team Training curriculum underwent a new design and development program of instruction to meet the needs of the MHS. This was accomplished by a Tri-service team collaborating with the Agency for Healthcare Research and Quality and other national subject matter experts. In FY 2004 the clinical study of teamwork in the Labor & Delivery environment was completed. The results were inconclusive, in part, due to a relatively short period of study. A follow-up study is planned to determine the long term impact of team training technique in the study facilities.

The Pharmacy Data Transaction Service

The Pharmacy Data Transaction Service (PDTS) is a centralized data repository containing information about prescriptions filled worldwide for DoD beneficiaries, regardless of whether the prescription was filled at a military treatment facility or through the TRICARE Retail Pharmacy network or the TRICARE Mail Order Pharmacy program. PDTS involves continuous, concurrent electronic screening of medication usage to enhance the quality and safety of pharmacy services provided to DoD beneficiaries.



PDTS was designed to enhance patient safety and the quality of medical care by reducing the likelihood of:

- Adverse reactions between two or more prescriptions
- Duplicate medications prescribed to treat the same condition
- Same medication obtained from multiple sources
- Excessive or insufficient dosing
- Over- or under-utilization of medications

Pharmacy Data Transaction Service

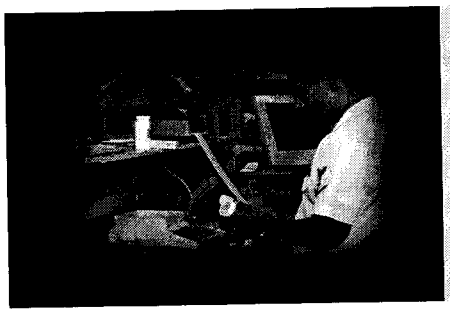
Data updated to reflect most current information available	FY 2001 7/1-9/30	FY 2002	FY 2003	FY 2004
Transactions Processed	47,778,021	97,250,064	111,624,993	127,483,104
Potentially Life-Threatening Drug Events (Level 1 DDIs) Identified	12,464	39,899	36,856	35,483

With enhancements to the mail order and retail pharmacy programs, all level 1, potentially life-threatening drug to drug interactions (DDIs) are automatically rejected and require an interaction to resolve. Thus, the level 1 events identified for the mail order and retail pharmacy programs are not included in the FY 2004 potentially life-threatening drug events (Level 1 DDIs) identified.

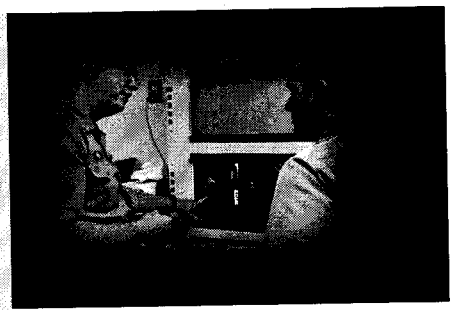
Composite Health Care System II

The Composite Health Care System II (CHCS II), the military's electronic health record (EHR), is an enterprise-wide medical and dental clinical information system. It generates, maintains and provides secure online access to comprehensive patient records. This EMR began worldwide deployment in January 2004 and is becoming a key enabler to military medical readiness; it supports uniform, high-quality health promotion and health care delivery to more than 8.9 million Military Health System beneficiaries. The EMR meets the eight care delivery functions that the Institute of Medicine identified as essential for health care delivery safety, quality, and efficiency. This system ensures health care delivery – with one patient, one record and worldwide accessibility.

CHCS II is a core component of ensuring military readiness, supporting high quality health care delivery, and enhancing continuity of care to MHS beneficiaries. The computer-based patient record facilitates the transformation to joint medical care by ensuring clinical information is shared among the armed services and the VA.



The most comprehensive technology system ever implemented in the health industry



The CHCS II is being implemented in blocks of increasing functionality allowing the MHS to build a system that is easily adapted to meet new requirements and to incorporate the latest technology.

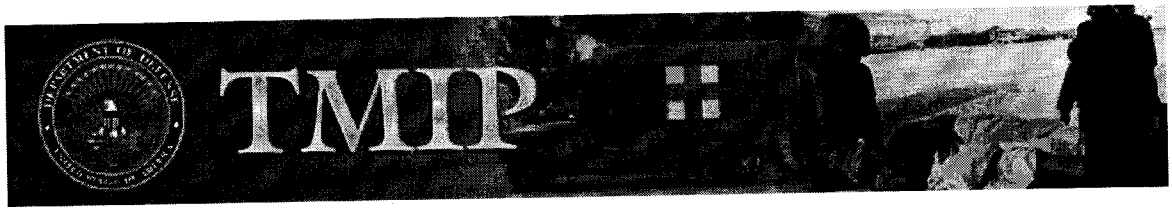
- Block 1 provides a graphical user interface for healthcare visit documentation and enables real-time retrieval of medical records.
- Block 2 integrates robust dental charting and documentation functionality.
- Block 3 provides ancillary (laboratory, pharmacy, and radiology) order entry and results retrieval, replacing the current legacy systems and expands documentation to include inpatient care.

Benefits:

- Creates a life-long medical record for MHS beneficiaries
- Designed by military providers to support clinical workflow
- Uses templates to simplify workflow
- Maintains integrity of patient data and optimizes data standardization
- Supports symptom-based medical surveillance
- Provides 24 hour access 7 days a week to complete medical and dental records
- Eliminates medical record legibility issues
- Enables population health and wellness reporting
- Provides clinical functionality in support of deployed military forces

Theater Medical Information Program

The mission of the Theater Medical Information Program (TMIP) is to provide automated medical information to support the war fighter. This medical information system was developed to ensure precise, interoperable support for rapid mobilization, deployment, and sustainment of all theater medical services anywhere, anytime, in support of any mission. The design of the TMIP focused on eliminating identified deficiencies including a lack of consistent information capture within and between the Services, a lack of interoperability between systems, and significant deficiencies in communications between the medical entities of the Services.



Medical information is collected and reported at the local level, intermediate/ regional level, and across the operational theater. This enables medical staff to collect, analyze, and utilize collective medical information in near real-time as part of a medical surveillance system. The ability to identify injury and disease trends based on symptomatology, as well as diagnosis, enables early intervention with preventive measures.

Commanders across the Services will be able to track trends, take preventive action, and keep their forces fit throughout the theater. They gain situational awareness for critical decision-making as information on the location and health status of injured war-fighters across the theater is readily accessible.

The system is designed to promote continuity of care through media transfer. Patient care information is transferred with the patient from initial emergency care in the field to definitive care in a fixed medical facility. TMIP's detailed electronic record of medical care is also sent to the military's Clinical Data Repository to support care in the sustaining base and the VA system. This data is also available for retrospective epidemiological research. In addition to patient care information, the TMIP software suite includes data from medical supply and patient movement systems. These additional systems also support tracking patient location and movement of equipment during patient transport.

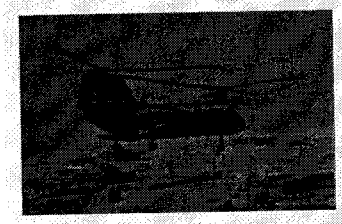
Deployment Health Quality Assurance Program

In 2004, hundreds of thousands service men and women deployed in support of our nation's defenses, including those serving in Afghanistan and Iraq. The DoD is firmly committed to protecting the health of our service members, before, during, and after deployments. To support this commitment, the DoD Deployment Health Quality Assurance Program was established.

The key elements of the DoD Deployment Health Quality Assurance Program include:

- periodic reports on centralized pre- and post-deployment health assessments
- periodic reports on Service-specific deployment health quality assurance programs
- periodic visits to military installations to assess deployment health programs
- an annual report on the DoD Deployment Health Quality Assurance Program

The pre-and post-deployment health assessments are forwarded to the Army Medical Surveillance Activity for inclusion in the Defense Medical Surveillance System. Weekly reports on deployment health assessment data are provided to the MHS Deployment Health Support Directorate.



The reports include :

- Branch of Service
- Active or reserve component
- Post-deployment health assessments data:
  - Service member's general health status
  - Medical and dental problems that developed during deployment
  - Medical profile or light duty status
  - Mental health treatment or concerns
  - Concerns about possible deployment exposures or events
  - General health issues or concerns
  - Post-deployment health referrals indicated
  - Follow-up medical visits accomplished
  - Post-deployment blood samples on file in DoD repository
  - Medical, mental health and exposure concerns

Jointly developed metrics will be established with a focus on pre- and post-deployment assessment completion and referrals accomplishment. The program design ensures each redeploying service member receives a thorough post-deployment health assessment and related health care. The deployment health quality assurance activities at both the DoD and Services levels are critically important to meeting the health needs and addressing the health concerns of deployed personnel.

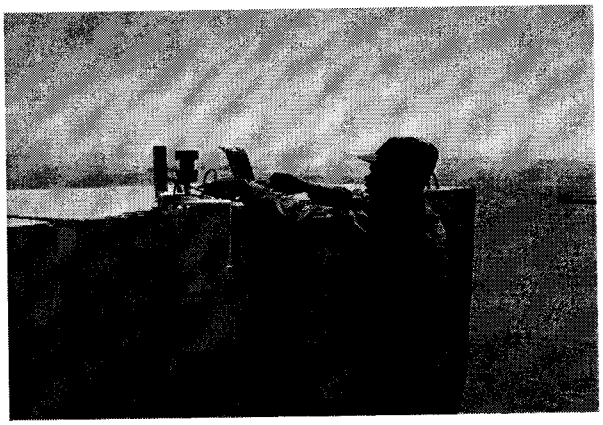
Environment Surveillance System in Theater

A significant lesson learned from Operations Desert Shield and Desert Storm was the importance of knowing what potentially hazardous exposures service members might encounter. The U.S. Army Center for Health Promotion and Preventive Medicine in conjunction with the Air Force Institute for Operational Health and the Navy Environmental Health Center has made great progress in environmental surveillance during the global war on terror. The desired outcome of the Environment Surveillance System is a data archiving capability to support the diagnosis and clinical management of personnel exposed to hazards and occupational and environmental agents.

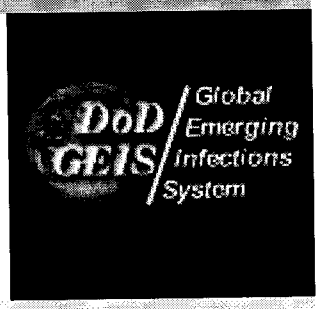
Early identification of potential threats that may impact operational forces can lead to the identification and mitigation of environmental exposures. Involvement of environmental surveillance personnel in the planning, pre-deployment and deployment of troops is the key to a successful surveillance system. The needed information has become easier to obtain because preventive medicine professionals are working with the intelligence community. Environmental surveillance experts now use worldwide intelligence data to define industrial hazards and threats.

Useful environmental surveillance data is now available to commanders through secure defense web sites. This allows them to know as much as possible about the location prior to sending their service members to a particular area.

A roster of service members who were potentially exposed is under development from cataloged and collected data. Chronic and low level exposures may not have an immediate consequence, but rather have a long-term effect. This information could matter to a person's future health, whether they were near a small oil well fire or suffered heavy metal exposure from processed water.



Global Emerging Infections Surveillance and Response System



Department of Defense Global Emerging Infections Surveillance and Response System (DoD-GEIS) is a network of DoD medical professionals committed to mitigating the effects of emerging infectious threats. As a tri-service program, DoD-GEIS works through partners and programs within the MHS and five DoD overseas laboratories with coordination by the GEIS Central Hub.

Partnering in the Fight Against Emerging Infections

DoD-GEIS was designed to strengthen the prevention of, surveillance of, and response to infectious diseases that:

- Pose a threat to military personnel and families
- Reduce medical readiness or
- Present a risk to United States national security.

The mission of DoD-GEIS is to:

- Increase DoD's emphasis on prevention of infectious diseases
- Strengthen and coordinate its surveillance and response efforts
- Create a centralized coordination and communication hub to help organize DoD resources and link with U.S. and international efforts

DoD-GEIS partners include:

- Armed Forces Institute of Pathology
- Military Infectious Disease Research Program
- Uniformed Services University of the Health Sciences
- United States Navy
- United States Army
- United States Air Force
- Office of the Assistant Secretary of Defense, Health Affairs
- U.S. Regional Unified Commands
- DoD Overseas Laboratories
- U.S. Centers for Disease Control and Prevention
- United States Department of State
- Pan American Health Organization
- World Health Organization

A selection of the DoD GEIS professional network accomplishments for FY 2004 is provided for review.

Influenza /Avian Influenza Outbreaks

During the 2003-2004 influenza season, the DoD-GEIS partners worked collaboratively and in consultation with the Centers for Disease Control (CDC) to investigate several influenza outbreaks on military facilities. Respiratory illness mortality of active duty members led to bimonthly telephone conferences sponsored by DoD-GEIS to enhance the communication on emerging threats.

Since the emergence of avian influenza, concern has mounted about the potential for global spread and possibility of triggering a human influenza pandemic. DoD-GEIS partners continually monitor the status of this issue and

the current status is presented to DoD Health Affairs through weekly global influenza surveillance reports from GEIS and the Air Force Institute for Occupational Health, a GEIS partner. The Navy and Air Force overseas laboratories provide epidemiological support, situational analysis, technical expertise, and continuous communication on the avian influenza. A GEIS staff member supported the World Health Organization regional outbreak response in Asia. Air Force Institute for Occupational Health provided 1064 influenza isolates in the 2003-2004 influenza season to the World Health Organization (WHO) and the CDC as vaccine candidates and in support of global surveillance. This represented the eighth largest U.S. contributor.

Acinetobacter Baumannii

Acinetobacter baumannii is a multi-drug resistant infection affecting military members injured in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). DoD-GEIS identified that there was insufficient information about the magnitude and scope of Acinetobacter baumannii infections in OIF/OEF injured patients throughout the MHS. A multidisciplinary infection control meeting including subject matter experts from the military and civilian community was coordinated by DoD-GEIS. As a result of the conference and investigation, a coherent public health response was initiated. Collaborative activities such as these, strengthen the long-term relationship and infrastructure to meet the challenges of future emerging infections.

Interagency Collaboration

DoD-GEIS was designed to strengthen the prevention of, surveillance of, and response to infectious diseases. Interagency collaboration and communication enhance the rapid identification and assessment of significant infectious disease threats with timely and appropriate coordinated responses. DoD-GEIS promotes collaboration and interoperability with the CDC, WHO and the Department of State to mitigate the effects of emerging infectious threats on national security.

Predictive Modeling

The U.S. Family Health Plan has entered into the age of innovation with predictive modeling and identification of populations with high illness burden. Using state-of-the-art predictive modeling, the U.S. Family Health Plan has instituted a number of programs to identify members who would benefit by more intensive case management to improve health care. As an example, Johns Hopkins HealthCare (JHHC) has incorporated many of the tools available within the Johns Hopkins Adjusted Clinical Groups (ACG) toolkit into the management of USFHP enrollees. The ACG toolkit contains complex grouping algorithms and statistically validated models that use administrative claims data, specifically ICD-9 diagnosis codes, in order to create easy-to-use risk adjustment categorizations (ACGs). These ACG categories are defined by morbidity, age and gender and they are based on the premise that the level of resources necessary for delivering appropriate healthcare to a population is correlated with the illness burden of that population. Using ACGs, JHHC has created reports that compare the utilization patterns for USFHP patients at medical practice sites and has begun a discussion at these sites with providers to determine if they are over utilizing or under utilizing medical services. The ACG toolkit also contains a predictive modeling component (ACG-PM). ACG-PM, using the illness burden as measured by ICD-9 diagnosis codes, identifies those enrollees in the health plan that are predicted to be in the top 5% of high utilizers of healthcare services within the next year. Therefore, JHHC care management has integrated ACG-PM into the algorithms used to select these predicted high utilizer USFHP enrollees for disease and case management programs.

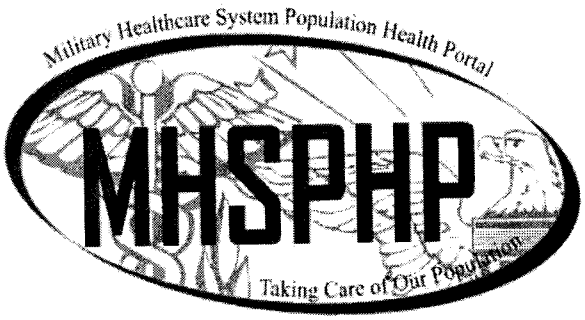
Another example is through our Priority Care Program instituted at the Brighton Marine Health Care, Boston, where intensive telephonic case management is used for members with chronic disease, applying protocols for intervention across the spectrum of diseases to target patients at high risk for hospitalization. This program has resulted in a 0% increase in utilization for the patients in the program since April 2003.

Pacific Medical Centers in Seattle uses the Status One program to help identify members at high risk for hospitalization and assigns these members to a case manager to help coordinate their care and increase self-management. Over the 5 years of this program, the case managers have gone from purely telephonic interaction to placement at practice sites where they meet with patients, families, and physicians. This program has resulted in decreased hospitalization for this group of high-risk members as well as increased the satisfaction of patients and physicians who care for these frail members.

Population Health and Medical Management

Population-based healthcare management requires a shift from reactive to proactive, evidence-based outreach approaches in targeted patient populations. Reliable information systems are critical to the success of Population Health initiatives.

The MHS Population Health Portal (MHSPHP) is a centralized web-based population health management system that transforms encounter, pharmacy, laboratory, radiology, immunization, claims (including purchased care), and demographic data into actionable information for Army, Navy, and Air Force healthcare teams. The information provided helps the healthcare team improve the delivery of preventive services and chronic disease management programs, thus contributing to improving the overall health of their MTF TRICARE Prime enrollees.



The MHSPHP improves population health and healthcare delivery by providing actionable information and feedback to Military Health System healthcare teams.

Through a secure website of the MHSPHS, all MTF healthcare teams can now proactively manage the health status of their patients. The portal provides enrollee data stratified by, age, gender, and need for preventive services. The portal provides users with the ability to:

- Aggressively manage 10 diseases or conditions with action lists, prevalence reports and aggregate counts
- Proactively monitor execution of six preventive services
- Continually track MTF/Service success with following national recognized performance measures such as HEDIS® metrics for:
  - Asthma medication management
  - Breast cancer screening
  - Use of beta-blocker after an acute myocardial infarction
  - Cervical cancer screening
  - Diabetic patient care

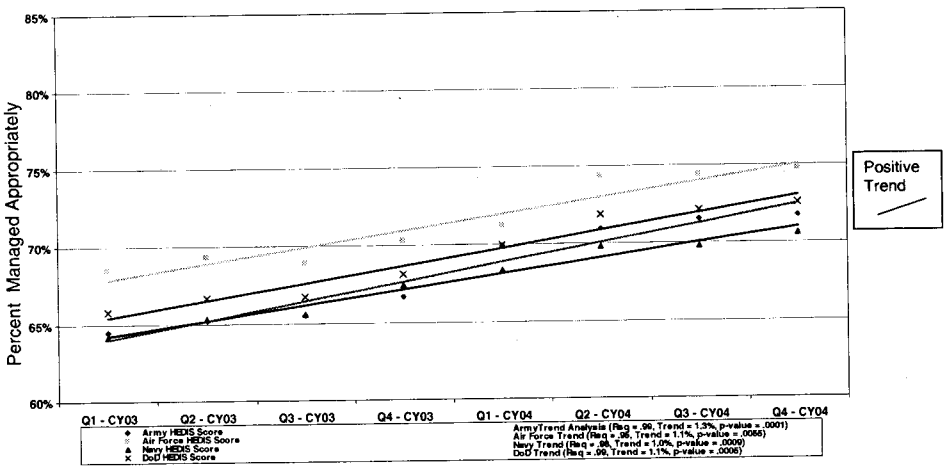
Asthma Disease Management and the Population Health Portal

The MHSPHP is a valuable tool supporting the disease management of asthma patients. The portal:

- Identifies asthma population at the MTF, clinic, and primary care provider levels;
- Provides action lists of asthma patients, including most recent long-term controller medication treatment, Emergency Department visits, and admissions; and
- Includes the patient contact information on the action lists, which allows facilities to contact patients who need closer monitoring, and/or preventive services such as flu shot.

The portal supports trend analysis at the facility, Service, and DoD levels. One of the aspects of care monitored in the management of asthma is the appropriateness of the medications given to the patients. The data indicates each Service is improving on the use of appropriate medications for asthmatic patients. The DoD believes that real-time actionable clinical performance feedback has contributed directly to the consistently positive trend.

Use of Appropriate Medications for Asthmatics DoD Trends



Data Source and Analysis: Informatics Team
Population Health Support Division, U.S. Air Force

Each of the varied innovative processes for surveillance highlighted enhances the quality of care provided by DoD. Healthcare professionals across the system are continually searching for improved mechanisms to meet our mission of enhancing DoD and our Nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care.

Acronyms

ACE	Angiotensin Converting Enzyme
AFB	Air Force Base
AHRQ	Agency for Healthcare Research and Quality
AMI	Acute Myocardial Infarction
BSC	Balanced Score Card
CDC	Centers for Disease Control and Prevention
CHCS II	Composite Health Care System II
CMS	Centers for Medicare and Medicaid Services
CPG	Clinical Practice Guideline
DoD	Department of Defense
EMR	Electronic Medical Record
FY	Fiscal Year
GEIS	Global Emerging Infections Surveillance and Response System
HbA1c	Glyosylated Hemoglobin
HCTCP	Healthcare Team Coordination Program
HEDIS®	Health Employer Data Information System
HBP	High Blood Pressure
HF	Heart Failure
HTN	Hypertension
ICS	Inhaled corticosteroids
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
LVSD	Left Ventricular Systolic Dysfunction
MHS	Military Health System
MHSPHP	Military Health System Population Health Portal
MTF	Military Treatment Facility
NCQA	National Committee for Quality Assurance
NHANES	National Health and Nutrition Examination Survey
NPIC	National Perinatal Information Center
NQMP	National Quality Monitoring Program

NRC + Picker	National Research Corporation in partnership with the Picker Group
NSQIP	National Surgical Quality Improvement Program
Pap Test	Papanicolaou Test
PCM	Primary Care Manager
PDH	Post Deployment Health
PDTS	Pharmacy Data Transaction Service
PN	Pneumonia
PR	Pregnancy Related
PSEC	Patient Safety Executive Council
PSM	Patient Safety Managers
PSP	Patient Safety Program
PSR	Patient Safety Reporting
Qtr	Quarter
SAP	Scientific Advisory Panel
TMIP	Theater Medical Information Program
TMOP	TRICARE Mail Order Pharmacy
TRISS	TRICARE Inpatient Satisfaction Survey
TRRx	TRICARE Retail Pharmacy
USFHP	United States Family Health Plan
U. S.	United States
VA	Department of Veterans Administration
VHA	Veterans Health Administration
VBAC	Vaginal Birth after Cesarean Section
WHO	World Health Organization
WRAIR	Walter Reed Army Institute of Research