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<td>U.S. Army Center for Health Promotion and Preventive Medicine, Armed Forces Health Surveillance Center (AFHSC), 2900 Linden Lane, Suite 200, Silver Spring, MD, 20910</td>
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Leishmaniasis is a zoonotic disease caused by protozoa of the genus *Leishmania*—the parasite is transmitted to humans through bites of female sand flies.\(^{1,2}\) The disease is endemic in many regions of Africa, South and Central America, southern Europe, Asia, and the Middle East.\(^{1-7}\)

Clinical expressions of leishmaniasis are dependent on the infecting species and host immune responses.\(^{1-8}\) Cutaneous, mucosal, and visceral leishmaniasis, the three major clinical forms, are manifestations of skin, naso-oropharyngeal mucous membrane, and systemic infections, respectively.\(^{1,8}\)

The courses of cutaneous and mucosal leishmaniasis are characterized by papules that progress to nodules and eventually to ulcers. The manifestations of visceral leishmaniasis (which can be life threatening) include fever, weakness, hepatosplenomegaly, pancytopenia, hyperglobulinemia, and emaciation. Not all infected persons develop signs or symptoms of leishmaniasis; however, among those who do, times from infection to first clinical manifestations generally range from a week to many months, with much longer periods (e.g., up to 10 years) for visceral infections.\(^{1,8}\)

Leishmaniasis is of current military medical surveillance interest because it is endemic in many areas of Iraq, Afghanistan, and Kuwait.\(^{2,4-9}\) Many U.S. military members have been exposed to leishmaniasis risk during their service in Operations Enduring Freedom and/or Iraqi Freedom. A recent report in the MSMR\(^8\) summarized the leishmaniasis experience of the U.S. military from 1999 through 2003 (based on data available at the time of the analysis). This report summarizes frequencies, rates, and demographic and military characteristics of U.S. servicemembers who were diagnosed/reported with leishmaniasis from January 2003 through November 2004.

**Methods.** For this summary, the surveillance period was 1 January 2003 to 30 November 2004. The surveillance population included all individuals who served in an active and/or Reserve component of the U.S. Armed Forces any time during the surveillance period. To identify cases, we searched the Defense Medical Surveillance System (DMSS) for all records of reportable medical events, hospitalizations, and ambulatory visits of U.S. servicemembers that included a diagnosis (in any position) of leishmaniasis (ICD-9-CM: 085.0-085.9). Only one episode of leishmaniasis per individual was included in analyses. For surveillance purposes, the incident date of each case was the “date of onset” (if reported on a reportable medical event record) or the date of the earliest medical encounter with a diagnosis of leishmaniasis. Incidence rates of leishmaniasis (incident diagnoses per 100,000 person-years of military service) were calculated among active component servicemembers.

**Results.** From January 2003 through November 2004, there were 1,178 incident diagnoses of leishmaniasis among members of the U.S. Armed Forces. Most affected servicemembers were males (95%), in the Army (94%), and in the active component (76%) (table 1). More cases (36%) were reported among 20-24 years olds than other aged members (table 1). Among affected servicemembers with known assignment locations, most had recently served in Iraq and/or Kuwait (data not shown).

In the active components of the Services overall, annual incidence rates of leishmaniasis were 40.9 and 24.4 per 100,000 person-years (p-yrs) in 2003 and 2004, respectively (table 1). In general, incidence rates were much higher in the Army and among males compared to their respective counterparts (table 1). Of interest, in 2003 but not 2004, rates were higher among white nonhispanic and 20-24 year old servicemembers compared to their respective counterparts (table 1).

Finally, during the surveillance period, the mean number of incident cases per month was 51.2; however, range was 1 (January 2003) to 152 (November 2003) (figure 1). During the period, numbers of clinical onsets/diagnoses of leishmaniasis sharply increased through the summer of 2003; peaked in the fall of 2003; remained relatively high through the winter of 2004; sharply declined in the spring of 2004; and were relatively low through the summer and fall of 2004 (figure 1).

*Analysis by Jenny C. Lay, MPH, Analysis Group, Army Medical Surveillance Activity.*
Editorial comment. Since January 2003, nearly 1,200 U.S. servicemembers have been diagnosed/reported with leishmaniasis—the actual number of those affected is likely much higher. Consider, for example, that some infected servicemembers have no or early clinical manifestations of disease and have not sought evaluation; others have sought evaluation/treatment but have not been diagnosed with “leishmaniasis”; and others have been diagnosed with leishmaniasis but their cases have not been centrally reported (e.g., diagnoses were made outside of the Military Health System).

There is often a significant lag between the date of the first clinical manifestation of leishmaniasis and the date of clinical diagnosis and reporting. It is not surprising, therefore, that this summary documents many more cases with clinical onsets in 2003 than were documented in the January/February 2004 issue of the MSMR. In turn, it is likely that the numbers and rates of leishmaniasis in calendar year 2004 (per this report) underestimate the actual numbers and rates of leishmaniasis infections acquired during the year. In turn, it is likely that many cases of leishmaniasis acquired in 2004 will be diagnosed and reported in 2005 (the increases will be reflected in future MSMR surveillance reports regarding leishmaniasis).

Cases of leishmaniasis (particularly visceral leishmaniasis) can be clinically inapparent for long periods; and the first clinical manifestations can be non-specific and thus difficult to diagnose – especially when they present to practitioners (e.g., after returning to the United States from overseas) who are unfamiliar and/or have no experience with the disease. Physicians and other primary care providers should include leishmaniasis among possible diagnoses among veterans of military service in Iraq, Afghanistan, and Kuwait who have exposure histories and clinical presentations compatible with cutaneous or visceral leishmaniasis. Several recent reports in peer reviewed medical literature review clinical characteristics of leishmaniasis and present guidelines for identifying potential cases, confirming diagnoses, and providing treatment.

Table 1. Numbers and characteristics of servicemembers diagnosed with leishmaniasis, U.S. Armed Forces, January 2003-November 2004

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Active Reserve</td>
<td>Active Reserve</td>
<td>Active Reserve Total</td>
</tr>
<tr>
<td></td>
<td>No. Rate*</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Total</td>
<td>577 40.9 126</td>
<td>319 24.4 156</td>
<td>896 282 1,178 100.0</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>551 112.4 112</td>
<td>296 65.3 146</td>
<td>847 258 1,105 93.8</td>
</tr>
<tr>
<td>Navy</td>
<td>5 1.3 1</td>
<td>9 2.6 0</td>
<td>14 1 15 1.3</td>
</tr>
<tr>
<td>Air Force</td>
<td>13 3.5 7</td>
<td>10 2.9 5</td>
<td>23 12 35 3.0</td>
</tr>
<tr>
<td>Marines</td>
<td>8 4.5 6</td>
<td>4 2.5 5</td>
<td>12 11 23 2.0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>22 10.4 9</td>
<td>16 8.2 12</td>
<td>38 21 59 5.0</td>
</tr>
<tr>
<td>Male</td>
<td>555 46.3 117</td>
<td>303 27.3 144</td>
<td>858 261 1,119 95.0</td>
</tr>
<tr>
<td>Race/eth</td>
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<td></td>
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<tr>
<td>White nonhispanic</td>
<td>416 53.0 91</td>
<td>212 26.2 102</td>
<td>628 193 821 69.7</td>
</tr>
<tr>
<td>Black, nonhispanic</td>
<td>88 37.1 26</td>
<td>69 29.3 37</td>
<td>157 63 220 18.7</td>
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<tr>
<td>Hispanic</td>
<td>45 33.8 7</td>
<td>23 19.3 13</td>
<td>68 20 88 7.5</td>
</tr>
<tr>
<td>Other racial/ethnic</td>
<td>28 11.0 2</td>
<td>15 10.6 4</td>
<td>43 6 49 4.2</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
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<tr>
<td>&lt;20</td>
<td>32 28.2 2</td>
<td>6 5.6 0</td>
<td>38 2 40 3.4</td>
</tr>
<tr>
<td>20-24</td>
<td>256 52.5 27</td>
<td>116 25.4 27</td>
<td>372 54 426 36.2</td>
</tr>
<tr>
<td>25-29</td>
<td>126 44.9 14</td>
<td>74 28.1 21</td>
<td>200 35 235 19.9</td>
</tr>
<tr>
<td>30-34</td>
<td>93 46.0 19</td>
<td>49 26.4 24</td>
<td>142 43 185 15.7</td>
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<td>35-39</td>
<td>49 26.8 27</td>
<td>45 27.7 27</td>
<td>94 54 148 12.6</td>
</tr>
<tr>
<td>40+</td>
<td>21 14.6 37</td>
<td>29 22.4 57</td>
<td>50 94 144 12.2</td>
</tr>
</tbody>
</table>

* Rates expressed as incident cases per 100,000 person-years.
There are no vaccines or prophylactic medications against leishmaniasis. Thus, all military personnel who serve in leishmaniasis endemic areas should be informed of the nature of the risks and measures to counter them. Specifically, all servicemembers at risk of leishmaniasis should be trained, equipped, supplied, and supervised to ensure compliance (especially from dusk to dawn) with indicated personal protective measures to include the consistent and proper wear of permethrin-treated uniforms; the consistent use of military issued, DEET-containing insect repellent on exposed skin; and the consistent and proper use of permethrin-treated bednets to prevent sand fly bites. Policies, information sheets, briefings, pocket cards, and other materials related to the prevention of leishmaniasis and other arthropod-transmitted infections are posted at the USACHPPM website: http://chppm- www.apgea.army.mil/news/Leishmaniasis.asp.

References
Figure 1. Leishmaniasis, by month of clinical onset/first diagnosis, by component of US Armed Forces, January 2003-November 2004.
Deployment-related condition of special surveillance interest:
Severe Acute Pneumonia


During the spring-summer of 2003, 19 U.S. servicemembers assigned in the U.S. Central Command area of operations had rapid onsets of bilateral pneumonitis with respiratory failure/distress that required air evacuation out of the operational theater for medical care. All of the cases required mechanical ventilatory support; ten were associated with eosinophilia in peripheral blood, bronchial alveolar lavage fluid, and/or lung biopsy tissue; and two were fatal. There were few demographic, military, or geographic links among the cases; and specific causes were not identified.1,2

Because of its severity, unknown causes and risk factors, and association with service in southwest Asia/Middle East, “severe acute pneumonia” became a condition of special surveillance interest for the Army Medical Surveillance Activity.

Methods. For this report, the surveillance period was 1 January 2003 through 30 November 2004. The surveillance population included all individuals who served in an active component of the U.S. Armed Forces and were reported as deployed to OEF/OIF any time during the surveillance period. For surveillance purposes, a case was defined as a hospitalization of a member of the surveillance population with (a) a principal (first listed) diagnosis of “acute respiratory failure” (ICD-9-CM: 518.81) or “other disease of the respiratory system” (includes ARDS): (ICD-9-CM: 518.82); or (b) a principal (first listed) diagnosis of “pneumonia and influenza” (ICD-9-CM: 480-487) or “respiratory distress/insufficiency” (ICD-9-CM: 786.09) plus a secondary diagnosis of “acute respiratory failure” (ICD-9-CM: 518.81) and/or “other disease of the respiratory system” (includes ARDS): (ICD-9-CM: 518.82).

Results. During the surveillance period, there were 25 hospitalizations of U.S. military participants in/ veterans of OEF/OIF for acute respiratory failure/acute respiratory distress. More than half (n=13) of the total cases during the 23-month surveillance period occurred between May and August 2003 (figure 1). Since August 2003, there have been 0 to 2 cases per month (figure 1).

References
Figure 1. Hospitalizations among OIF/OEF veterans for acute respiratory failure (ARF) and/or acute respiratory distress syndrome (ARDS), active components, US Armed Forces, January 2003-November 2004.

Principal diagnosis of ARF/ARDS

Principal diagnosis of pneumonia/influenza or respiratory distress/insufficiency plus secondary diagnosis of ARF/ARDS.
Update: Pre- and Post-deployment Health Assessments, US Armed Forces, September 2002-November 2004

The June 2003 issue of the MSMR summarized the background, rationale, policies, and guidelines related to pre-deployment and post-deployment health assessments of servicemembers. Briefly, prior to deploying, the health of each servicemember is assessed to ensure his/her medical fitness and readiness for deployment. At the time of redeployment, the health of each servicemember is again assessed to identify medical conditions and/or exposures of concern to ensure timely and comprehensive evaluation and treatment.

Completed pre- and post-deployment health assessment forms are routinely sent to the Army Medical Surveillance Activity (AMSA) where they are archived in the Defense Medical Surveillance System (DMSS). In the DMSS, data recorded on pre- and post-deployment health assessments are integrated with data that document demographic characteristics, military experiences, and medical encounters of all servicemembers (e.g., hospitalizations, ambulatory visits, immunizations). The continuously expanding DMSS database can be used to monitor the health of servicemembers who participated in major overseas deployments.

Methods. For this update, the DMSS was searched to identify all pre- and post-deployment health assessment forms that were completed after 1 September 2002 (to include assessments of servicemembers who deployed in October 2002). For summary purposes, pre-deployment responses included all assessments (DD Form 2795) completed after 1 September 2002; and post-deployment responses included all assessments (DD Form 2796) completed after 1 January 2003.

Results. From 1 September 2002 to 30 November 2004, 815,823 pre-deployment health assessments were completed at field sites, shipped to AMSA, and integrated in the DMSS database (table 1). From 1 January 2003 to 30 November 2004, 673,190 post-deployment health assessments were completed at field sites, shipped to AMSA, and entered into the DMSS database (table 1).

In general, the distributions of self-assessments of “overall health” were similar among pre- and post-deployment form respondents (figure 1). For example, on both sets of forms, the most frequent descriptor of “overall health” was “very good.” Of note, however, relatively more pre- (32.1%) than post- (21.8%) deployment respondents assessed their overall health as “excellent”; while relatively more post- (40.9%) than pre- (25.7%) deployment respondents assessed their overall health as “good,” “fair,” or “poor” (figure 1). Among servicemembers (n=354,078) who completed both pre- and post-deployment health assessments, nearly half (46.4%) chose the same descriptor of their overall health before and after deploying (figures 2, 3). Of those (n=189,797) who changed their assessments from pre- to post-deployment, approximately three-fourths (76.8%) changed by a single category (on a five category scale) (figures 2,3); and of those who changed by more than one category, many more indicated a decrement (n=37,517; 10.6% of all respondents) than an improvement (n=6,551; 1.9% of all respondents) (figure 3).

On post-deployment forms, approximately 21% of active and 37% of Reserve component respondents reported “medical/dental problems.” In general, “medical/dental problems” were more frequently reported by soldiers and Marines than by members of the other Services (table 2). Approximately 3% and 5% of active and Reserve component respondents, respectively, reported “mental health concerns.” Mental health concerns were reported relatively more frequently among soldiers (active: 5%; Reserve: 6%) than members of the other Services (table 2). From 6% (active component, Navy) to 26% (active component, Army) of post-deployment
Figure 1. Percent distributions of self-assessed health status, pre- and post-deployment, US Armed Forces, 1 January 2003-30 November 2004.

Figure 2. Self-assessed health status on post-deployment form, in relation to self-assessed health status pre-deployment, US Armed Forces, 1 January 2003-30 November 2004.
forms documented that “referrals” were indicated (table 2).

Overall, 15.2% of all servicemembers who completed post-deployment forms reported deployment-related “exposure concerns.” The proportions of respondents who reported exposure concerns significantly varied from month to month and generally increased over time (range: 3.7% [April 2003]-19.3% [April 2004]) (figure 4). The likelihood of reporting an exposure concern increased monotonically with age (table 3). In addition, Reserve component members (20.9%); members of the Army (19.6%) and Marine Corps (14.3%); females (17.1%); and officers (16.7%) were more likely to report “exposure concerns” than their respective counterparts (table 3). Of note, the higher prevalences of exposure concerns among Reserve versus active component members were consistent across all age groups (figure 5).

**Editorial comment.** Since September 2002, approximately three-fourths of U.S. servicemembers have assessed their overall health as “very good” or “excellent” when they are mobilized and/or prior to deploying overseas. Relatively fewer (59.1%) servicemembers assessed their overall health as “very good” or “excellent” at the end of overseas deployments. Most changes in assessments of overall

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### Table 1. Pre-deployment and post-deployment health assessments, by month and year, US Armed Forces, September 2002-November 2004

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</tr>
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<td><strong>Total</strong></td>
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<tr>
<td>2002</td>
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<td>September</td>
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<tr>
<td>October</td>
<td>16,564</td>
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</tr>
<tr>
<td>November</td>
<td>20,073</td>
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<td>December</td>
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<td>August</td>
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</tr>
<tr>
<td>November</td>
<td>23,191</td>
<td>2.8</td>
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1. Total pre-deployment assessments (DD form 2795) since 1 September 2002-30 November 2004.
health from pre- to post-deployment were relatively minor (i.e., one category on a 5-category scale). Still, however, more than 10% of all post-deployers indicated relatively significant declines (i.e., two or more categories) in their overall health from pre- to post-deployment.

The findings are not surprising considering the extreme physical and psychological stresses associated with mobilization, overseas deployment, and harsh and dangerous living and working conditions. The deployment health assessment process is specifically designed to identify, assess, and follow-up as necessary all servicemembers with concerns regarding their health and/or deployment-related exposures. Overall, for example, approximately one-fifth of all post-deployers had “referral indications” documented on post-deployment health assessments; and of those with referral indications, most (range, by service and component: 56%-95%) had documented outpatient visits and/or hospitalizations within 6 months after they returned.

Overall, nearly one of every 6 servicemembers who completed post-deployment health assessments reported an “exposure concern.” Prevalences of “exposure concerns” significantly varied from month to month—and generally increased over time (figure 4). The strongest correlate of reporting an exposure concern was older age. In both the Reserve and active components, servicemembers older than 40 were approximately twice as likely as those younger than 20 to report exposure concerns (figure 5). In all age groups, Reserve component members were much more likely to report exposure concerns than their active component counterparts (figure 5).

Table 2. Responses to selected questions from post-deployment forms (DD2796) submitted since 1 January 2003, by service and component, US Armed Forces

<table>
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<th>Marines</th>
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<td>SMs with DD 2796 at AMSA</td>
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<td>65,267</td>
<td>62,142</td>
<td>58,018</td>
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<tr>
<td>Electronic version²</td>
<td>57%</td>
<td>2%</td>
<td>23%</td>
<td>11%</td>
<td>37%</td>
</tr>
<tr>
<td>General health (“fair” or “poor”)</td>
<td>9%</td>
<td>5%</td>
<td>2%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Medical/dental problems</td>
<td>28%</td>
<td>12%</td>
<td>11%</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>Currently on profile</td>
<td>10%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Mental health concerns</td>
<td>5%</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Exposure concerns</td>
<td>17%</td>
<td>5%</td>
<td>6%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Health concerns</td>
<td>14%</td>
<td>6%</td>
<td>5%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Referral indicated</td>
<td>26%</td>
<td>6%</td>
<td>9%</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Med. visit following referral³</td>
<td>95%</td>
<td>68%</td>
<td>85%</td>
<td>58%</td>
<td>88%</td>
</tr>
<tr>
<td>Post deployment serum¹</td>
<td>93%</td>
<td>77%</td>
<td>90%</td>
<td>77%</td>
<td>88%</td>
</tr>
</tbody>
</table>

| Reserve component |      |      |           |         |       |
| SMs with DD 2796 at AMSA | 143,216 | 11,307 | 24,205 | 12,949 | 191,677 |
| Electronic version² | 52% | 10% | 12% | 11% | 43% |
| General health (“fair” or “poor”) | 11% | 5% | 3% | 9% | 9% |
| Medical/dental problems | 41% | 35% | 17% | 35% | 37% |
| Currently on profile | 15% | 4% | 2% | 4% | 12% |
| Mental health concerns | 6% | 3% | 1% | 3% | 5% |
| Exposure concerns | 22% | 21% | 12% | 24% | 22% |
| Health concerns | 22% | 15% | 28% | 56% | 79% |
| Referral indicated | 24% | 17% | 12% | 24% | 22% |
| Med. visit following referral³ | 82% | 86% | 63% | 56% | 79% |
| Post deployment serum¹ | 92% | 84% | 71% | 74% | 89% |

¹. As of 30 November 2004
². Only calculated for DD 2796 completed since 1 June 2003.
³. Inpatient or outpatient visit within 6 months after referral.
Figure 3. Distribution of self-assessed health status changes from pre- to post-deployment, US Armed Forces, 1 January 2003-30 November 2004.

Change in self-assessment of overall health status, pre- to post-deployment, calculated as:
post deployment response - pre-deployment response, using the following scale for health status:
1="poor"; 2="fair"; 3="good"; 4="very good"; and 5="excellent."
Table 3. Deployment related "exposure concerns" on post-deployment health assessments,¹
US Armed Forces, January 2003-November 2004

<table>
<thead>
<tr>
<th></th>
<th>Total²</th>
<th>Exposure concerns</th>
<th>No exposure concerns</th>
<th>% with exposure concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>555,123</td>
<td>84,171</td>
<td>462,882</td>
<td>15.2</td>
</tr>
<tr>
<td>Component</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>362,993</td>
<td>44,103</td>
<td>314,184</td>
<td>12.1</td>
</tr>
<tr>
<td>Reserve</td>
<td>192,130</td>
<td>40,068</td>
<td>148,698</td>
<td>20.9</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>321,031</td>
<td>63,007</td>
<td>253,460</td>
<td>19.6</td>
</tr>
<tr>
<td>Navy</td>
<td>76,582</td>
<td>4,848</td>
<td>70,594</td>
<td>6.3</td>
</tr>
<tr>
<td>Air Force</td>
<td>86,373</td>
<td>6,113</td>
<td>79,056</td>
<td>7.1</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>71,137</td>
<td>10,203</td>
<td>59,772</td>
<td>14.3</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>18,654</td>
<td>1,404</td>
<td>17,036</td>
<td>7.5</td>
</tr>
<tr>
<td>20-29</td>
<td>294,999</td>
<td>38,009</td>
<td>253,263</td>
<td>12.9</td>
</tr>
<tr>
<td>30-39</td>
<td>153,683</td>
<td>26,317</td>
<td>125,038</td>
<td>17.1</td>
</tr>
<tr>
<td>40+</td>
<td>87,784</td>
<td>18,440</td>
<td>67,543</td>
<td>21.0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>492,779</td>
<td>73,516</td>
<td>412,222</td>
<td>14.9</td>
</tr>
<tr>
<td>Women</td>
<td>62,341</td>
<td>10,655</td>
<td>50,657</td>
<td>17.1</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>99,665</td>
<td>16,156</td>
<td>81,908</td>
<td>16.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>55,951</td>
<td>9,105</td>
<td>45,996</td>
<td>16.3</td>
</tr>
<tr>
<td>Other</td>
<td>1,388</td>
<td>226</td>
<td>1,162</td>
<td>16.3</td>
</tr>
<tr>
<td>White</td>
<td>360,947</td>
<td>53,063</td>
<td>303,886</td>
<td>14.8</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enlisted</td>
<td>484,074</td>
<td>72,276</td>
<td>404,809</td>
<td>14.9</td>
</tr>
<tr>
<td>Officer</td>
<td>71,039</td>
<td>11,889</td>
<td>58,069</td>
<td>16.7</td>
</tr>
</tbody>
</table>

¹ Post-deployment health assessments (DD Form 2796) with completion dates: 1 January 2003-30 November 2004.
² Total does not reflect missing responses to exposure concerns or missing characteristics.

Figure 5. Prevalence (%) of post-deployment forms that indicate "exposure concerns," by age group and component of respondent, US Armed Forces, January 2003-November 2004.
Acute respiratory disease (ARD) and streptococcal pharyngitis (SASI), Army basic training centers, by week through November 27, 2004.

ARD Rate\(^1\) — SASI\(^2\)

- Epidemic threshold

\(^1\)ARD rate = cases per 100 trainees per week

\(^2\)SASI (Strep ARD surveillance index) = (ARD rate)x(rate of Group A beta-hemolytic strep)

\(^3\)ARD rate >=1.5 or SASI >=25.0 for 2 consecutive weeks indicates an "epidemic"
### Sentinel reportable events for all beneficiaries at US Army medical facilities, cumulative numbers for calendar years through November 30, 2003 and 2004

<table>
<thead>
<tr>
<th>Reporting location</th>
<th>Number of reports all events&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Food-borne</th>
<th>Vaccine preventable</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORTH ATLANTIC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington, DC Area</td>
<td>304</td>
<td>257</td>
<td>.</td>
</tr>
<tr>
<td>Aberdeen, MD</td>
<td>84</td>
<td>59</td>
<td>.</td>
</tr>
<tr>
<td>FT Belvoir, VA</td>
<td>245</td>
<td>248</td>
<td>9</td>
</tr>
<tr>
<td>FT Bragg, NC</td>
<td>1,715</td>
<td>1,832</td>
<td>8</td>
</tr>
<tr>
<td>FT Drum, NY</td>
<td>161</td>
<td>110</td>
<td>.</td>
</tr>
<tr>
<td>FT Eustis, VA</td>
<td>317</td>
<td>217</td>
<td>.</td>
</tr>
<tr>
<td>FT Knox, KY</td>
<td>235</td>
<td>214</td>
<td>3</td>
</tr>
<tr>
<td>FT Lee, VA</td>
<td>195</td>
<td>173</td>
<td>.</td>
</tr>
<tr>
<td>FT Meade, MD</td>
<td>104</td>
<td>168</td>
<td>.</td>
</tr>
<tr>
<td>West Point, NY</td>
<td>74</td>
<td>71</td>
<td>2</td>
</tr>
<tr>
<td>GREAT PLAINS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Sam Houston, TX</td>
<td>209</td>
<td>303</td>
<td>.</td>
</tr>
<tr>
<td>FT Bliss, TX</td>
<td>343</td>
<td>360</td>
<td>1</td>
</tr>
<tr>
<td>FT Carson, CO</td>
<td>471</td>
<td>603</td>
<td>12</td>
</tr>
<tr>
<td>FT Hood, TX</td>
<td>1,630</td>
<td>1,345</td>
<td>8</td>
</tr>
<tr>
<td>FT Huachuca, AZ</td>
<td>74</td>
<td>103</td>
<td>.</td>
</tr>
<tr>
<td>FT Leavenworth, KS</td>
<td>43</td>
<td>40</td>
<td>2</td>
</tr>
<tr>
<td>FT Leonard Wood, MO</td>
<td>190</td>
<td>237</td>
<td>5</td>
</tr>
<tr>
<td>FT Polk, LA</td>
<td>212</td>
<td>201</td>
<td>1</td>
</tr>
<tr>
<td>FT Riley, KS</td>
<td>209</td>
<td>238</td>
<td>4</td>
</tr>
<tr>
<td>FT Sill, OK</td>
<td>210</td>
<td>192</td>
<td>.</td>
</tr>
<tr>
<td>SOUTHEAST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Gordon, GA</td>
<td>318</td>
<td>212</td>
<td>.</td>
</tr>
<tr>
<td>FT Benning, GA</td>
<td>425</td>
<td>447</td>
<td>.</td>
</tr>
<tr>
<td>FT Campbell, KY</td>
<td>473</td>
<td>803</td>
<td>4</td>
</tr>
<tr>
<td>FT Jackson, SC</td>
<td>222</td>
<td>285</td>
<td>.</td>
</tr>
<tr>
<td>FT Rucker, AL</td>
<td>74</td>
<td>67</td>
<td>.</td>
</tr>
<tr>
<td>FT Stewart, GA</td>
<td>323</td>
<td>600</td>
<td>.</td>
</tr>
<tr>
<td>WESTERN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Lewis, WA</td>
<td>562</td>
<td>518</td>
<td>3</td>
</tr>
<tr>
<td>FT Irwin, CA</td>
<td>55</td>
<td>63</td>
<td>.</td>
</tr>
<tr>
<td>FT Wainwright, AK</td>
<td>153</td>
<td>192</td>
<td>1</td>
</tr>
<tr>
<td>OTHER LOCATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaii</td>
<td>957</td>
<td>786</td>
<td>23</td>
</tr>
<tr>
<td>Europe</td>
<td>1,314</td>
<td>1,224</td>
<td>19</td>
</tr>
<tr>
<td>Korea</td>
<td>527</td>
<td>498</td>
<td>.</td>
</tr>
<tr>
<td>Total</td>
<td>12,428</td>
<td>12,666</td>
<td>106</td>
</tr>
</tbody>
</table>

1. Includes active duty servicemembers, dependents, and retirees.
2. Events reported by December 7, 2003 and 2004.

Note: Completeness and timeliness of reporting vary by facility.

Source: Army Reportable Medical Events System.
(Cont’d) Sentinel reportable events for all beneficiaries\(^1\) at US Army medical facilities, cumulative numbers\(^2\) for calendar years through November 30, 2003 and 2004

<table>
<thead>
<tr>
<th>Reporting location</th>
<th>Arthropod-borne</th>
<th>Sexually transmitted</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lyme disease</td>
<td>Malaria</td>
<td>Chlamydia</td>
</tr>
<tr>
<td>NORTH ATLANTIC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington, DC Area</td>
<td>2 4 2</td>
<td>144 111 22 19 3 4</td>
<td>1 29</td>
</tr>
<tr>
<td>Aberdeen, MD</td>
<td>2 . .</td>
<td>36 55 12 2</td>
<td></td>
</tr>
<tr>
<td>FT Belvoir, VA</td>
<td>2 1 1 2</td>
<td>178 191 34 24 . 3</td>
<td>.</td>
</tr>
<tr>
<td>FT Bragg, NC</td>
<td>1 . 7 10</td>
<td>1,212 1,240 238 271 6 10 104 123</td>
<td>4 3 79 112</td>
</tr>
<tr>
<td>FT Drum, NY</td>
<td>. . 4</td>
<td>127 96 25 5 1</td>
<td></td>
</tr>
<tr>
<td>FT Eustis, VA</td>
<td>. 2 .</td>
<td>174 178 41 19 1 1</td>
<td></td>
</tr>
<tr>
<td>FT Knox, KY</td>
<td>. . 1</td>
<td>191 170 29 15</td>
<td></td>
</tr>
<tr>
<td>FT Lee, VA</td>
<td>. 1 .</td>
<td>132 144 27 26</td>
<td></td>
</tr>
<tr>
<td>FT Meade, MD</td>
<td>. 3 .</td>
<td>85 139 17 23</td>
<td></td>
</tr>
<tr>
<td>West Point, NY</td>
<td>34 23</td>
<td>21 38 3 1</td>
<td></td>
</tr>
<tr>
<td>GREAT PLAINS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Sam Houston, TX</td>
<td>. . 2</td>
<td>168 205 33 40 1 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Bliss, TX</td>
<td>. 3 .</td>
<td>245 234 55 57 2 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Carson, CO</td>
<td>. . 1</td>
<td>333 479 37 54 1 1 40 55 2</td>
<td>1</td>
</tr>
<tr>
<td>FT Hood, TX</td>
<td>. 1 3 3</td>
<td>814 751 248 223 5 1 187 220</td>
<td>5</td>
</tr>
<tr>
<td>FT Huachuca, AZ</td>
<td>. . 1</td>
<td>68 97 5 6</td>
<td></td>
</tr>
<tr>
<td>FT Leavenworth, KS</td>
<td>. . .</td>
<td>35 26 3 8</td>
<td></td>
</tr>
<tr>
<td>FT Leonard Wood, MO</td>
<td>. . 1</td>
<td>155 171 18 42 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Polk, LA</td>
<td>. . 1</td>
<td>153 152 45 32 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Riley, KS</td>
<td>. 1 . 1</td>
<td>179 162 9 40</td>
<td>.</td>
</tr>
<tr>
<td>FT Sill, OK</td>
<td>. . .</td>
<td>134 126 21 19 1 1 32</td>
<td>.</td>
</tr>
<tr>
<td>SOUTHEAST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Gordon, GA</td>
<td>. . 2 1</td>
<td>273 167 22 26 5 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Benning, GA</td>
<td>. . 25 4</td>
<td>242 230 106 106</td>
<td>.</td>
</tr>
<tr>
<td>FT Campbell, KY</td>
<td>1 . 2 3</td>
<td>349 560 90 100 1 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Jackson, SC</td>
<td>. . 1</td>
<td>166 179 26 29 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Rucker, AL</td>
<td>. . .</td>
<td>39 45 12 12 1</td>
<td>.</td>
</tr>
<tr>
<td>FT Stewart, GA</td>
<td>. . 2</td>
<td>162 324 75 137 . 3 35 41</td>
<td>.</td>
</tr>
<tr>
<td>WESTERN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT Lewis, WA</td>
<td>. 1 2 1</td>
<td>371 367 75 47</td>
<td>.</td>
</tr>
<tr>
<td>FT Irwin, CA</td>
<td>. . .</td>
<td>43 51 11 10</td>
<td>.</td>
</tr>
<tr>
<td>FT Wainwright, AK</td>
<td>. . 1 2</td>
<td>105 109 22 12</td>
<td>.</td>
</tr>
<tr>
<td>OTHER LOCATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaii</td>
<td>. . 2 2</td>
<td>673 556 124 109 1</td>
<td>.</td>
</tr>
<tr>
<td>Europe</td>
<td>4 16 8 6</td>
<td>975 891 225 195 2 2 1</td>
<td>.</td>
</tr>
<tr>
<td>Korea</td>
<td>. 19 11</td>
<td>406 393 60 54 2 3 6</td>
<td>.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>46 56 78 56</td>
<td>8,388 8,637 1,770 1,763 33 35 488 509</td>
<td>62 111 266 602</td>
</tr>
</tbody>
</table>

4. Primary and secondary.
5. Urethritis, non-gonococcal (NGU).

Note: Completeness and timeliness of reporting vary by facility.

Source: Army Reportable Medical Events System.
| Assignment locations, active component, United States Army, June 30, 2004<br>1 | MTF/Post2 | Males | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | }
The Medical Surveillance Monthly Report (MSMR) is prepared by the Army Medical Surveillance Activity, Directorate of Epidemiology and Disease Surveillance, US Army Center for Health Promotion and Preventive Medicine (USACHPPM).

Data in the MSMR are provisional, based on reports and other sources of data available to AMSA.

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