



Annual Leishmaniasis Report REPORT DESCRIPTION

PURPOSE/DESCRIPTION:

The Annual Leishmaniasis Report provides information for cases of leishmaniasis diagnosed during the last 10 years. This report presents the total cases of leishmaniasis, by calendar year, including those diagnosed in theater. It also provides detail by Service, for active component, Reserve/Guard and other beneficiaries along with the leishmaniasis clinical presentation category, Operation and COCOM.

FREQUENCY: The Annual Leishmaniasis Report is released in April of each year.

DATA SOURCES: DMSS (Defense Medical Surveillance System) reportable events, inpatient and outpatient encounter data; TMDS (Theater Medical Data Store) inpatient and outpatient encounter data; TRAC²ES (TRANSCOM Regulating and Command and Control Evacuation System) Med-Evac encounters.

CASE DEFINITIONS & CAVEATS:

1. Case Definition: Leishmaniasis cases are those individuals with an ICD-9 code indicative of leishmaniasis in any diagnostic position. Case definition includes 1 inpatient encounter, 1 Reportable Event, or 1 outpatient visit irrespective of data source to include TMDS and TRAC²ES.
2. Inclusion Criteria: Based on the Tri-Service Reportable Event Guidelines and Case Definitions (June 2009), an ICD-9 code indicative of leishmaniasis includes: 085.x
3. Exclusion Criteria: None.
4. Incidence Rule: A lifetime incidence rule applies and an individual may be counted as a case only once during the 10-year surveillance period.
5. Definitions:
 - Leishmaniasis is categorized per the following clinical presentations.
 - Visceral = 085.0
 - Mucocutaneous = 085.5
 - Cutaneous = 085.1 – 085.4
 - Unspecified = 085.9
 - Operations are defined as: Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF), Operation New Dawn (OND), and Other/Unknown.
 - “MHS Beneficiaries” includes dependents and retirees of the Military Health System (MHS).
 - “Unknown” cohort lacks information on FMP, service, or component; thus these individuals could not be assigned elsewhere. This cohort may include civilians, contractors, or foreign nationals, and does not factor into MHS total counts.

6. Clarifications:

- Counts represent unique individuals from any data source.
- Because *leishmania* species, clinical presentation and coding practices aren't reliably mapped to ICD-9 codes, leishmaniasis cases are aggregated and presented as clinical categories (e.g. visceral, mucocutaneous, cutaneous, unspecified).
- If more than one ICD-9 is present in clinical encounters, precedence will be given to Visceral > Mucocutaneous > Cutaneous > Unspecified in that order.
- Attribution to COCOM will be assigned based on the country of presumed acquisition as determined by the following algorithm:
 - Initial healthcare encounter for leishmaniasis in a foreign country known for leishmaniasis transmission.
 - Country of exposure as documented in a reportable event record.
 - Country of deployment that pre-dates the diagnosis and is known for leishmaniasis transmission.
- The most proximate deployment record is obtained from personnel deployment files to determine the country and theater of disease acquisition.
- "Diagnosis in theater" is based on data source of first encounter with precedence given to theater data sources (TMDS and TRAC²ES). Note: TMDS didn't consistently capture care prior to May 2008. Country information from Reportable Event records were not incorporated into this report's methodology.

Leishmaniasis in Active Component, Reserve/Guard, and Other Beneficiaries from 2002-2011

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		TOTAL	
	Total Count	DX in theater																				
Army	18	2	683	34	576	41	170	6	120	3	72	-	60	2	65	-	86	2	37	1	1,887	91
Active Component	14	2	567	18	457	24	109	3	80	3	52	-	41	2	43	-	72	2	27	1	1,462	55
Reserve / Guard	4	-	116	16	119	17	61	3	40	-	20	-	19	-	22	-	14	-	10	-	425	36
Navy	17	-	11	1	18	-	13	-	6	-	3	-	8	-	7	-	5	-	2	-	90	1
Active Component	16	-	8	1	16	-	12	-	6	-	3	-	6	-	6	-	4	-	2	-	79	1
Reserve / Guard	1	-	3	-	2	-	1	-	-	-	-	-	2	-	1	-	1	-	-	-	11	-
Marine Corps	3	-	15	2	10	-	5	-	8	1	2	-	7	-	9	-	4	1	3	-	66	4
Active Component	3	-	10	2	5	-	3	-	4	1	2	-	6	-	5	-	4	1	3	-	45	4
Reserve / Guard	-	-	5	-	5	-	2	-	4	-	-	-	1	-	4	-	-	-	-	-	21	-
Air Force	4	-	25	1	19	-	18	-	4	-	4	-	10	1	5	-	7	-	4	-	100	2
Active Component	2	-	17	-	14	-	14	-	3	-	4	-	7	1	5	-	6	-	4	-	76	1
Reserve / Guard	2	-	8	1	5	-	4	-	1	-	-	-	3	-	-	-	1	-	-	-	24	1
Coast Guard	-	-	1	-	-	-	-	-	1	-	-	-	1	-	1	-	2	-	-	-	6	-
Active Component	-	-	1	-	-	-	-	-	1	-	-	-	1	-	1	-	1	-	-	-	5	-
Reserve / Guard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-
MHS Overall	103	2	820	27	693	30	230	6	155	4	109	-	93	3	99	-	117	3	57	1	2,476	76
Active Component	35	2	603	21	492	24	139	3	94	4	61	-	61	3	60	-	88	3	37	1	1,670	61
Reserve / Guard	7	-	132	17	131	17	68	3	45	-	20	-	25	-	27	-	17	-	10	-	482	37
MHSbeneficiaries*	83	-	121	-	102	-	30	-	28	-	36	-	23	-	29	-	26	-	22	-	500	-
Unknown**	1	-	29	25	41	26	30	-	41	-	35	-	56	-	56	-	58	2	57	-	404	53

Case of Leishmaniasis includes ICD-9 of 085.x in any diagnostic position. Case definition includes 1 inpatient encounter, 1 reportable event, or 1 outpatient encounter to include TMDS.

Counts represent unique individuals from any data source, with a lifetime incidence rule.

'Diagnosis in theater' based on data source of first encounter with precedence given to theater data sources.

Report methodology is not able to differentiate Reportable Events that are acquired or diagnosed in theater.

*Includes MHS dependents, and retirees

** No information on FMP, Service or Component and may include civilians, contractors and foreign nationals. Does not factor into MHS total #'s

Data Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) and TRANSCOM Regulating and Command & Control Evacuation ((TRAC²ES)) as of 03 Apr 2012

Prepared by Armed Forces Health Surveillance Center, as of 7 May 2012

Leishmaniasis by Category in Active/Reserve/Guard Components from 2002-2011

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		TOTAL	
	Total Count	DX in theater	Total Count	DX in theater																		
Visceral	15	-	10	-	3	-	7	-	-	-	1	-	-	-	1	-	4	-	1	-	42	-
Army	1	-	6	-	3	-	4	-	-	-	1	-	-	-	1	-	2	-	1	-	19	-
Navy	12	-	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-
Marine Corps	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Air Force	1	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-	6	-
Coast Guard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mucocutaneous	1	-	2	-	5	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	10	-
Army	1	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-
Navy	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Marine Corps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Air Force	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
Coast Guard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cutaneous	8	1	625	12	305	15	112	2	52	1	20	-	25	-	21	-	31	-	6	-	1,205	31
Army	4	1	601	11	290	15	102	2	47	1	18	-	20	-	16	-	25	-	6	-	1,129	30
Navy	2	-	6	-	5	-	5	-	1	-	1	-	3	-	-	-	1	-	-	-	24	-
Marine Corps	1	-	8	1	3	-	-	-	1	-	-	-	-	-	3	-	1	-	-	-	17	1
Air Force	1	-	9	-	7	-	5	-	3	-	1	-	2	-	2	-	3	-	-	-	33	-
Coast Guard	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-
Unspecified	18	1	87	15	295	15	80	4	75	3	53	-	45	3	49	-	56	3	27	1	785	45
Army	12	1	65	12	267	15	61	4	61	2	48	-	33	2	39	-	49	2	21	1	656	39
Navy	3	-	2	1	11	-	4	-	5	-	1	-	3	-	3	-	3	-	1	-	36	1
Marine Corps	1	-	7	1	6	-	5	-	7	1	2	-	5	-	4	-	3	1	2	-	42	3
Air Force	2	-	13	1	11	-	10	-	1	-	2	-	3	1	3	-	1	-	3	-	49	2
Coast Guard	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	2	-
Total	42	2	724	27	608	30	200	6	127	4	74	-	70	3	71	-	91	3	35	1	2,042	76

Case of Leishmaniasis includes ICD-9 of 085.x in any diagnostic position. Case definition includes 1 inpatient encounter, 1 reportable event, or 1 outpatient encounters to include TMDS.

Counts represent unique individuals from any data source, with a lifetime incidence rule.

'Diagnosis in theater' based on data source of first encounter with precedence given to theater data sources.

Because of unreliability in ICD-9 coding practices, leishmaniasis cases are group by clinical presentations/categories (e.g. visceral, cutaneous, mucocutaneous, unknown).

Leishmaniasis categories are defined as: Visceral (085.0), Mucocutaneous (085.5), Cutaneous (085.1 - 085.4), and Unspecified (085.9), and are prioritized in this order if more than one code is present in the database.

Leishmaniasis by Category and COCOM in Active/Reserve/Guard Components from 2002-2011

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		TOTAL	
	Total Count	DX in theater	Total Count	DX in theater																		
Visceral	15	-	10	-	3	-	7	-	-	-	1	-	-	-	1	-	4	-	1	-	42	-
AFRICOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTCOM	-	-	2	-	2	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	6	-
SOUTHCOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	15	-	8	-	1	-	6	-	-	-	1	-	-	-	-	-	4	-	1	-	36	-
Mucocutaneous	1	-	2	-	5	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	10	-
AFRICOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTCOM	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
SOUTHCOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	1	-	2	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	9	-
Cutaneous	8	1	625	12	305	15	112	2	52	1	20	-	25	-	21	-	31	-	6	-	1,205	31
AFRICOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTCOM	2	1	592	11	230	13	41	1	22	1	11	-	5	-	15	-	13	-	-	-	931	27
SOUTHCOM	-	-	-	-	-	-	1	-	-	-	2	-	3	-	-	-	-	-	-	-	6	-
OTHER/UNKNOWN	6	-	33	1	75	2	70	1	30	-	7	-	17	-	6	-	18	-	6	-	268	4
Unspecified	18	1	87	15	295	15	80	4	75	3	53	-	45	3	49	-	56	3	27	1	785	45
AFRICOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTCOM	1	1	13	13	12	12	8	3	22	3	17	-	7	2	13	-	20	2	2	1	115	37
SOUTHCOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	17	-	74	2	283	3	72	1	53	-	36	-	38	1	36	-	36	1	25	-	670	8
Total	42	2	724	27	608	30	200	6	127	4	74	-	70	3	71	-	91	3	35	1	2,042	76

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Leishmaniasis by COCOM and Category in Active/Reserve/Guard Components from 2002-2011

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		TOTAL	
	Total Count	DX in theater	Total Count	DX in theater																		
AFRICOM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Visceral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mucocutaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cutaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTCOM	3	2	607	24	245	25	50	4	44	4	28	-	12	2	29	-	33	2	2	1	1,053	64
Visceral	-	-	2	-	2	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	6	-
Mucocutaneous	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Cutaneous	2	1	592	11	230	13	41	1	22	1	11	-	5	-	15	-	13	-	-	-	931	27
Unspecified	1	1	13	13	12	12	8	3	22	3	17	-	7	2	13	-	20	2	2	1	115	37
SOUTHCOM	-	-	-	-	-	-	1	-	-	-	2	-	3	-	-	-	-	-	-	-	6	-
Visceral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mucocutaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cutaneous	-	-	-	-	-	-	1	-	-	-	2	-	3	-	-	-	-	-	-	-	6	-
Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	39	-	117	3	363	5	149	2	83	-	44	-	55	1	42	-	58	1	33	-	983	12
Visceral	15	-	8	-	1	-	6	-	-	-	1	-	-	-	-	-	4	-	1	-	36	-
Mucocutaneous	1	-	2	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	9	-
Cutaneous	6	-	33	1	75	2	70	1	30	-	7	-	17	-	6	-	18	-	6	-	268	4
Unspecified	17	-	74	2	283	3	72	1	53	-	36	-	38	1	36	-	36	1	25	-	670	8
Total	42	2	724	27	608	30	200	6	127	4	74	-	70	3	71	-	91	3	35	1	2,042	76

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Data Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) and TRANSCOM Regulating and Command & Control Evacuation ((TRAC²ES)) as of 03 Apr 2012

Prepared by Armed Forces Health Surveillance Center, as of 7 May 2012

Leishmaniasis by Deployed Operation in Active/Reserve/Guard Components from 2002-2011

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		TOTAL	
	Total Count	DX in theater	Total Count	DX in theater																		
Visceral	3	-	4	-	3	-	7	-	-	-	1	-	-	-	1	-	4	-	1	-	24	-
OIF	-	-	2	-	3	-	5	-	-	-	1	-	-	-	1	-	4	-	1	-	17	-
OEF	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
OND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	2	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Mucocutaneous	-	-	2	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	8	-
OIF	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
OEF	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-
OND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER/UNKNOWN	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
Cutaneous	8	1	609	12	291	15	112	2	52	1	20	-	25	-	20	-	31	-	6	-	1,174	31
OIF	-	-	500	11	250	15	88	-	40	1	15	-	14	-	14	-	15	-	-	-	936	27
OEF	3	1	9	1	8	-	8	2	6	-	5	-	6	-	4	-	13	-	5	-	67	4
OND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
OTHER/UNKNOWN	5	-	100	-	33	-	16	-	6	-	-	-	5	-	2	-	3	-	-	-	170	-
Unspecified	9	1	84	15	293	15	80	4	75	3	52	-	45	3	49	-	56	3	27	1	770	45
OIF	-	-	49	12	242	12	63	2	64	3	43	-	28	1	34	-	28	1	9	-	560	31
OEF	3	1	7	-	12	1	7	1	6	-	6	-	10	2	12	-	25	2	12	-	100	7
OND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1	5	1
OTHER/UNKNOWN	6	-	28	3	39	2	10	1	5	-	3	-	7	-	3	-	3	-	1	-	105	6
Total	20	2	699	27	591	30	200	6	127	4	73	-	70	3	70	-	91	3	35	1	1,976	76

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Deployment files are queried to determine theater of acquisition and are defined as: Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF), Operation New Dawn (OND), and Other/Unknown.

Data Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) and TRANSCOM Regulating and Command & Control Evacuation ((TRAC²ES))as of 03 Apr 2012

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