

NON-HODGKIN'S LYMPHOMA

Background

This case definition was developed in 2010 by the Armed Forces Health Surveillance Center (AFHSC) in collaboration with a working group of subject matter experts from the Office of the Assistant Secretary of Defense for Health Affairs (ASDHA), the United States Army Public Health Command (USAPHC) and the United States Military Cancer Institute. The definition and classifications used in the case definition are based on the World Health Organization (WHO) Classification of tumors of Hematopoietic and Lymphoid Tissues, 4th edition, 2008.¹ The definition was developed for the purpose of epidemiological surveillance of invasive cancers and was used in a June 2012 Medical Surveillance Monthly Report (MSMR) article on incident diagnoses of cancers.²

Clinical Description

Non-Hodgkin's lymphomas (NHL) are a large group of cancers of white blood cells. These cancers can occur at any age and are usually characterized by swollen lymph nodes, fever, and weight loss.³ There are many different types of NHL, usually characterized as either aggressive or indolent, and originating from either B-cells or T-cells. Risk of developing NHL is elevated in persons who receive immune suppressants to prevent organ transplant rejection, people with severe autoimmune conditions, and people infected with human immunodeficiency virus (HIV) and human T-cell leukemia virus type I. Epstein Barr virus causes Burkitt's lymphoma and is associated with a number of autoimmune-related NHLs.⁴ Prognosis and treatment depend on the stage and type of NHL disease.¹

Case Definition and Incidence Rules

For surveillance purposes, a case of non-Hodgkin's lymphoma is defined as:

- *One hospitalization* with any of the defining diagnoses of non-Hodgkin's lymphoma (see ICD9 code list below) in the *primary* diagnostic position; or
- *One hospitalization with a V-code* indicating a radiotherapy, chemotherapy, or immunotherapy treatment procedure (see ICD9 code list below) in the *primary* diagnostic position; AND any of the defining diagnoses of non-Hodgkin's lymphoma (see ICD9 code list below) in the *secondary* diagnostic position; or
- *Three or more outpatient medical encounters*, occurring *within a 90-day period*, with any of the defining diagnoses of non-Hodgkin's lymphoma (see ICD9 code list below) in the *primary or secondary* diagnostic position.

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¹ WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues, 4th edition, S. Swerdlow, E. Campo, N. Lee Harris, E. Jaffe, S. Pileri, H. Stein, J. Thiele, J. Vardiman, IARC, Lyon, France, 2008.

² Armed Forces Health Surveillance Center. Incident Diagnoses of Cancers and Cancer-related Deaths, Active Component, U.S. Armed Forces, 2000-2011. *Medical Surveillance Monthly Report (MSMR)*. 2012 June; 19(6): 18-22.

³ Non-Hodgkin Lymphoma. National Cancer Institute. Available at: <http://www.cancer.gov/cancertopics/types/non-hodgkin>. Accessed July 2015.

⁴ American Cancer Society. *Cancer Facts & Figures 2012*. Atlanta: American Cancer Society; 2012.



Case Definition and Incidence Rules *(continued)*

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization or outpatient medical encounter that includes a defining diagnosis of non-Hodgkin's lymphoma.
- An individual is considered an incident case only *once per lifetime*.

Exclusions:

- None

Codes

The following ICD9 codes are included in the case definition:

Fifth digit subclassification for use with categories 200.xx and 202.xx:

- 0 unspecified site, extranodal and solid organ sites
- 1 lymph nodes of head, face and neck
- 2 intrathoracic lymph nodes
- 3 intra-abdominal lymph nodes
- 4 lymph nodes of axilla and upper limb
- 5 lymph nodes of inguinal region and lower limb
- 6 intrapelvic lymph nodes
- 7 spleen
- 8 lymph nodes of multiple sites

Condition	ICD-9-CM Codes	CPT Codes
Non-Hodgkin's lymphoma	200 Lymphosarcoma, reticulosarcoma, and other specified malignant tumors of lymphatic tissue <ul style="list-style-type: none"> - 200.0x (reticulosarcoma [0-8]) - 200.1x (lymphosarcoma [0-8]) - 200.2x (Burkitt's tumor or lymphoma [0-8]) - 200.3x (marginal zone lymphoma [0-8]) - 200.4x (mantle cell lymphoma [0-8]) - 200.5x (primary central nervous system lymphoma [0-8]) 	(continued on next page)



	<ul style="list-style-type: none"> - 200.6x (anaplastic large cell lymphoma [0-8]) - 200.7x (large cell lymphoma [0-8]) - 200.8x (other named variants [0-8]) <p>202 Other malignant neoplasms of lymphoid and histiocytic tissue</p> <ul style="list-style-type: none"> - 202.0x (nodular lymphoma [0-8]) - 202.1x (mycosis fungoides [0-8]) - 202.2x (Sezary's disease [0-8]) - 202.7x peripheral T cell lymphoma) - 202.8x (other lymphomas [0-8]) - 202.9x (other and unspecified malignant neoplasms of lymphoid and histiocytic tissue [0-8]) 	
Related treatment procedures	<p>Radiotherapy, chemotherapy, immunotherapy treatment</p> <ul style="list-style-type: none"> - V58.0 (radiotherapy) - V58.1 (encounter for chemotherapy and immunotherapy for neoplastic conditions) - V58.11 (encounter for antineoplastic chemotherapy) - V58.12 (encounter for antineoplastic immunotherapy) 	

Development and Revisions

- This case definition was developed in 2010 by the Armed Forces Health Surveillance Center (AFHSC) in collaboration with a working group of subject matter experts. The definition was developed based on expert consensus opinion, reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.

Case Definition and Incidence Rule Rationale

- Case finding criteria for hospitalizations require one case-defining ICD9 code for non-Hodgkin's lymphoma in the *primary* diagnostic position *unless* a code for a related treatment procedure is in the primary diagnostic position; then the case-defining ICD9 code for non-Hodgkin's lymphoma is allowed in the *secondary* diagnostic position.
- The case finding criterion of *three or more outpatient medical encounters, within a 90-day period*, with a defining diagnosis of non-Hodgkin's lymphoma is used to identify cases that do not meet the other criteria in the definition. Exploratory analysis of the Defense Medical Surveillance System (DMSS) data revealed that this criterion yielded optimal specificity.⁵ The period of 90 days was established to allow for the likelihood that "true" cases of non-Hodgkin's lymphoma would have second and third encounters within that interval.

⁵ Detailed information on this analysis is available through AFHSC MSMR staff; reference DMSS Requests #R080127, #R080159, #R090184, #R090302, #R090341, #R100181, and #R100303 (DoD Cancer Incidence), 2008-2009.



- This case definition was developed for a global report on ten different invasive cancers.¹ As such, the same case finding criteria are used for all types of cancer in the report. This broad application of a single case definition may affect the sensitivity and specificity in varying ways for the individual cancers. Furthermore, surgical treatment procedures unique to certain types of cancer are not included in the code set for individual cancers.

Code Set Determination and Rationale

- The following ICD9 codes were considered by the SMS working group and are not included in the ICD9 code set: 202.3x (malignant histiocytosis), 202.4x (leukemic reticuloendotheliosis), 202.5x (Letterer-Siwe disease), 202.6x (malignant mast cell tumors)
- The code set used for the June 2012 MSMR article on cancer did not include ICD9 code 202.7x (peripheral T cell lymphoma). This code is included in this document and will be included in the code set for future analyses.

Reports

AFHSC reports on non-Hodgkin lymphoma in the following reports:

- Periodic MSMR articles on cancers and cancer-related deaths.

Review

June 2013	Case definition reviewed and adopted by the AFHSC Surveillance Methods and Standards (SMS) working group.
June 2012	Case definition reviewed and adopted by the AFHSC MSMR staff.

Comments

None

