

ASTHMA

Background

This case definition was developed by the Armed Forces Health Surveillance Branch (AFHSB) for the purpose of epidemiological surveillance of a condition important to military-associated populations.

Clinical Description

Asthma is a respiratory syndrome characterized by airflow obstruction that varies markedly, both spontaneously and with treatment. Asthmatics demonstrate a special type of inflammation in the airways, which leads to excessive narrowing with consequent reduced airflow and symptomatic wheezing and dyspnea. Narrowing of the airways is usually reversible, but in some patients with chronic asthma there may be an element of irreversible airflow obstruction.¹

Case Definition and Incidence Rules

For surveillance purposes, a case of asthma is defined as:

- *One hospitalization* with a case defining diagnoses of asthma (see ICD9 and ICD10 code lists below) in *any* diagnostic; or
- *Two outpatient medical encounters* with a case defining diagnoses of asthma (see ICD9 and ICD10 code lists below) in *any* diagnostic position

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 case defining diagnosis of asthma.
- An individual is considered an incident case *once per lifetime*.

Exclusions:

- None.

¹ Longo, D., Fauci, A., et al. 2012. *Harrison's Principles of Internal Medicine*. 18th ed. United States: McGraw-Hill Professional.



Codes

The following ICD9 and ICD10 codes are included in the case definition:

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Asthma	<i>J44.[0,1,9]; J44.1 (other chronic obstructive pulmonary disease) are too broad for inclusion in the code set. See Comments below.</i>	493.2 (chronic obstructive asthma) - 493.21 (chronic obstructive asthma, with status asthmaticus) - 493.20 (chronic obstructive asthma, unspecified) - 493.22 (chronic obstructive asthma with acute exacerbation)
	<i>J45 (asthma)</i>	493 (asthma)
	<i>J45.2 (mild intermittent asthma)</i>	493.0 (extrinsic asthma); 493.1 (intrinsic asthma)
	- J45.20 (mild intermittent asthma, with acute exacerbation)	- 493.02 (extrinsic asthma, with acute exacerbation) - 493.12 (intrinsic asthma, with acute exacerbation)
	- J45.21 (mild intermittent asthma, uncomplicated)	- 493.00 (extrinsic asthma, unspecified) - 493.10 (intrinsic asthma, unspecified)
	- J45.22 (mild intermittent asthma, with status asthmaticus)	- 493.01 (extrinsic asthma, with status asthmaticus) - 493.11 (intrinsic asthma, with status asthmaticus)
	<i>J45.3 (mild persistent asthma)</i>	--
	- J45.30 (mild persistent asthma, with acute exacerbation)	493.00; 493.10 (above)
	- J45.31 (mild persistent asthma, uncomplicated)	493.02; 493.12 (above)
	- J45.32 (mild intermittent asthma, with status asthmaticus)	493.01; 493.11 (above)
	<i>J45.4 (moderate persistent asthma)</i>	--
	- J45.40 (moderate persistent asthma, with acute exacerbation)	493.00; 493.10 (above)
	- J45.41 (moderate persistent asthma, uncomplicated)	493.02; 493.12 (above)
	- J45.42 (moderate intermittent asthma, with status asthmaticus)	493.01; 493.11 (above)

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	J45.5 (<i>severe persistent asthma</i>)	
	- J45.50 (severe persistent asthma, with acute exacerbation)	493.00; 493.10 (above)
	- J45.51 (severe persistent asthma, uncomplicated)	493.02; 493.12 (above)
	- J45.52 (severe intermittent asthma, with status asthmaticus)	493.01; 493.11 (above)
	J45.9 (<i>other and unspecified asthma</i>)	--
	J45.90 (unspecified asthma)	493.9 (asthma, unspecified)
	- J45.901 (unspecified asthma with acute exacerbation)	- 493.92 (asthma, unspecified, with acute exacerbation)
	- J45.902 (unspecified asthma with status asthmaticus)	- 493.91 (asthma, unspecified, with status asthmaticus)
	- J45.909 (unspecified asthma, uncomplicated)	- 493.90 (asthma, unspecified, unspecified)
	J45.99 (other asthma)	493.8 (other forms of asthma)
	- J45.990 (exercise induced bronchospasm)	- 493.81 (exercise induced bronchospasm)
	- J45.991 (cough variant asthma)	- 493.82 (cough variant asthma)

Development and Revisions

- In November of 2015 the case definition was updated to include ICD10 codes.
- The case definition and incidence rules for asthma were developed and reviewed by the AFHSC Medical Surveillance Monthly Report (MSMR) staff for a July 2009 MSMR article on asthma.²

Case Definition and Incidence Rule Rationale

- For the purposes of counting new incident cases, AFHSB uses a once per lifetime incidence rule unless a specific timeframe is more appropriate and is specified (e.g., individuals may be counted as an incident case once every 365 days). Historically, a "once per surveillance period" incidence rule was used due to limited data in the Defense Medical Surveillance System (DMSS), but that is no longer necessary.

Code Set Determination and Rationale

- ICD9 codes 493.2[0-2] (chronic obstructive asthma) translate to ICD10 codes J44.[0,1,9], J44.1 (other chronic obstructive pulmonary disease). In ICD10 the J44 category does not mention asthma, so the SMS workgroup determined the codes were too broad, (i.e., not specific enough) for inclusion in the ICD10 code set for asthma at this time. According to the ICD-10-CM manual the J44 codes are intended to be used for chronic obstructive pulmonary disease (COPD) *with* asthma. The AFHSB will evaluate the use of these codes when ICD10 data are available.

² Armed Forces Health Surveillance Center. Asthma, Active Component, U.S. Armed Forces, 1999-2008. *Medical Surveillance Monthly Report (MSMR)*. 2009 July; Vol. 16(7): 5-9.



Reports

AFHSB reports on asthma in the following reports:

- None

Review

Jun 2019	Case definition reviewed and updated by the AFHSB Surveillance Methods and Standards (SMS) working group.
Nov 2015	Case definition reviewed and updated by the AFHSB Surveillance Methods and Standards (SMS) working group.
Oct 2010	Case definition reviewed and adopted by AFHSC Surveillance Methods and Standards (SMS) working group.
Jul 2009	Case definition developed and reviewed by the AFHSC <i>MSMR</i> staff.

Comments

None