

# NAVAL HEALTH RESEARCH CENTER

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## *PROJECTION OF PATIENT CONDITION CODE DISTRIBUTIONS FOR MILITARY PERSONNEL DURING NONCONVENTIONAL OPERATIONS*

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## **Executive Summary**

### **Problem**

United States military forces are increasingly being tasked to respond to nontraditional military missions such as peacekeeping and peace enforcement. Programming the resources needed to support these military operations is contingent on accurately projecting the types of illness and injuries that are likely to be incurred by military personnel.

### **Objective**

The goal of this study is to provide the expected composition of patient streams during nonconventional operations in the nomenclature used by military medical models to estimate the needed medical resources to support deployments.

### **Approach**

Separate methodologies were employed to project patient condition (PC) code percentages for nonbattle injury admissions and disease admissions. The nonbattle injury methodology projects PC code percentages based on the observed injury types and anatomical locations from previous operations, and then adjusts for environmental injuries, such as heat or cold injuries that depend on the geographical region. Projections of disease PC codes were based on disease admissions observed during previous peacekeeping and peace enforcement operations, as well as on empirical data from conventional combat and recent peacetime operations.

### **Results**

The percentage distributions of both nonbattle injury and disease admission types are provided for more than 300 PC codes needed for medical resource planning purposes for nonconventional military operations.

## **Projection of Patient Condition Code Distributions for Military Personnel During Nonconventional Operations**

Accurate forecasting of medical resources for future military operations requires anticipating the composition of the patient streams during those deployments, in terms of the specific illnesses and injuries, and obtaining estimates of the rates of hospitalization for those illnesses and injuries. United States forces are increasingly being tasked to respond to nontraditional operations, such as peacekeeping or peace enforcement. Peacekeeping operations, particularly those conducted under the support of the United Nations (UN) Charter, have become more common in the post-Cold War world as evidenced by deployments to Bosnia, Croatia, and Kosovo. In many cases these operations are subsuming traditional military missions.<sup>1</sup>

Nonconventional operations, often referred to as 'operations other than war,' include strikes and raids, peace enforcement, support for insurgencies and counterinsurgencies, antiterrorism, peacekeeping, drug interdiction, disaster relief, civil support, peace building and nation assistance.<sup>2</sup> To ensure successful medical support for these military deployments, planners must program the supplies, equipment, and staff that are needed to treat the injuries and illnesses likely to be incurred during these operations. The Medical Readiness Strategic Plan 1998-2004<sup>3</sup> specifically requires that the military services address the issue of patient stream specification expected for various military deployments. Up to this point, however, this effort has largely been confined to defining the expected patient streams for conventional combat operations.<sup>4,5</sup> The objective of the present investigation, thus, is to determine the likely composition of patient streams during nonconventional military operations. These distributions, in Patient Condition (PC) code nomenclature, are required input to the 'Time, Task, Treater' database that is then used to estimate the needed medical staff and supplies during military operations.<sup>6</sup>

Similarly, other medical models, such as the Medical Analysis Tool (MAT)<sup>7</sup> and Estimating Supplies Program (ESP),<sup>8</sup> incorporate PC code forecasting capability into a software environment for the projections of the staffing demands, requisite equipment, and needed medical supplies. Therefore, for medical resource estimates to be reliable, it is essential that the set of PC codes be comprehensive and that the expected rate of occurrence of each condition be accurately derived.

## Data

Observed hospitalization data from recent peacekeeping and peace enforcement operations was the primary source of the nonconventional data for this study (see Table 1). These data were reported for United Kingdom (UK), UN, and US forces, and consisted of inpatient data from Operation Provide Promise, Operation Joint Endeavor, Operation Resolute 2, and Medical Support Troop 3 in Croatia. In an effort to ensure the projections most accurately represent the likely medical incidence for US forces, these operations were supplemented by inpatient data from strictly US forces during conventional combat and peacetime operations.

Operation Provide Promise was a multinational peacekeeping operation in Zagreb during the period of October 1992 to December 1995. More than 50 countries took part, and US forces deployed a 60-bed Mobile Army Surgical Hospital to provide 24-hr medical support for more than 25,000 personnel under the UN command. Between 10 October 1992 and 17 March 1994, 4612 people were seen in the hospital's outpatient clinics, inpatient ward, or operating rooms. More than 6000 medical conditions were seen over the 18 months, which included 9767 outpatient visits, 1004 inpatient admissions, and 538 surgeries. Of the 1004 inpatients, 87% were military personnel. The inpatient admissions comprised of 67% disease disorders and 33% injury occurrences.<sup>9</sup>

Operation Joint Endeavor was a 1-year, North Atlantic Treaty Organization commanded peace enforcement mission in Bosnia that began in December 1995. The troops occupied strategic locations around Sarajevo and a sector of Bosnia-Herzegovina. A total of 414 hospitalizations were recorded, which were composed of 52% disease, 46% nonbattle and 2% battle injury admissions.<sup>10</sup>

British forces were deployed to Bosnia as part of the Implementation Force for a 1-year period commencing in December 1995 during Operation Resolute 2. During that period an Army morbidity reporting system was initiated, recording both outpatient and inpatient data. Reporting units included the Hospital Squadron at Sipovo, the hospital facility at Tomislavgrad, and UK admissions and referrals to the force hospital near Split, Croatia. Data were collected at these facilities over a 4-month period. During this time, there were 1410 outpatients and 425

admissions from an average force of 8340 personnel. Nearly half of the patients seen were for an orthopedic problem.<sup>11</sup>

Medical Support Troop 3 was formed in June 1995 to provide medical support to UN military troops in the region of Split. During the period from July 9th to September 26th, 1995, a total of 1182 medical visits were tabulated that resulted in 254 inpatient care visits. The mean length of stay for the inpatients was 3.5 days and comprised the following types of disorders: 41% disease, 43% nonbattle injury, 2% battle injury, and 14% elective surgery.<sup>12</sup>

Since the majority of the aforementioned medical data reflected the experience of UN and UK military troops, US peacetime and combat data were also used to provide adequate US troop representation in our nonconventional operation projections. The peacetime inpatient medical data were obtained from the Defense Manpower Data Center. These data consisted of hospitalization records for US troops stationed from 1991-1995 in three geographical regions: Europe, South Korea, and Turkey. These medical treatment facilities were selected to facilitate resource planning needed for the European, Northeast Asia, and Southwest Asia theaters. The data from the European theater consisted of 8129 hospitalization records composed of 83% disease and 17% injury cases. The Northeast Asia medical treatment facility data consisted of 8199 hospitalization records composed of 83% disease and 17% injury cases. The Southwest Asia medical treatment facility data consisted of 1673 records composed of 85% disease and 15% nonbattle injury. The combat inpatient data used in our projections were obtained from a previous study in which PC code distributions were derived for conventional ground combat operations.<sup>5</sup> These estimates were based on empirical hospitalization data from five combat operations: World War II, Korea, Vietnam, Falklands, Persian War. The use of data from the previous combat operations, as one component in projecting PC distributions during nonconventional operations, allows the projections to be based on large empirical data sets involving US personnel, and also allows for the possibility that some nonconventional operations will represent environments hostile to US troops.

## **METHODS**

As previously noted, current Department of Defense medical models require input in the form of PC codes, a system of more than 300 possible medical conditions to which treatment resources are tied. Data available from the past nonconventional operations, however, were

reported either in broad diagnostic category format or in International Classification of Diseases, 9th revision, Clinical Modification (ICD-9) format.<sup>13</sup> Consequently, the data categorized in these alternative nomenclatures needed to be mapped into PC codes. Separate methodologies were developed to estimate PC code distributions for nonbattle injury and disease admissions. Because there were very few casualties resulting from hostilities in the nonconventional operations examined for this study,<sup>10,12</sup> the present investigation is, for all intents and purposes, an examination of the disease and nonbattle injury distribution expected during these types of deployments.

The nonbattle injury PC code methodology used the injury types and anatomical location of injuries sustained in previous operations to determine the likely nonbattle injury conditions in future operations. Adjustments were then made for environmental injuries, like heat and cold injuries, that are dependent on geographical region. The disease PC code distribution methodology first mapped empirical disease data into PC *clusters*, as defined by the Joint Readiness Clinical Advisory Board (JRCAB), and then the incidence percentage for each PC code within a cluster was estimated.<sup>6</sup> The PC disease clusters are 12 broad categories grouped by similar resource requirement lines: Surgical, Dermatological, Eye/Ear, Respiratory, Gastrointestinal, Cardiovascular, Sexual Transmitted Diseases, Genitourinary, Female Specific, Infectious/Parasitic, Neuropsychiatric, and Miscellaneous diseases. The specific methodologies used for estimating the PC code distributions of nonbattle injury and disease are discussed in greater detail in the following sections. Many of the techniques and methodologies previously employed to derive PC code percentages for conventional ground combat operations<sup>4</sup> were now applied to determine nonconventional operational percentages.

### **Nonbattle injury methodology**

Projections of nonbattle injury PC codes were accomplished via four steps: (1) estimate the nonbattle injury distribution for the traumatism categories using historical empirical data, (2) adjust for environment-dependent injuries, (3) determine the estimated anatomical percentage distribution for each trauma category, and (4) multiply the trauma percentage and anatomical location percentage to yield the expected PC code percentage.

### *Estimate nonbattle injury distribution for traumatism category percentages*

The first step in projecting nonbattle injury PC code percentages was to examine the nonbattle injury data from previous nonconventional operations and compute overall percentages accounted for by the various trauma categories observed during those operations. However, it is noted that a great deal of nonbattle injury data from previous campaigns were either broadly reported or consisted of very few admissions. For example, in some operations nonbattle injuries were merely reported as traffic accidents, occupational injuries, sport-related or other nonbattle injuries.<sup>9,10</sup> The most comprehensive data identified were the hospitalization records obtained from Operation Provide Promise in Zagreb.<sup>10</sup> This data source yielded over 300 nonbattle injury hospitalization records that were reported in ICD-9 format. Since the majority of the medical data consisted of UN, and UK military troops, US peacetime and combat data were used as a supplement to provide adequate US troop representation in our nonconventional projections. Thus, to determine the expected nonbattle PC category percentages for Europe, the mean percentages were computed using the category percentages from Operation Provide Promise combined with recent peacetime deployment data and previously projected percentages for conventional warfare for Europe.<sup>5,10</sup>

Equal weights from each of these three data sources were applied to arrive at baseline traumatism percentages for the European region (see Table 2). A small portion of the data from these operations was omitted because of a lack of PC code equivalency; the omitted diagnoses consisted of injuries due to poisonings, adverse effects, and unknown injury. Also, the sprains and strains trauma category percentages for Operation Provide Promise and the peacetime data were adjusted to include the musculoskeletal disorders incurred which are classified as their own category in the International Classification of Disease (ICD) nomenclature.

### *Adjust for environment-dependent injuries*

Included within the PC trauma category nomenclature are several environmentally dependent medical conditions: heat- and cold-related injuries, and bites and stings. The occurrences of these conditions will vary depending upon the geographical theater to which U.S. troops are deployed. Regional adjustments for these conditions were estimated by (1) determining the proportional

occurrences among US troops during peacetime deployments in Europe, Northeast Asia, and Southwest Asia, (2) determining the proportional occurrences of these environmentally-related conditions during past combat operations<sup>5</sup> and, finally (3) averaging the percentages for these types of conditions from the peacetime deployment data and conventional combat projections with the percentages obtained from Operation Provide Promise.

The non-environmental trauma category distributions derived in the first section of this methodology were held constant for the three geographical theaters. However slight differences in these categories percentages were yielded when these data were rescaled to accommodate the regional differences in environmental injury percentages. The estimated non-environmental and environmental trauma category percentages for Europe, Northeast Asia, and Southwest Asia are shown in Table 3.

*Determine estimated anatomical percentage distribution for each trauma category*

The next step in the nonbattle injury was to project anatomical locations within the trauma groups. The anatomical region percentages were calculated by averaging the anatomical site percentages of the nonbattle injuries from Operation Provide Promise with the peacetime deployments and those derived for the conventional combat operations. Table 4 displays the anatomical percentage distributions by trauma category computed from these three data sources.

*Multiply the trauma type and anatomical location to yield expected PC code percentage*

The nonbattle injury PC code percentages needed to drive the military medical resource models largely correspond to the “anatomical locations by trauma categories” seen in Table 4. Occasionally, however, there are multiple PCs that correspond to a single “trauma by location” combination. For instance, within the burns traumatism, there are six individual PC codes (PC35–PC40) that correspond to the burns-head combination. In instances such as this, the “trauma by anatomical region” percentage derived from the empirical data was apportioned within the individual subcategories according to the ratios estimated by a JRCAB panel.<sup>6</sup> Appendix A displays PC code percentages within each of the trauma categories, while Appendix B presents the percentages for each of the nonbattle injury PC codes separately.

## **Disease Methodology**

The methodology for projecting disease PC codes also followed a four-step process: (1) estimate the disease distribution for ICD categories using historical empirical data, (2) make regional adjustments for the ICD categories, (3) map ICD categories to PC clusters, and (4) estimate percentages for each PC code within each PC cluster.

### *Estimate disease distribution for ICD categories*

Disease data representing nonconventional combat scenarios were obtained from four nonconventional data sources: Operation Provide Promise, Operation Joint Endeavor, Operation Resolute 2, and Medical Support Troop 3 in Croatia. Due to the generally small number of admissions in these operations (between 100 and 400 hospitalizations each), and because the disease data are only partially accounted for by US troops, the data were again supplemented by data from US peacetime and combat operations. Also, we divided the disease admissions from Operation Provide Promise into two distributions by distinguishing them as UN or US hospitalizations, to further support illness data represented by US troops. The distributions by ICD disease category for the four nonconventional campaigns, as well as the peacetime deployment data from Europe and the European conventional ground combat projections are shown in Table 5. The disease category percentage projections for Europe were computed by taking the mean of the disease percentages from all seven data sources. As can be seen, the categories of Musculoskeletal, Digestive, Respiratory, Skin/Subcutaneous Tissue, and Symptoms and Ill-Defined Conditions each constituted a substantial proportion of the overall admissions for these operations.

### *Make regional adjustments for disease ICD categories*

As with the nonbattle injuries, disease distributions are also required by medical planners for the Northeast Asia and Southwest Asia geographical theaters. Since no substantial nonconventional operation data were available for those regions, the geographical variations computed earlier for the disease distributions under conventional combat were applied to the nonconventional operation data. These earlier projections were based on empirical peacetime data for the different geographical regions combined with empirical disease data from

conventional combat scenarios.<sup>5</sup> Table 6 shows the disease distribution for Europe as calculated by averaging the nonconventional operations, peacetime data from Europe, and the conventional ground combat estimates for Europe. To obtain disease distributions for Northeast Asia and Southwest Asia, we used the European data as a baseline and modified the percentages for the other two theaters by the ratio between the conventional combat disease estimates for Europe and each of the other two regions. For example, the respiratory disease percentage obtained for nonconventional operations in the European theater is 8.4%. The ratio of estimated respiratory disease percentages during conventional ground combat between Northeast Asia and Europe is 14.5%/12.0% or 1.2:1.<sup>5</sup> Thus, the projected respiratory percentage for Northeast Asia region is calculated as 8.4% x 1.2 (10.1%). This percentage is then modified to 10.4% when the results for all categories are rescaled to equal 100%.

The resulting ICD distributions for all three regions (Europe, Southwest Asia, and Northeast Asia) are shown in Table 6. These estimates are based on the exclusion of dental disorders, pregnancies, perinatal conditions, congenital disorders, and supplementary classifications since there are not presently PC codes that accurately represent these types of conditions.

#### *Map the ICD categories to PC clusters*

Once these ICD category percentages were determined, the next step was to map them to the appropriate PC clusters. The specific PC cluster categories are: Surgical, Dermatological, Eye/Ear, Respiratory, Gastrointestinal, Cardiovascular, Sexually Transmitted Diseases, Genitourinary, Female, Infectious/Parasitic, Neuropsychiatric, and Miscellaneous diseases. While considerable overlapping exists between the two coding formats (PC and ICD), there is not a one-to-one correspondence between the categorical nomenclatures. For example, individual diagnoses that fell within the ICD category of Infectious/Parasitic diseases (eg, food poisoning, streptococcus, herpes, hepatitis, gonococcal infections) mapped to six separate PC clusters: Infectious/Parasitic, Gastrointestinal, Dermatological, Respiratory, Sexually Transmitted Disease and Eye/Ear. Thus, ICD category to PC cluster mapping required examination of the individual diagnoses that make up each ICD category. Additionally, some ICD categories, such as Endocrine and Blood Diseases, do not map to PC clusters, and therefore were omitted from the distribution projections.

Examination of the individual inpatient diagnoses from Operation Provide Promise, the peacetime deployment data, and data from conventional ground combat provided the basis for mapping percentages from ICD categories to PC clusters. Table 7 displays the percentages from these data sets that mapped to each specific PC cluster. The final column in this table is the average from the three shown operational components. Applying this mapping strategy to the ICD category percentages (Table 6) yields the PC cluster percentages presented in Table 8.

*Determine percentage of each individual PC code within each PC cluster*

Once the PC cluster percentages were derived, the incidence percentage for each PC code within the various PC clusters needed to be determined. Having already determined which individual ICD codes mapped to each PC cluster, a determination was then made of which PC code(s) in that cluster best matched each of the ICD diagnosis codes that filtered into that cluster. For example, the ICD diagnosis of influenza was funneled to the Respiratory PC cluster, and then mapped to PC 240, "acute respiratory disease, moderate." In those instances where there was not a direct one-to-one match between the ICD code and a specific PC code in the cluster, that ICD code percentage was mapped to several PC codes. For instance, there are some PC codes that differ from others only by level of severity (eg, PC 245 - diarrheal disease, severe, PC 246 = diarrheal disease, moderate). In these cases the JRCAB panel data<sup>6</sup> were used to determine the relative percentages for those similar diagnoses. Percentages corresponding to ICD diagnoses that did not map to any PC codes were distributed proportionally across the existing PC codes in that major disease category under the assumption that the required medical resources would likely be similar.

The above methodology was applied to the empirical data from Operation Provide Promise, the peacetime data from the US treatment facilities in Europe, and the conventional combat projections. The mean from these three sets of percentages yielded the expected PC distributions within clusters for the European theater. Because of the small number of Neuropsychiatric and Sexually Transmitted Disease cases in Operation Provide Promise, and because it was felt that the peacetime disease percentages for those two clusters would not necessarily be representative of those conditions seen on a military deployment, the percentages for these two clusters were distributed across PCs based solely on the percentages previously derived for conventional combat operations.<sup>5</sup> The obtained percentage distribution for Europe was then used for the other

two geographical theaters (Northeast Asia, Southwest Asia) except for the infective and gastrointestinal clusters, where regional variation would be expected and where the PCs were distributed within those clusters in accordance with the distributions previously derived for conventional combat in those theaters.

Individual PC code percentages could then be calculated by multiplying the estimated PC cluster percentage by the percentage for individual PC codes within that cluster. For example, it is estimated that 13.2% of the likely disease admissions during a nonconventional combat operation in Southwest Asia will be respiratory diseases, and that 12.1% of these respiratory diseases will approximate PC 234 (bronchitis). Therefore, it is estimated that 1.59% ( $1.59\% = 13.2\% \times 12.1\%$ ) of nonconventional disease admissions in this geographical region will be for PC 234. Appendix C shows the PC code percentages within each cluster, while Appendix D contains a final list showing the distribution for all of the disease-related PC codes.

### **Conclusion**

Nonconventional operations are becoming increasingly more common. Estimates of the likely distribution of medical admissions by PC code are a key component in ensuring adequate resources to meet the medical needs of these operations. Medical models, such as Medical Analysis Tool<sup>7</sup> and the Estimating Supplies Program<sup>8</sup> incorporate the PC forecasting capability into a software environment to determine staffing demands, requisite equipment, and needed medical supplies. Use of empirical medical data from recent nonconventional operations, when supplemented with peacetime data of US troops on overseas deployments and combat data from conventional operations, provides a baseline for projecting disease and injury distributions for future nonconventional scenarios.

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**Table 1. ICD-9 Category Percentage Distributions for Nonconventional Operations**

<u>ICD-9 Category</u>	<u>Operation Provide Promise</u>	<u>Operation Resolute 2</u>	<u>Operation Joint Endeavor</u>	<u>Medical Support Troop 3 (Croatia)</u>
Infectious/Parasitic	5.2%	0.7%	3.2%	1.2%
Neoplasms	3.6%	0.0%	1.5%	0.0%
Endocrine	1.8%	0.0%	1.0%	0.0%
Diseases of the blood	0.4%	0.0%	0.0%	0.0%
Mental disorders	2.3%	1.2%	3.2%	6.6%
Nervous system	2.7%	5.8%	1.7%	2.1%
Circulatory	3.7%	0.0%	1.9%	0.0%
Respiratory	5.9%	1.9%	2.9%	5.8%
Digestive	15.4%	9.2%	7.5%	11.2%
Genitourinary	5.6%	4.9%	2.4%	4.1%
Skin/subcutaneous	3.6%	7.8%	4.9%	5.4%
Musculoskeletal	6.2%	17.7%	13.1%	24.5%
Congenital anomalies	0.7%	0.0%	0.0%	0.0%
Symptoms, ill-defined	4.8%	12.6%	8.5%	3.3%
Nonbattle injuries	38.3%	38.1%	48.3%	35.7%
	100.0%	100.0%	100.0%	100.0%
Frequencies	899	412	414	241

Pregnancies, dental disorders, and supplemental classifications have been omitted.

**Table 2. Percentage Distributions of Nonbattle Injury Types for European Region**

	<u>Operation Provide Promise</u>	<u>Conventional Combat Estimates</u>	<u>Peacetime Deployment 1991-1995</u>	<u>Average</u>
Amputation	3.2%	1.4%	1.0%	1.9%
Burn	2.2%	4.7%	1.8%	2.9%
Concussions	3.5%	2.2%	6.7%	4.1%
Crush	0.0%	0.1%	0.3%	0.1%
Dislocations	3.0%	6.1%	5.8%	5.0%
Fractures	34.3%	24.0%	29.9%	29.4%
Sprains/strains	32.6%	20.1%	27.1%	26.6%
Wounds all types	19.4%	28.0%	22.9%	23.4%
Bites/stings	0.5%	0.7%	0.3%	0.5%
Effects of cold	0.2%	10.3%	0.1%	3.5%
Effects of heat	0.5%	0.1%	3.1%	1.2%
Blisters	0.0%	1.0%	0.1%	0.4%
Miscellaneous	0.5%	1.2%	1.1%	0.9%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%

**Table 3. Estimated Distributions of Nonbattle Injury Types for Europe, Northeast Asia, and Southwest Asia**

	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
Bites/stings	0.5%	0.6%	0.7%
Effects of cold	3.5%	3.2%	1.2%
Effects of heat	1.2%	1.2%	3.7%
Blisters	0.4%	0.4%	0.4%
Miscellaneous	0.9%	0.9%	0.9%
Amputation	1.9%	1.9%	1.9%
Burn	2.9%	2.9%	2.9%
Concussions	4.1%	4.1%	4.1%
Crush	0.1%	0.1%	0.1%
Dislocations	5.0%	5.0%	4.9%
Fractures	29.4%	29.5%	29.3%
Sprains/strains	26.6%	26.6%	26.5%
Wounds all types	23.4%	23.5%	23.3%
<b>Total</b>	100.0%	100.0%	100.0%

**Table 4. Percentage Distributions of Anatomical Locations by Traumatism for Nonbattle Injury Admissions**

<u>Anatomical Location</u>	<u>% of Traumatism</u>	<u>Anatomical Location</u>	<u>% of Traumatism</u>
<b>Amputations</b>		<b>Open fractures</b>	
hand	59.5%	face	9.3%
forearm	2.1%	femur	2.4%
full arm	6.8%	foot/toe	18.6%
foot	5.8%	hand/finger	25.1%
below knee	7.3%	humerus	3.3%
above knee	18.5%	knee	2.5%
	<b>100.0%</b>	pelvis	0.5%
		radius/ulna	9.9%
		ribs	0.6%
		skull/open	5.1%
		shoulder	1.1%
		spine	2.2%
		tibia/fibula	19.6%
			<b>100.0%</b>
<b>Burns</b>		<b>Sprains/strains</b>	
head	24.1%	sacroiliac	2.7%
lower extremities	25.7%	wrist	2.5%
thorax	10.9%	thumb	1.0%
upper extremities	39.3%	finger	2.6%
	<b>100.0%</b>	ankle	24.2%
		knee	18.7%
		vertebral	7.1%
		lumbosacral	5.3%
		tenosynovitis	8.8%
		internal derangement of knee	27.1%
			<b>100.0%</b>
<b>Concussions</b>		<b>Wounds</b>	
severe	11.2%	abdomen	3.3%
moderate	41.5%	arm	12.0%
severe/contusion	17.0%	buttocks	0.8%
moderate/contusion	30.3%	eye	6.9%
	<b>100.0%</b>	face/neck	6.7%
		foot/ankle/toe	5.9%
		genitalia	0.7%
		hand/finger	17.8%
		head	9.0%
		kidney	0.2%
		leg	22.1%
		liver	0.1%
		thorax	10.5%
		fragment/wounds	3.8%
		spleen	0.3%
			<b>100.0%</b>
<b>Crush injuries</b>		<b>Closed fractures</b>	
arm	30.1%	face	15.0%
leg	60.9%	femur	4.5%
thorax	9.1%	foot/toe	20.3%
	<b>100.0%</b>	hand/finger	16.2%
		humerus	4.0%
		pelvis	1.3%
		radius/ulna	9.7%
		ribs	2.5%
		skull/closed	6.2%
		shoulder	3.1%
		spine	5.8%
		tibia/fibula	11.4%

**Table 5. Distribution of Admissions by International Classification of Disease Categories for Nonconventional Operations, Peacetime Deployments, and Estimates Based on Conventional Combat Operations**

	<b>Operation Joint Endeavor - Bosnia</b>	<b>Operation Resolute 2 - Bosnia</b>	<b>Medical Support Troop 3 - Croatia</b>	<b>Operation Provide Promise - Croatia non-US troops</b>	<b>Operation Provide Promise - Croatia US troops</b>	<b>Peacetime overseas - Europe US troops</b>	<b>Conventional Combat (est.) Europe US troops*</b>
	<b>01/96-12/96</b>	<b>07/96-11/96</b>	<b>07/95-09/95</b>	<b>10/92-3/94</b>	<b>10/92-3/94</b>	<b>1991-95</b>	<b>1991-95</b>
Infectious/parasitic	6.1%	1.2%	1.9%	9.4%	3.2%	5.2%	13.4%
Neoplasms	0.0%	0.0%	0.0%	2.5%	22.6%	2.6%	3.4%
Endocrine	1.9%	0.0%	0.0%	3.6%	1.1%	0.8%	2.3%
Diseases of the blood	0.0%	0.0%	0.0%	0.8%	0.0%	0.3%	0.3%
Mental disorders	6.1%	2.0%	10.3%	3.8%	3.2%	21.0%	6.1%
Nervous system	3.3%	9.4%	3.2%	3.6%	8.6%	3.1%	5.3%
Circulatory	3.8%	0.0%	0.0%	6.9%	1.1%	4.0%	4.2%
Respiratory	5.6%	3.1%	9.0%	8.9%	10.8%	9.1%	12.0%
Digestive	14.6%	14.9%	17.4%	25.6%	21.5%	16.8%	15.7%
Genitourinary	4.7%	7.8%	6.5%	10.2%	5.4%	6.9%	8.3%
Skin/subcutaneous	12.2%	12.5%	8.4%	5.1%	9.7%	3.9%	7.7%
Musculoskeletal	25.4%	28.6%	38.1%	9.1%	11.8%	21.0%	9.9%
Congenital	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%
Symptoms, ill-defined	16.4%	20.4%	5.2%	9.9%	1.1%	5.3%	11.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
No. of admissions	215	263	155	394	93	8538	(57,873)**

\*Data from NHRC Technical Report 99-17.

\*\*Number of cases used in development of estimates.

**Table 6. Estimated Percentage Distributions for Nonconventional Operations by International Classification of Disease Categories and Geographical Region**

<u>ICD Category</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
Infectious/Parasitic	5.8%	6.0%	4.8%
Neoplasms	4.4%	3.0%	1.8%
Endocrine	1.4%	1.3%	0.9%
Diseases of the Blood	0.2%	0.2%	0.1%
Mental Disorders	7.5%	7.7%	7.1%
Nervous System	5.2%	7.5%	4.4%
Circulatory	2.8%	3.2%	2.6%
Respiratory	8.4%	10.4%	7.3%
Digestive	18.1%	13.2%	20.1%
Genitourinary	7.1%	4.5%	5.4%
Skin/Subcutaneous	8.5%	11.2%	10.0%
Musculoskeletal	20.6%	18.8%	25.5%
Congenital	0.1%	0.1%	0.1%
Symptoms, ill-defined	10.0%	12.8%	9.8%
<b>Total</b>	100.0%	100.0%	100.0%

**Table 7. Mapping of International Classification of Disease Category Percentages into PC Clusters**

<u>ICD Category</u>	<u>PC Clusters</u>	<u>Operation Provide Promise</u>	<u>Ground Combat Estimates*</u>	<u>Peacetime (US Overseas)</u>	<u>Overall Average</u>
<b>Infectious/parasitic</b>	Infectious/parasitic	75%	54%	41%	57%
	Gastrointestinal	8%	32%	19%	20%
	Dermatological	6%	7%	26%	13%
	Respiratory	3%	4%	3%	3%
	STD	6%	3%	10%	6%
	Eye/ear	3%	0%	0%	1%
					<b>100%</b>
<b>Neoplasm</b>	Surgical	100%	73%	83%	85%
	Miscellaneous	0%	27%	17%	15%
					<b>100%</b>
<b>Endocrine</b>	Not mapped				
<b>Diseases of blood</b>	Not mapped				
<b>Mental disorders</b>	Neuropsychiatric	100%	100%	100%	<b>100%</b>
<b>Nervous system</b>	Eye/Ear	68%	50%	58%	59%
	NA	23%	41%	39%	34%
	Infectious/Parasitic	9%	7%	1%	6%
	Miscellaneous	0%	2%	2%	1%
					<b>100%</b>
<b>Circulatory</b>	Cardiovascular	75%	50%	72%	66%
	Surgical	10%	38%	24%	24%
	NA	15%	11%	4%	10%
	Infective	0%	1%	0%	0%
					<b>100%</b>
<b>Respiratory</b>	Respiratory	100%	100%	100%	<b>100%</b>
<b>Digestive</b>	Gastrointestinal	48%	68%	35%	50%
	Surgical	52%	32%	65%	50%
					<b>100%</b>
<b>Genitourinary</b>	Genitourinary	49%	100%	36%	61%
	Surgical	41%	0%	22%	21%
	Female	10%	0%	42%	17%
					<b>100%</b>
<b>Skin/subcutaneous</b>	Dermatological	43%	100%	88%	77%
	Surgical	52%	0%	11%	21%
	Miscellaneous	4%	0%	1%	2%
					<b>100%</b>
<b>Musculoskeletal</b>	Not mapped	34%	64%	15%	38%
	Sprains/strains (NBI)	66%	36%	85%	62%
					<b>100%</b>
<b>Symptoms, ill-defined</b>	Unidentifiable	<b>Too few cases</b>	0%	0%	0%
	Gastrointestinal		25%	26%	26%
	Genitourinary		0%	0%	0%
	Respiratory		13%	26%	20%
	Cardiovascular		0%	8%	4%
	Infectious/parasitic		40%	34%	37%
	Dermatological		22%	6%	14%
					<b>100%</b>

\*From NHRC Technical Report 99-17

NA denotes non applicable

**Table 8. Estimated Percentage Distributions for Nonconventional Operations by Disease PC Cluster and Geographical Region**

<u>PC Cluster</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
Surgical	22.2%	17.3%	21.6%
Dermatological	11.5%	14.6%	13.5%
Eye/ear	4.1%	5.9%	3.7%
Respiratory	13.9%	17.2%	13.2%
Gastrointestinal	16.7%	14.3%	18.8%
Cardiovascular	3.0%	3.4%	2.9%
STD	0.5%	0.5%	0.4%
Genitourinary	5.8%	3.7%	4.7%
Female	1.6%	1.0%	1.3%
Infective	9.6%	11.2%	9.2%
Neuropsychiatric	9.9%	10.1%	10.0%
Miscellaneous	1.1%	1.0%	0.7%
<b>Total</b>	100.0%	100.0%	100.0%

**Appendix A. Estimated Percentage Distribution of PC Codes by Nonbattle Injury Trauma**

<u>PC</u>	<u>Amputations</u>	(1.9%) <u>Europe</u>	(1.9%) <u>NE Asia</u>	(1.9%) <u>SW Asia</u>
69	Amputation hand	42.9%	42.9%	42.8%
70	Amputation forearm	1.6%	1.6%	1.6%
71	Amputation full arm	10.5%	10.5%	10.5%
144	Amputation foot	3.9%	3.9%	3.9%
145	Amputation below knee	10.9%	10.9%	11.0%
146	Amputation/hip disarticulation	0.0%	0.0%	0.0%
147	Amputation above knee	30.2%	30.1%	30.3%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Burns</u>	(2.9%) <u>Europe</u>	(2.9%) <u>NE Asia</u>	(2.9%) <u>SW Asia</u>
35	Burn/superficial/head/neck/5-10%/eye	0.7%	0.7%	0.7%
36	Burn/superficial/head/neck/0-5%	12.5%	12.5%	12.5%
37	Burn/partial/head/neck/5-10%/eye	1.6%	1.6%	1.6%
38	Burn/partial/head/neck/0-5%	4.9%	4.9%	4.9%
39	Burn/full/head/neck/5-10%/eye	0.9%	0.9%	0.9%
40	Burn/full/head/neck/0-5%	2.6%	2.6%	2.6%
75	Burn/superficial/upp/10-20%	9.4%	9.4%	9.4%
76	Burn/superficial/upp/0-10%	9.4%	9.4%	9.4%
77	Burn/partial/upp/10-20%	7.0%	7.0%	7.0%
78	Burn/partial/upp/0-10%	4.7%	4.7%	4.7%
79	Burn/full/upp/10-20%	6.2%	6.2%	6.2%
80	Burn/full/upp/0-10%	2.3%	2.3%	2.3%
90	Burn/trunk/superficial/30-20%	0.7%	0.7%	0.7%
91	Burn/superficial/trunk/10-20%	1.0%	1.0%	1.0%
92	Burn/trunk/partial/30-20%	1.3%	1.3%	1.3%
93	Burn/partial/trunk/10-20%	1.9%	1.9%	1.9%
94	Burn/trunk/full thickness/30-20%	3.9%	3.9%	3.9%
95	Burn/full/trunk/10-20%	2.6%	2.6%	2.6%
150	Burn/superficial/low/gent/40-30%	0.3%	0.3%	0.3%
151	Burn/superficial/low/genitalia/15-30%	1.3%	1.3%	1.3%
152	Burn/partial thickness/low/gent/40%	2.6%	2.6%	2.6%
153	Burn/partial/low/genitalia/15-30%	6.3%	6.3%	6.3%
154	Burn/low/genitalia/full/40-30%	7.9%	7.9%	7.9%
155	Burn/full/low/genitalia/15-30%	7.9%	7.9%	7.9%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Concussions</u>	(4.1%) <u>Europe</u>	(4.1%) <u>NE Asia</u>	(4.1%) <u>SW Asia</u>
1	Cerebral/concussion/and/or/fracture/severe	10.2%	10.3%	10.2%
2	Cere/Conc/and/or/Fracture/mod	35.6%	35.6%	35.5%
3	Cere/Cont/and/or/fracture/loss	16.3%	16.3%	16.3%
4	Cere/Cont/and/or/fracture/moderate	37.9%	37.8%	38.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Appendix A. Estimated Percentage Distribution of PC Codes by Nonbattle Injury Trauma**

<u>PC</u>	<u>Crush Injuries</u>	<u>(0.2%)</u> <u>Europe</u>	<u>(0.2%)</u> <u>NE Asia</u>	<u>(0.2%)</u> <u>SW Asia</u>
61	Crush/upper ext/sever/limb	14.0%	14.0%	14.0%
62	Crush/upper ext/mod	21.0%	21.0%	21.0%
83	Injury/lung/closed/pneHemTh/sever	0.0%	0.0%	0.0%
84	Injury/lung/closed/pneHemTh/mod	5.0%	5.0%	5.0%
138	Crush injury/low/limb unsalvageable	18.0%	18.0%	18.0%
139	Crush injury/lower limb	42.0%	42.0%	42.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Dislocations</u>	<u>(5.0%)</u> <u>Europe</u>	<u>(5.0%)</u> <u>NE Asia</u>	<u>(5.0%)</u> <u>SW Asia</u>
64	Dislocation/shoulder	44.3%	44.3%	44.1%
65	Dislocation/frac/elbow	15.7%	15.7%	15.8%
67	Dislocation/hand/wrist	8.3%	8.3%	8.3%
68	Dislocation/fingers	18.9%	18.8%	19.0%
140	Dislocation/hip	3.7%	3.7%	3.7%
143	Dislocation/toes/closed	9.1%	9.1%	9.2%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Closed Fractures</u>	<u>(6.9%)</u> <u>Europe</u>	<u>(6.9%)</u> <u>NE Asia</u>	<u>(6.9%)</u> <u>SW Asia</u>
5	Cerebral/contusion/and/or/fracture/hematoma	1.4%	1.4%	1.4%
6	Cerebral/contusion/fracture/severe/loss	2.1%	2.1%	2.1%
7	Cerebral/contusion/fracture/severe	0.0%	0.0%	0.0%
8	Cerebral/contusion/fracture/moderate	2.1%	2.1%	2.1%
15	Fracture/facial/exclusive/mandible/severe	6.4%	6.4%	6.4%
16	Fracture/facial/exclusive/mandible/mod	9.6%	9.5%	9.6%
25	Fracture/spine/closed/unstable lesion	1.3%	1.3%	1.3%
26	Fracture/spine/closed	2.9%	2.9%	2.9%
27	Fracture/spine/closed/cord/respiratory	0.4%	0.4%	0.4%
28	Fracture/spine/closed/cord/below/cervical	1.0%	1.0%	1.0%
41	Fracture/clavicle	3.2%	3.2%	3.2%
44	Fracture/humerus	4.1%	4.1%	4.1%
49	Fracture/radius/ulna/closed/severe	6.8%	6.8%	6.8%
50	Fracture/radius/ulna/closed/mod	2.9%	2.9%	2.9%
55	Fracture/hand or fingers/closed/severe	12.8%	12.8%	12.8%
56	Fracture/hand/and/or/fingers/closed/mod	3.2%	3.2%	3.2%
81	Fracture/ribs/closed/multiple	0.4%	0.4%	0.4%
82	Fracture/ribs/closed	2.2%	2.2%	2.2%
112	Displaced/fracture/pelvis	0.5%	0.5%	0.5%
113	Fracture/pelvis	0.8%	0.8%	0.8%
120	Fracture/femur	4.5%	4.5%	4.5%
127	Fracture/closed/tibia/fibula	11.2%	11.2%	11.2%
132	Fracture/ankle/foot/closed/reduction	13.0%	13.0%	13.0%
133	Fracture/ankle/foot/closed/	7.0%	7.0%	7.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Appendix A. Estimated Percentage Distribution of PC Codes by Nonbattle Injury Trauma

		(22.5%)	(22.6%)	(22.4%)
<u>PC</u>	<u>Open Fractures</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
9	Cerebral/contusion/fracture/open/severe	2.2%	2.3%	2.2%
10	Cerebral/contusion/fracture/open	2.2%	2.3%	2.2%
17	Wound/face/jaw/neck/open/fracture	4.7%	4.7%	4.7%
18	Wound/face/jaw/neck/open/fracture	4.7%	4.7%	4.7%
29	Fracture/spine/open/cord/cervical/respiratory	0.9%	0.9%	0.9%
30	Fracture/spine/open/cord/below cervical	0.9%	0.9%	0.9%
42	Wound/shoulder girdle/open/bone	0.3%	0.3%	0.3%
43	Wound/shoulder girdle/open	0.6%	0.6%	0.6%
47	Wound/upper arm/open/fracture/nerve	0.5%	0.5%	0.5%
48	Wound/upper arm/open/fracture/nerve	2.7%	2.7%	2.7%
53	Wound/forearm/open/fracture/nerve/vas	1.5%	1.5%	1.5%
54	Wound/forearm/open/fracture/nerve/vas	8.5%	8.5%	8.5%
59	Wound/hand/open/crushed	6.3%	6.3%	6.3%
60	Wound/fingers/open/crushed	3.8%	3.8%	3.8%
87	Wound/thorax/open/rib/fracture	0.0%	0.0%	0.0%
88	Wound/thorax/open/rib/fracture	0.4%	0.4%	0.4%
114	Wound/abdomen/open/pelvic/fracture	0.2%	0.2%	0.2%
115	Wound/abdomen/open/pelvic/fracture	0.2%	0.2%	0.2%
123	Wound/thigh/open/fracture/unsalvageable	0.5%	0.5%	0.5%
124	Wound/thigh/open/fracture/nerve	1.5%	1.5%	1.5%
125	Wound/knee/open/shattered	2.2%	2.2%	2.2%
126	Wound/knee/open/penetration/cart	0.5%	0.5%	0.5%
130	Wound/low/leg/fracture/unsalvageable	4.2%	4.2%	4.2%
131	Wound/low/leg/fracture/nerve	16.7%	16.7%	16.7%
136	Wound/ankle/foot/toes/unsalvageable	3.7%	3.7%	3.7%
137	Wound/ankle/foot/toes/fracture/nerve	14.8%	14.8%	14.8%
319	Wound/fingers/open/crushed	15.1%	15.1%	15.1%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
		(26.6%)	(26.6%)	(26.5%)
<u>PC</u>	<u>Sprains/strains</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
31	Intervertebral disc disorders/resistant	1.6%	1.6%	1.6%
32	Intervertebral disc disorders/responding	6.4%	6.4%	6.4%
33	Strain/sprain/sacroiliac/severe	0.2%	0.2%	0.2%
34	Strain/sprain/sacroiliac/mod	2.2%	2.2%	2.2%
72	Sprain/wrist	2.0%	2.0%	2.0%
73	Sprain/thumb/closed	1.0%	1.0%	1.0%
74	Sprain/fingers/closed/no thumb	2.6%	2.6%	2.6%
141	Tear/ligament/knee/complete/rupture	2.6%	2.7%	2.6%
142	Tear/ligament/knee/incomplete	15.0%	15.0%	15.0%
148	Sprain/ankle/complete rupture	2.2%	2.2%	2.2%
149	Sprain/ankle/incomplete rupture	19.7%	19.8%	19.7%
200	Internal derangement/knee	29.4%	29.3%	29.4%
201	Strain/lumbosacral	6.2%	6.2%	6.2%
262	Tenosynovitis	8.9%	8.9%	9.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Appendix A. Estimated Percentage Distribution of PC Codes by Nonbattle Injury Trauma**

<b>PC</b>	<b>Wounds</b>	<b>(23.4%)</b>	<b>(23.5%)</b>	<b>(23.3%)</b>
		<b>Europe</b>	<b>NE Asia</b>	<b>SW Asia</b>
13	Wound/scalp/open/severe	1.2%	1.2%	1.3%
14	Wound/scalp/open/mod	7.7%	7.7%	7.7%
19	Wound/face/neck/open/airway	0.8%	0.8%	0.8%
20	Wound/face/neck/open	5.7%	5.7%	5.7%
21	Eye/wound/severe	0.0%	0.0%	0.0%
22	Eye/wound/lacerated/mod	1.3%	1.3%	1.3%
23	Hearing impairment/severe	0.0%	0.0%	0.0%
24	Hearing impairment/mod	0.0%	0.0%	0.0%
45	Wound/upper arm/open/severe/nerve	0.2%	0.2%	0.2%
46	Wound/upper arm/open	5.0%	5.0%	5.0%
51	Wound/forearm/open/severe	0.9%	0.9%	0.9%
52	Wound/forearm/open	6.1%	6.1%	6.1%
57	Wound/hand/and/or/fingers/open/severe	5.4%	5.4%	5.4%
58	Wound/hand/and/or/fingers/open/mod	12.6%	12.6%	12.6%
85	Wound/thorax/open	1.5%	1.5%	1.5%
86	Wound/thorax/open	8.6%	8.6%	8.6%
96	Wound/abdominal wall/severe	0.2%	0.2%	0.2%
97	Wound/abdominal wall/mod	2.6%	2.6%	2.6%
98	Wound/liver/closed/major damage	0.0%	0.0%	0.0%
99	Wound/liver/closed/minor	0.0%	0.0%	0.0%
100	Wound/spleen	0.3%	0.3%	0.3%
101	Wound/abdomen/large bowel	0.3%	0.3%	0.3%
111	Wound/buttocks/moderate	0.8%	0.8%	0.8%
116	Wound/extremities/genitalia/male/severe	0.0%	0.0%	0.0%
117	Wound/extremities/genitalia/male/mod	0.6%	0.6%	0.6%
118	Wound/extremities/genitalia/female/severe	0.0%	0.0%	0.0%
119	Wound/extremities/genitalia/female/mod	0.0%	0.0%	0.0%
121	Wound/thigh/open/debridement	0.9%	0.9%	0.9%
122	Wound/thigh/open	8.3%	8.3%	8.3%
128	Wound/low/leg/open/debridement	2.5%	2.5%	2.5%
129	Wound/low/leg/open	10.6%	10.6%	10.6%
134	Wound/ankle/foot/toes/debridement	1.0%	1.0%	1.0%
135	Wound/ankle/foot/toes	5.3%	5.4%	5.3%
186	Multiple nonperforating wounds	3.7%	3.7%	3.7%
224	Corneal abrasion	3.3%	3.3%	3.3%
311	Eye/wound/penetrated/eye salvage	2.0%	2.0%	2.0%
312	Wound/knee	0.2%	0.2%	0.2%
313	Wound/abdomen/kidney	0.2%	0.2%	0.2%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Appendix A. Estimated Percentage Distribution of PC Codes by Nonbattle Injury Trauma**

		<b>(0.5%)</b>	<b>(0.6%)</b>	<b>(0.7%)</b>
<b><u>PC</u></b>	<b><u>Bites and stings</u></b>	<b><u>Europe</u></b>	<b><u>NE Asia</u></b>	<b><u>SW Asia</u></b>
157	Insect bites and stings/respiratory	2.0%	2.3%	1.3%
158	Insect bites and stings/moderate	40.3%	41.2%	27.8%
328	Animal bites and rabies exposure	24.6%	28.4%	40.8%
335	Snake bites	33.1%	28.2%	30.1%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
		<b>(3.5%)</b>	<b>(3.2%)</b>	<b>(1.2%)</b>
<b><u>PC</u></b>	<b><u>Cold Injuries</u></b>	<b><u>Europe</u></b>	<b><u>NE Asia</u></b>	<b><u>SW Asia</u></b>
187	Trench foot/immersion foot/vesicle/severe	8.1%	9.4%	9.8%
188	Trench foot/immersion foot/vesicle/mod	72.5%	84.7%	88.6%
190	Frostbite/full skin thickness	2.0%	0.6%	0.2%
191	Frostbite/less than full thickness	11.1%	3.6%	1.3%
192	Hypothermia	6.4%	1.6%	0.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
		<b>(1.2%)</b>	<b>(1.2%)</b>	<b>(3.7%)</b>
<b><u>PC</u></b>	<b><u>Heat Injuries</u></b>	<b><u>Europe</u></b>	<b><u>NE Asia</u></b>	<b><u>SW Asia</u></b>
193	Heat stroke	28.9%	28.9%	12.3%
194	Heat Exhaustion	57.1%	57.1%	69.7%
195	Heat Cramps	14.0%	14.0%	18.0%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
		<b>(0.4%)</b>	<b>(0.4%)</b>	<b>(0.4%)</b>
<b><u>PC</u></b>	<b><u>Blisters</u></b>	<b><u>Europe</u></b>	<b><u>NE Asia</u></b>	<b><u>SW Asia</u></b>
156	Blisters, hand, fingers,foot/friction	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
		<b>(0.9%)</b>	<b>(0.9%)</b>	<b>(0.9%)</b>
<b><u>PC</u></b>	<b><u>Miscellaneous injuries</u></b>	<b><u>Europe</u></b>	<b><u>NE Asia</u></b>	<b><u>SW Asia</u></b>
265	Near Drowning	5.8%	5.8%	5.8%
266	Toxic Inhalation/respiratory burn	72.9%	72.9%	72.9%
268	White phosphorus burns/all	21.3%	21.3%	21.3%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Appendix B. Estimated Nonbattle Injury Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
1	Cerebral/concussion/and/or/fracture/severe	0.42%	0.42%	0.42%
2	Cerebral/concussion/and/or/fracture/mod	1.47%	1.47%	1.46%
3	Cerebral/contusion/and/or/fracture/loss	0.67%	0.67%	0.67%
4	Cerebral/contusion/and/or/fracture/moderate	1.56%	1.56%	1.56%
5	Cerebral/contusion/and/or/fracture/hematoma	0.32%	0.32%	0.32%
6	Cerebral/contusion/fracture/severe/loss	0.48%	0.48%	0.48%
8	Cerebral/contusion/fracture/moderate	0.48%	0.48%	0.48%
9	Cerebral/contusion/fracture/open/severe	0.16%	0.16%	0.15%
10	Cerebral/contusion/fracture/open	0.16%	0.16%	0.15%
13	Wound/scalp/open/severe	0.29%	0.29%	0.29%
14	Wound/scalp/open/mod	1.80%	1.80%	1.79%
15	Fracture/facial/exclusive/mandible/severe	1.43%	1.44%	1.43%
16	Fracture/facial/exclusive/mandible/mod	2.15%	2.15%	2.15%
17	Wound/face/jaw/neck/open/fracture	0.33%	0.33%	0.33%
18	Wound/face/jaw/neck/open/fracture	0.33%	0.33%	0.33%
19	Wound/face/neck/open/airway	0.18%	0.18%	0.18%
20	Wound/face/neck/open	1.35%	1.35%	1.34%
22	Eye/wound/lacerated/mod	0.31%	0.31%	0.31%
25	Fracture/spine/closed/unstable lesion	0.29%	0.29%	0.29%
26	Fracture/spine/closed	0.66%	0.66%	0.66%
27	Fracture/spine/closed/cord/respiratory	0.09%	0.09%	0.09%
28	Fracture/spine/closed/cord/below/cervical	0.23%	0.23%	0.23%
29	Fracture/spine/open/cord/cervical/respiratory	0.06%	0.06%	0.06%
30	Fracture/spine/open/cord/below cervical	0.06%	0.06%	0.06%
31	Intervertebral disc disorders/resistant	0.42%	0.42%	0.42%
32	Intervertebral disc disorders/responding	1.70%	1.70%	1.70%
33	Strain/sprain/sacroiliac/severe	0.06%	0.06%	0.06%
34	Strain/sprain/sacroiliac/mod	0.58%	0.58%	0.57%
35	Burn/superficial/head/neck/5-10%/eye	0.02%	0.02%	0.02%
36	Burn/superficial/head/neck/0-5%	0.36%	0.37%	0.36%
37	Burn/partial/head/neck/5-10%/eye	0.05%	0.05%	0.05%
38	Burn/partial/head/neck/0-5%	0.14%	0.14%	0.14%
39	Burn/full/head/neck/5-10%/eye	0.03%	0.03%	0.03%
40	Burn/full/head/neck/0-5%	0.07%	0.07%	0.07%
41	Fracture/clavicle	0.73%	0.73%	0.73%
42	Wound/shoulder girdle/open/bone	0.02%	0.02%	0.02%
43	Wound/shoulder girdle/open	0.04%	0.04%	0.04%
44	Fracture/humerus	0.92%	0.92%	0.92%
45	Wound/upper arm/open/severe/nerve	0.06%	0.06%	0.06%
46	Wound/upper arm/open	1.17%	1.18%	1.17%
47	Wound/upper arm/open/fracture/nerve	0.03%	0.03%	0.03%
48	Wound/upper arm/open/fracture/nerve	0.19%	0.19%	0.19%
49	Fracture/radius/ulna/closed/severe	1.53%	1.54%	1.53%
50	Fracture/radius/ulna/closed/mod	0.66%	0.66%	0.66%
51	Wound/forearm/open/severe	0.20%	0.20%	0.20%
52	Wound/forearm/open	1.43%	1.43%	1.42%

**Appendix B. Estimated Nonbattle Injury Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
53	Wound/forearm/open/fracture/nerve/vas	0.10%	0.10%	0.10%
54	Wound/forearm/open/fracture/nerve/vas	0.59%	0.59%	0.59%
55	Fracture/hand or fingers/closed/sever	2.89%	2.90%	2.88%
56	Fracture/hand/and/or/fingers/closed/moderate	0.72%	0.72%	0.72%
57	Wound/hand/and/or/fingers/open/severe	1.26%	1.27%	1.26%
58	Wound/hand/and/or/fingers/open/mod	2.95%	2.96%	2.94%
59	Wound/hand/open/crushed	0.44%	0.44%	0.43%
60	Wound/fingers/open/crushed	0.26%	0.26%	0.26%
61	Crush/upper extremities/severe/limb	0.02%	0.02%	0.02%
62	Crush/upper extremities/mod	0.03%	0.03%	0.03%
64	Dislocation/shoulder	2.20%	2.21%	2.18%
65	Dislocation/fracture/elbow	0.78%	0.78%	0.78%
67	Dislocation/hand or wrist	0.41%	0.41%	0.41%
68	Dislocation/hand/wrist/fingers/closed	0.94%	0.94%	0.94%
69	Amputation hand	0.80%	0.80%	0.80%
70	Amputation forearm	0.03%	0.03%	0.03%
71	Amputation full arm	0.20%	0.20%	0.20%
72	Sprain/wrist	0.53%	0.53%	0.52%
73	Sprain/thumb/closed	0.26%	0.26%	0.26%
74	Sprain/fingers/closed/no thumb	0.69%	0.70%	0.69%
75	Burn/superficial/upp/10-20%	0.27%	0.27%	0.27%
76	Burn/superficial/upp/0-10%	0.27%	0.27%	0.27%
77	Burn/partial/upp/10-20%	0.20%	0.20%	0.20%
78	Burn/partial/upp/0-10%	0.14%	0.14%	0.13%
79	Burn/full/upp/10-20%	0.18%	0.18%	0.18%
80	Burn/full/upp/0-10%	0.07%	0.07%	0.07%
81	Fracture/ribs/closed/multiple	0.09%	0.09%	0.09%
82	Fracture/ribs/closed	0.49%	0.49%	0.49%
84	Injury/lung/closed/pneumohemothorax/mod	0.01%	0.01%	0.01%
85	Wound/thorax/open	0.35%	0.35%	0.35%
86	Wound/thorax/open	2.00%	2.01%	2.00%
88	Wound/thorax/open/rib/fracture	0.03%	0.03%	0.03%
90	Burn/trunk/superficial/30-20%	0.02%	0.02%	0.02%
91	Burn/superficial/trunk/10-20%	0.03%	0.03%	0.03%
92	Burn/trunk/partial/30-20%	0.04%	0.04%	0.04%
93	Burn/partial/trunk/10-20%	0.06%	0.06%	0.06%
94	Burn/trunk/full thickness/30-20%	0.11%	0.11%	0.11%
95	Burn/full/trunk/10-20%	0.08%	0.08%	0.08%
96	Wound/abdominal wall/severe	0.04%	0.04%	0.04%
97	Wound/abdominal wall/mod	0.61%	0.62%	0.61%
99	Wound/liver/closed/minor	0.01%	0.01%	0.01%
100	Wound/spleen	0.07%	0.07%	0.07%
101	Wound/abdomen/large bowel	0.08%	0.08%	0.08%
111	Wound/buttocks/moderate	0.18%	0.18%	0.18%
112	Displaced/fracture/pelvis	0.12%	0.12%	0.12%
113	Fracture/pelvis	0.18%	0.18%	0.18%

**Appendix B. Estimated Nonbattle Injury Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
114	Wound/abdomen/open/pelvic/fracture	0.02%	0.02%	0.01%
115	Wound/abdomen/open/pelvic/fracture	0.02%	0.02%	0.01%
117	Wound/extremities/genitalia/male/mod	0.14%	0.14%	0.14%
120	Fracture/femur	1.01%	1.01%	1.00%
121	Wound/thigh/open/debridement	0.21%	0.21%	0.21%
122	Wound/thigh/open	1.95%	1.96%	1.94%
123	Wound/thigh/open/fracture/unsalvageable	0.04%	0.04%	0.04%
124	Wound/thigh/open/fracture/nerve	0.11%	0.11%	0.11%
125	Wound/knee/open/shattered	0.15%	0.15%	0.15%
126	Wound/knee/open/penetration/cart	0.03%	0.03%	0.03%
127	Fracture/closed/tibia/fibula	2.53%	2.54%	2.52%
128	Wound/low/leg/open/debridement	0.58%	0.58%	0.58%
129	Wound/low/leg/open	2.47%	2.48%	2.46%
130	Wound/low/leg/fracture/unsalvageable	0.29%	0.29%	0.29%
131	Wound/low/leg/fracture/nerve	1.15%	1.15%	1.15%
132	Fracture/ankle/foot/closed/reduction	2.93%	2.93%	2.92%
133	Fracture/ankle/foot/closed/	1.58%	1.58%	1.57%
134	Wound/ankle/foot/toes/debridement	0.24%	0.24%	0.24%
135	Wound/ankle/foot/toes	1.25%	1.26%	1.24%
136	Wound/ankle/foot/toes/unsalvageable	0.26%	0.26%	0.25%
137	Wound/ankle/foot/toes/fracture/nerve	1.02%	1.03%	1.02%
138	Crush injury/low/limb unsalvageable	0.03%	0.03%	0.03%
139	Crush injury/lower limb	0.06%	0.06%	0.06%
140	Dislocation/hip	0.18%	0.18%	0.18%
141	Tear/ligament/knee/complete/rupture	0.70%	0.71%	0.70%
142	Tear/ligament/knee/incomplete	3.99%	4.00%	3.97%
143	Dislocation/toes/closed	0.45%	0.45%	0.45%
144	Amputation foot	0.07%	0.07%	0.07%
145	Amputation below knee	0.20%	0.20%	0.20%
147	Amputation above knee	0.56%	0.56%	0.56%
148	Sprain/ankle/complete rupture	0.58%	0.59%	0.58%
149	Sprain/ankle/incomplete rupture	5.25%	5.27%	5.22%
150	Burn/superficial/low/genitalia/40-30%	0.01%	0.01%	0.01%
151	Burn/superficial/low/genitalia/15-30%	0.04%	0.04%	0.04%
152	Burn/partial thickness/low/gent/40%	0.08%	0.08%	0.08%
153	Burn/partial/low/genitalia/15-30%	0.18%	0.18%	0.18%
154	Burn/low/genitalia/full/40-30%	0.23%	0.23%	0.23%
155	Burn/full/low/genitalia/15-30%	0.23%	0.23%	0.23%
156	Blisters, hand, fingers, foot/friction	0.37%	0.37%	0.37%
157	Insect bites and stings/respiratory	0.01%	0.01%	0.01%
158	Insect bites and stings/moderate	0.20%	0.24%	0.20%
186	Multiple nonperforating wounds	0.87%	0.88%	0.87%
187	Trench foot/immersion foot/vesicle/severe	0.28%	0.30%	0.12%
188	Trench foot/immersion foot/vesicle/mod	2.55%	2.71%	1.07%
190	Frostbite/full skin thickness	0.07%	0.02%	0.00%
191	Frostbite/less than full thickness	0.39%	0.12%	0.02%

**Appendix B. Estimated Nonbattle Injury Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
192	Hypothermia	0.23%	0.05%	0.00%
193	Heat stroke	0.35%	0.35%	0.45%
194	Heat exhaustion	0.70%	0.70%	2.55%
195	Heat cramps	0.17%	0.17%	0.66%
200	Internal derangement/knee	7.80%	7.81%	7.80%
201	Strain/lumbosacral	1.65%	1.65%	1.65%
224	Corneal abrasion	0.78%	0.78%	0.78%
262	Tenosynovitis	2.37%	2.38%	2.37%
265	Near drowning	0.05%	0.05%	0.05%
266	Toxic inhalation/respiratory burn	0.68%	0.68%	0.68%
268	White phosphorus burns/all	0.20%	0.20%	0.20%
311	Eye/wound/penetrated/eye salvage	0.47%	0.47%	0.47%
312	Wound/knee	0.05%	0.05%	0.05%
313	Wound/abdomen/kidney	0.05%	0.05%	0.05%
319	Wound/fingers/open/crushed	1.04%	1.05%	1.04%
328	Animal bites and rabies exposure	0.12%	0.17%	0.29%
335	Snake bites	0.17%	0.17%	0.22%
		<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

**Appendix C. Estimated Percentage Distribution of PC Codes by Disease Cluster**

<u>PC</u>	<u>Surgical Cluster</u>	<u>Cluster %</u>
196	Appendicitis/perforation/rupture	7.7%
197	Appendicitis/rupture/peritonitis	11.2%
198	Inguinal hernia/complicated/incarceration	4.0%
199	Ing/hernia/no incarceration of bowel	22.3%
212	Pilonidal/cyst/abscess/major excision	0.8%
213	Pilonidal/cyst/abscess/minor incision	10.3%
249	Peptic ulcer/gastric/duodenal/perforated	1.3%
256	Hemorrhoidal disease	9.9%
277	Ureteral calculus/obstruction/impacted	9.2%
285	Cholecystitis/cholelithiasis	3.7%
290	Neoplasms/benign	19.6%
		<b>100.0%</b>

<u>PC</u>	<u>Dermatological Cluster</u>	<u>Cluster %</u>
202	Eczema/dermatitis/seborrheic/affecting	6.7%
203	Eczema/dermatitis/seborrheic/not affecting	18.4%
204	Boils/funicles/pyoderma/surgery	1.4%
205	Boils/furuncles/pyoderma/no surgery	0.8%
206	Cellulitis/face/weight bearing areas	23.9%
207	Cellulitis/other than face or weight	32.3%
208	Dermatophytosis/severe/feet	0.6%
209	Dermatophytosis/all other cases	6.7%
210	Pediculosis/lice	2.6%
211	Scabies	0.4%
216	Herpes simplex/zoster	4.0%
219	Hyperhidrosis	2.2%
		<b>100.0%</b>

<u>PC</u>	<u>Eye/Ear Cluster</u>	<u>Cluster %</u>
220	Blepharitis	10.8%
221	Conjunctivitis/severe	9.0%
222	Conjunctivitis/moderate	19.9%
223	Corneal ulcer	5.9%
225	Iridocyclitis/acute/visual impairment	1.9%
226	Iridocyclitis/acute/min impairment	2.1%
227	Refraction/accomodation/refraction req	12.1%
228	Refraction/accommodation/spectacles req	9.2%
229	Otitis/externa	16.2%
230	Otitis/media/acute/suppurative	12.9%
		<b>100.0%</b>

**Appendix C. Estimated Percentage Distribution of PC Codes by Disease Cluster**

<u>PC</u>	<u>Gastrointestinal Disease Cluster</u>	<u>Cluster %</u>		
		<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
243	Food poisoning/severe/disabling	1.6%	1.1%	0.7%
244	Food poisoning/moderate	18.2%	14.3%	11.4%
245	Diarrheal/disease/severe	3.4%	2.3%	1.6%
246	Diarrheal/disease/moderate	42.8%	50.7%	58.7%
247	Upper gastrointestinal hemorrhage	4.4%	4.4%	4.4%
248	Gastritis/acute	10.7%	10.2%	9.9%
250	Peptic ulcer/gastric/duodenal	7.2%	5.9%	5.0%
251	Regional ileitis/disabling/unresponsive	1.3%	0.9%	0.6%
252	Regional ileitis/responding to treatment	4.7%	3.5%	2.7%
253	Helminthiasis	1.3%	2.5%	1.4%
286	Pancreatitis	3.0%	2.9%	2.8%
287	Cirrhosis	1.6%	1.2%	0.9%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Respiratory Disease Cluster</u>	<u>Cluster %</u>
232	Allergic/rhinitis	1.2%
233	Upper/respiratory/infection	58.5%
234	Bronchitis	12.1%
235	Asthma/disabling/repeated attacks	1.3%
236	Asthma	2.9%
239	Respiratory/distress/syndrome/severe	5.1%
240	Respiratory/distress/syndrome/moderate	18.9%
		<b>100.0%</b>

<u>PC</u>	<u>Cardiovascular Disease Cluster</u>	<u>Cluster %</u>
11	Intracranial hemorrhage	6.9%
258	Hypertension/essential	31.0%
259	Ischemic heart/disease	35.6%
260	Phlebitis/deep vein involvement	26.5%
		<b>100.0%</b>

<u>PC</u>	<u>Sexually Transmitted Disease Cluster</u>	<u>Cluster %</u>
269	STD/urethritis	86.0%
270	STD/genital ulcers/adenopathy	12.0%
271	STD/complicated	2.0%
		<b>100.0%</b>

<u>PC</u>	<u>Miscellaneous Disease Cluster</u>	<u>Cluster %</u>
214	Ingrown toenails /infected	34.7%
215	Ingrown toenails	36.5%
289	Neoplasms/malignant	28.8%
		<b>100.0%</b>

**Appendix C. Estimated Percentage Distribution of PC Codes by Disease Cluster**

<u>PC</u>	<u>Infectious/Parasitic Cluster</u>	<u>Cluster %</u>		
		<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
263	Menigo/encephalitits/complicated	6.5%	6.5%	6.0%
264	Menigo/encephalitits/uncomplicated	2.7%	2.7%	2.5%
282	Infectious/mononucleosis	11.4%	11.4%	10.6%
283	Hepatitis/infectious/viral	8.7%	8.7%	7.9%
329	Trachoma	0.3%	0.3%	0.2%
330	Schistosomiasis	0.0%	0.0%	0.3%
331	Malaria/severe	4.4%	4.4%	4.4%
332	Malaria/moderate	0.8%	0.8%	15.4%
333	Febrille illness/acute/severe	6.6%	6.6%	4.9%
334	Febrille illness/acute/moderate	58.5%	58.5%	44.5%
339	Cutaneous ulcers/leishmaniasis	0.0%	0.0%	3.4%
		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

<u>PC</u>	<u>Female Specific Disease Cluster</u>	<u>Cluster %</u>
291	Abnormal uterine bleeding	8.9%
292	Dysmenorrhea/amenorrhea	28.6%
293	Pelvic Inflammatory disease (PID)	18.4%
294	Cervicitis/endocervicitis/leukorrhea	40.8%
295	Vulvovaginitis	3.3%
297	Tubal pregnancy	0.0%
299	Abortion spontaneous	0.0%
		<b>100.0%</b>

<u>PC</u>	<u>Genitourinary Disease Cluster</u>	<u>Cluster %</u>
272	Glomerulonephritis/acute	1.2%
273	Glomerulonephritis/chronic	1.2%
274	Pyelonephritis/secondary to obstruction	15.8%
275	Pyelonephritis/bacterial/infection	9.0%
276	Nephrotic/syndrome	5.5%
278	Ureteral calculus/not causing obstruction	11.3%
279	Epididymitis/cystitis/prostatitis	35.3%
280	Balanoposthitis	20.7%
		<b>100.0%</b>

<u>PC</u>	<u>Neuropsychiatric Disease Cluster</u>	<u>Cluster %</u>
301	Psychosis	9.4%
302	Conduct Disorders	45.1%
303	Nonpsychotic mental disorders	39.2%
306	Alcohol dependency/moderate	2.0%
307	Alcohol misuse/simple intoxication	1.5%
308	Drug dependency/severe	0.0%
309	Drug misuse/moderate	2.2%
316	Alcohol dependency/severe	0.3%
317	Drug misuse/severe	0.3%
		<b>100.0%</b>

**Appendix D. Estimated Disease Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
11	Intracranial hemorrhage	0.21%	0.24%	0.20%
196	Appendicitis/perforation/rupture	1.71%	1.33%	1.66%
197	Appendicitis/rupture/peronitis	2.48%	1.93%	2.42%
198	Inguinal hernia/complicated/incarceration	0.89%	0.69%	0.86%
199	Ing/hernia/no incarceration of bowel	4.94%	3.85%	4.81%
202	Eczema/dermatitis/seborrheic/affecting	0.77%	0.98%	0.90%
203	Eczema/dermatitis/seborrheic/not affecting	2.11%	2.69%	2.48%
204	Boils/funicles/pyoderma/surgery	0.16%	0.20%	0.19%
205	Boils/furuncles/pyoderma/no surgery	0.09%	0.12%	0.11%
206	Cellulitis/face/weight bearing areas	2.74%	3.49%	3.23%
207	Cellulitis/other than face or weight	3.71%	4.72%	4.36%
208	Dermatophytosis/severe/feet	0.07%	0.09%	0.08%
209	Dermatophytosis/all other cases	0.77%	0.98%	0.90%
210	Pediculosis/lice	0.30%	0.38%	0.35%
211	Scabies	0.05%	0.06%	0.05%
212	Pilonidal/cyst/abscess/major excision	0.18%	0.14%	0.17%
213	Pilonidal/cyst/abscess/minor incision	2.28%	1.78%	2.22%
214	Ingrown toenails /infected	0.40%	0.34%	0.24%
215	Ingrown toenails	0.42%	0.35%	0.26%
216	Herpes simplex/zoster	0.46%	0.58%	0.54%
219	Hyperhidrosis	0.25%	0.32%	0.30%
220	Blepharitis	0.45%	0.63%	0.40%
221	Conjunctivitis/severe	0.37%	0.53%	0.33%
222	Conjunctivitis/moderate	0.82%	1.17%	0.74%
223	Corneal ulcer	0.24%	0.35%	0.22%
225	Iridocyclitis/acute/visual impairment	0.08%	0.11%	0.07%
226	Iridocyclitis/acute/min impairment	0.09%	0.12%	0.08%
227	Refraction/accomodation/refraction req	0.50%	0.71%	0.45%
228	Refraction/accommodation/spectacles req	0.38%	0.54%	0.34%
229	Otitis/externa	0.67%	0.95%	0.60%
230	Otitis/media/acute/suppurative	0.53%	0.76%	0.48%
232	Allergic/rhinitis	0.17%	0.21%	0.16%
233	Upper/respiratory/infection	8.15%	10.04%	7.71%
234	Bronchitis	1.69%	2.08%	1.59%
235	Asthma/disabling/repeated attacks	0.18%	0.22%	0.17%
236	Asthma	0.40%	0.50%	0.38%
239	Respiratory/distress/syndrome/severe	0.71%	0.87%	0.67%
240	Respiratory/distress/syndrome/moderate	2.63%	3.24%	2.49%
243	Food poisoning/severe/disabling	0.26%	0.15%	0.13%
244	Food poisoning/moderate	3.04%	2.04%	2.15%
245	Diarrheal/disease/severe	0.56%	0.33%	0.29%
246	Diarrheal/disease/moderate	7.16%	7.26%	11.03%
247	Upper gastrointestinal hemorrhage	0.73%	0.63%	0.82%
248	Gastritis/acute	1.80%	1.47%	1.86%
249	Peptic ulcer/gastric/duodenal/perforated	0.29%	0.22%	0.28%
250	Peptic ulcer/gastric/duodenal	1.20%	0.85%	0.94%
251	Regional ileitis/disabling/unresponsive	0.22%	0.13%	0.11%
252	Regional ileitis/responding to treatment	0.78%	0.51%	0.51%
253	Helminthiasis	0.21%	0.36%	0.26%
256	Hemorrhoidal disease	2.20%	1.71%	2.14%
258	Hypertension/essential	0.93%	1.06%	0.91%

**Appendix D. Estimated Disease Patient Condition Code Percentages  
for Nonconventional Operations by Geographic Region**

<u>PC</u>	<u>PC code description</u>	<u>Europe</u>	<u>NE Asia</u>	<u>SW Asia</u>
259	Ischemic heart/disease	1.07%	1.21%	1.04%
260	Phlebitis/deep vein involvement	0.80%	0.90%	0.77%
263	Menigo/encephalitits/complicated	0.63%	0.73%	0.55%
264	Menigo/encephalitits/uncomplicated	0.26%	0.30%	0.23%
269	STD/urethritis	0.40%	0.41%	0.35%
270	STD/genital ulcers/adenopathy	0.06%	0.06%	0.05%
271	STD/complicated	0.01%	0.01%	0.01%
272	Glomerulonephritis/acute	0.07%	0.04%	0.06%
273	Glomerulonephritis/chronic	0.07%	0.04%	0.06%
274	Pyelonephritis/secondary to obstruction	0.92%	0.58%	0.74%
275	Pyelonephritis/bacterial/infection	0.52%	0.33%	0.42%
276	Nephrotic/syndrome	0.32%	0.20%	0.26%
277	Ureteral calculus/obstruction/impacted	2.04%	1.59%	1.99%
278	Ureteral calculus/not causing obstruction	0.66%	0.41%	0.53%
279	Epididymitis/cystitis/prostatitis	2.05%	1.29%	1.66%
280	Balanoposthitis	1.20%	0.76%	0.97%
282	Infectious/mononucleosis	1.10%	1.28%	0.98%
283	Hepatitis/infectious/viral	0.84%	0.97%	0.73%
285	Cholecystitis/cholelithiasis	0.82%	0.64%	0.80%
286	Pancreatitis	0.50%	0.42%	0.53%
287	Cirrhosis	0.27%	0.17%	0.17%
289	Neoplasms/malignant	0.33%	0.28%	0.20%
290	Neoplasms/benign	4.35%	3.39%	4.23%
291	Abnormal uterine bleeding	0.14%	0.09%	0.11%
292	Dysmenorrhea/amenorrhea	0.46%	0.29%	0.37%
293	Pelvic Inflammatory disease (PID)	0.29%	0.18%	0.24%
294	Cervicitis/endocervicitis/leukorrhea	0.65%	0.41%	0.52%
295	Vulvovaginitis	0.05%	0.03%	0.04%
297	Tubal pregnancy	0.00%	0.00%	0.00%
299	Abortion spontaneous	0.00%	0.00%	0.00%
301	Psychosis	0.93%	0.95%	0.94%
302	Conduct Disorders	4.47%	4.54%	4.49%
303	Nonpsychotic mental disorders	3.88%	3.95%	3.90%
306	Alcohol dependency/moderate	0.20%	0.20%	0.20%
307	Alcohol misuse/simple intoxication	0.15%	0.15%	0.15%
308	Drug dependency/severe	0.00%	0.00%	0.00%
309	Drug misuse/moderate	0.22%	0.22%	0.22%
316	Alcohol dependency/severe	0.03%	0.03%	0.03%
317	Drug misuse/severe	0.03%	0.03%	0.03%
329	Trachoma	0.03%	0.04%	0.02%
330	Schistosomiasis	0.00%	0.00%	0.03%
331	Malaria/severe	0.42%	0.49%	0.41%
332	Malaria/moderate	0.08%	0.09%	1.42%
333	Febrille illness/acute/severe	0.63%	0.74%	0.45%
334	Febrille illness/acute/moderate	5.63%	6.55%	4.11%
339	Cutaneous ulcers/leishmaniasis	0.00%	0.00%	0.31%
		<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

# REPORT DOCUMENTATION PAGE

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**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT (maximum 200 words)**

United States forces are increasingly being tasked to respond to nontraditional operations, such as humanitarian assistance, peacekeeping, or peace enforcement. Peacekeeping operations, particularly those conducted under the support of the United Nations Charter, have become more common in the post-Cold War world, as evidenced by deployments to Bosnia, Croatia, and Kosovo. In many cases these deployments are subsuming traditional military operations. To ensure successful medical support for these operations, medical planners and logisticians need to program the needed supplies, equipment, and staff to meet the diverse challenges of the mission at hand. Estimates of the likely distribution of medical admissions by patient condition code are a key component in ensuring adequate resources to meet the medical needs of these operations. Use of empirical medical data from recent peacekeeping and peace enforcement operations, when supplemented with peacetime data from regional treatment facilities and data detailing admissions during previous conventional combat operations, provides a baseline for projecting disease and injury distributions for future nonconventional scenarios.

**15. SUBJECT TERMS**  
patient condition codes , medical admissions, operations other than war (OOTW), disease and non-battle injury (DNBI), percent distributions, nonconventional operations, peacekeeping operations, peace enforcement operations

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