

ASTHMA CARE—APPROPRIATE USE OF MEDICATION IN THE MILITARY HEALTH SYSTEM (MHS)

A National Quality Management Program Special Study

“Military Treatment Facility (MTF) enrollees who have persistent asthma are appropriately medicated for this condition at a lower rate than the National Committee for Quality Assurance (NCQA), Health Plan Employer Data and Information Set (HEDIS) participating health plans that report this measure. Despite low medication rates, MTF enrollees appear to compare favorably with national baselines and goals for utilization of hospitals and emergency departments for asthma care.”

Why study Asthma Care?

Prevalence rates for asthma are increasing worldwide. Effective asthma management includes using appropriate pharmaceuticals for long-term control of the condition. Based on clinical evidence, the Department of Defense (DoD)/Veterans Health Administration (VHA) developed the Clinical Practice Guideline (CPG) for asthma. The guideline addresses management and treatment of persistent asthma.

This study was conducted primarily to measure the use of long-term controller medications in the management of persistent asthma. Secondly, the study examined utilization of emergency department (ED) services and inpatient hospital services for beneficiaries with an asthma diagnosis.

What was the methodology?

Both the HEDIS appropriate medication metric and the Healthy People 2010 (HP2010) utilization measures were examined. The utilization study population included all beneficiaries, ages 5 through 64 years on December 31, 2001. Beneficiaries were included in the population regardless of the length of time enrolled to TRICARE. The study population for the HEDIS measure “Use of Appropriate Medications for People With Asthma” included MTF continuously enrolled beneficiaries, ages 5 to 56 years with persistent asthma identified by meeting one or more of the following conditions:

- One or more hospital admission or emergency department visit for a diagnosis of asthma
- Four or more outpatient visits for asthma in conjunction with two prescriptions for asthma medications

- Four or more prescriptions for asthma medications

The study population was identified using year 2000 data. For those in the study population, prescriptions for long-term controller medications for asthma, written in 2001, were identified. Long-term controller medications were defined as inhaled corticosteroids, nedocromil and cromolyn sodium, leukotriene modifiers, and methylxanthines. This measure was created using HEDIS 2002 Technical Specifications. The specifications were implemented as written and no modifications were made. A supplemental analysis was conducted to examine the relationship between asthma medications and the health service utilization outcomes of hospitalization and ED visits among the persistent asthma study population.

What were the results?

The HEDIS persistent asthma population contained 46,769 enrollees. The population included more females (56 percent) than males (44 percent). The population was predominantly adult, ages 18 to 56 years (54 percent). Children ages 5 through 9 years represented 17 percent of the group.

The number of active duty (AD) members with persistent asthma was small (n=2,023) in comparison to the number of non-active duty (NAD) persistent asthmatics (n=44,746).

The utilization cohort included all enrolled beneficiaries 5 through 64 years of age. There were approximately 1.5 million beneficiaries in this group.

HEDIS appropriate medication rates

Controller medication usage rates for non-active duty persistent asthmatics ranged from 43 to 54 percent as portrayed in Figures 1 through 3, with younger patients more likely to receive controller medications than older patients. Usage of appropriate controller medication by active duty persistent asthmatics ranged from 35 to 42 percent as portrayed in Figure 4.

Figure 1: Controller Medication Usage Rates by Persistent Asthmatics, Non-Active Duty Status

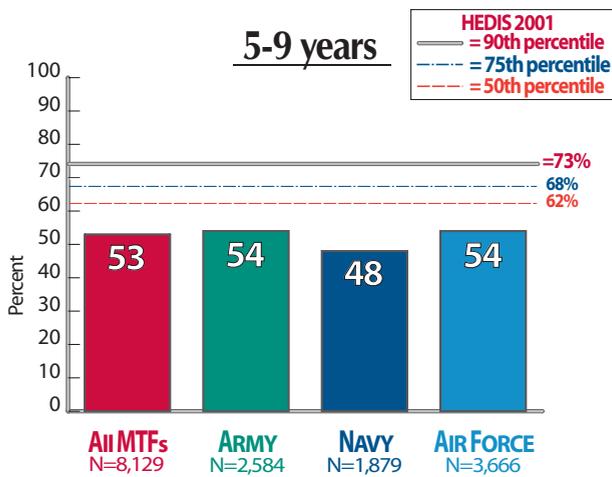


Figure 2: Controller Medication Usage Rates by Persistent Asthmatics, Non-Active Duty Status

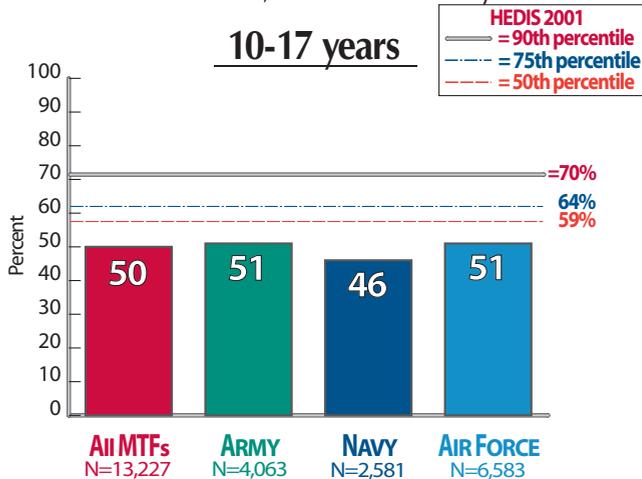


Figure 3: Controller Medication Usage Rates by Persistent Asthmatics, Non-Active Duty Status

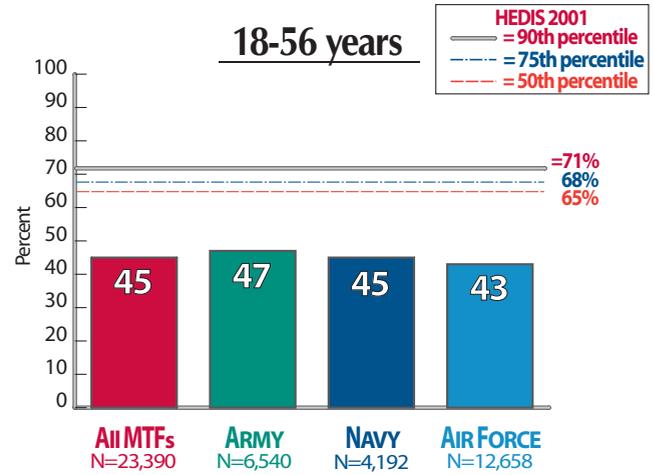
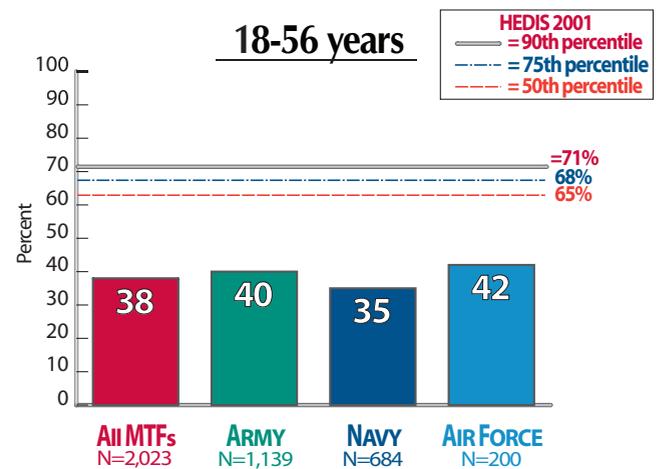


Figure 4: Controller Medication Usage Rates by Persistent Asthmatics, Active Duty Status



How was asthma medication management related to health service utilization outcomes, hospitalizations and emergency department visits, for the persistent asthma population?

The members of the persistent asthma study population with a hospitalization or an emergency department (ED) visit for asthma during 2001 were identified to measure the use of long-term controller asthma medications among the group prior to a hospitalization or ED visit. These health services are usually considered preventable, with proper asthma medication management. Among those beneficiaries with an asthma hospitalization, about 4 percent of the

beneficiaries received a long-term controller medication prescription for asthma prior to the hospitalization. See Table 1 for a Service-level display of this analysis.

Table 1. Number of Study Population Members with Hospital Admissions by Prior Appropriate Medication Versus No Prior Appropriate Medication

MTF Affiliation	Members with a Hospital Admission	Prior Appropriate Medication N (%)	No Prior Appropriate Medication N (%)
All MTFs	485	18 (3.7%)	467 (96.3%)
Army	155	4 (2.6%)	151 (97.4%)
Navy	92	6 (6.5%)	86 (93.5%)
Air Force	238	8 (3.4%)	230 (96.6%)

Among those beneficiaries with an ED visit, about 7 percent of the beneficiaries received a long-term controller medication prescription for asthma prior to the visit. See Table 2 for a Service-level display of this analysis.

Table 2. Number of Study Population Members with Emergency Department Visits by Prior Appropriate Medication Versus No Prior Appropriate Medication

MTF Affiliation	Members with an ED Visit	Prior Appropriate Medication N (%)	No Prior Appropriate Medication N (%)
All MTFs	3,150	231 (7.3%)	2,919 (92.7%)
Army	1,043	89 (8.5%)	954 (91.5%)
Navy	621	41 (6.6%)	580 (93.4%)
Air Force	1,486	101 (6.8%)	1,385 (93.2%)

Inpatient and Emergency Department Utilization for Asthma

There were eight asthma admissions per 10,000 MTF enrolled beneficiaries, ages 5 through 64. This rate compared favorably with the HP 2010 baseline (Table 3).

Table 3: Inpatient Admissions for Asthma

MTF Affiliation	Enrollment	Inpatient Admissions	Admissions (per 10,000)
All MTFs	1,501,954	1,227	8
Army	433,135	441	10
Navy	285,706	241	8
Air Force	783,113	545	7
HP2010 Baseline			13.8

In 2001, the per capita rate of ED visits for asthma for MTF-enrolled beneficiaries, ages 5 through 64, was 69 visits per 10,000 enrollees. The per capita rate of ED visits was highest for the Army with 89 visits per 10,000, and lowest for the Air Force. Army and Navy rates exceeded the HP 2010 baseline rate of 71.1 visits per 10,000 visits (Table 4).

Table 4: Emergency Department Visits for Asthma

MTF Affiliation	Enrollment	Emergency Room Visits	Visits per 10,000
All MTFs	1,501,954	10,392	69
Army	433,135	3,865	89
Navy	285,706	2,229	78
Air Force	783,113	4,298	55
HP2010 Baseline			71.1

Study Limitations

This study was conducted in accordance with the HEDIS 2002 methodology. Therefore, results of this study are not comparable to the asthma care study conducted in FY01, which used a modified HEDIS methodology.

Conclusions and Recommendations

MTF enrollees who have persistent asthma are appropriately medicated for the condition at a lower rate than the HEDIS participating health plans that report this measure. AD enrollees with persistent asthma are medicated at a lower rate than NAD enrollees with persistent asthma. Among beneficiaries with persistent asthma, very few with long-term controller medications were hospitalized or had an ED visit, confirming the efficacy of long-term controller medications in

treating asthma. Despite low medication rates, MTF enrollees appear to compare favorably with HP2010 national baselines for utilization of hospitals and emergency departments for asthma care.

The following recommendations are suggested:

- Monitor asthma medication prescription patterns for at least one more year to begin trending rates that can be compared to a national benchmark.
- Perform further studies on the differences in medication rates by duty status.

Where to go for more information?

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