EPILEPSY

Background

This case definition was developed in 2013 by the Armed Forces Health Surveillance Branch (AFHSB) for the purpose of epidemiological surveillance of a condition important to military associated populations.

Clinical Description

Epilepsy is defined as a disorder of the brain characterized by an enduring predisposition to generate epileptic seizures without any immediate identified cause. An epileptic seizure is a transient disruption of normal brain function due to abnormal excessive or synchronous neuronal activity in the brain. Epileptic seizures are classified into partial (i.e., localized to one area of the brain) and generalized seizures (i.e., affecting the entire brain) and range in intensity from benign (i.e., no alteration of consciousness or brief absences) to severe (i.e., loss of consciousness and/or full body muscle spasm).[1,2] The etiology is multifactorial and often unknown.

Case Definition and Incidence Rules

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

- *One hospitalization* with any of the defining diagnoses of epilepsy (see ICD9 and ICD10 code lists below) in the *primary or secondary* diagnostic position; or

- *Two outpatient medical encounters* with any of the case defining diagnoses of epilepsy (see ICD9 and ICD10 codes below) in the *primary* diagnostic position.
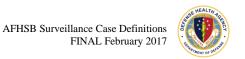
Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization or outpatient medical encounter with a defining diagnosis of epilepsy; or

- If the epilepsy case had a previous hospitalization or outpatient encounter with ICD9 code 780.39 (other convulsions) or ICD10 R56.9 (unspecified convulsions) code prior to the case defining encounters, the date of the first "other" or "unspecified" convulsion encounter is considered the incidence date.

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[1] Commission on Classification and Terminology of the International League against Epilepsy (ILAE). Guidelines for epidemiologic studies on epilepsy: Commission on Epidemiology and Prognosis. *Epilepsia*. 1993; 34(4): 592-596.
[2] Fisher RS, van Emde Boas W, Blume W, et al. Epileptic seizures and epilepsy; definitions proposed by the International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE). *Epilepsia*. 2005;46(4):470-472.

Case Definition and Incidence Rules *(continued)*

- An individual is considered an incident case only *once per lifetime*.

Exclusions:

- None

Codes

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

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Epilepsy	*G40 (epilepsy and recurrent seizures)*	*345 (epilepsy and recurrent seizure)*
	G40.0 (localization-related (focal) (partial)idiopathic epilepsy and epileptic syndromes with seizures of localized onset)	*345.5 (localization-related (focal) (partial) epilepsy and epileptic syndromes with simple partial seizures…)*
	G40.00 (localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, *not intractable…)*	- 345.50 (*without* mention of intractable epilepsy)
	- G40.001 (with status epilepticus)	
	- G40.009 (without status epilepticus)	
	G40.01 (localization-related (focal) (partial)idiopathic epilepsy and epileptic syndromes with seizures of localized onset, *intractable…)*	- 345.51 (*with* intractable epilepsy)
	- G40.011 (with status epilepticus)	
	- G40.019 (without status epilepticus)	
	G40.1 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures)	*345.7 (epilepsia partialis continua…)*
	G40.10 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with *simple* partial seizures, *not intractable…*)	- 345.70 (*without* mention of intractable epilepsy)
	- G40.101 (with status epilepticus)	
	- G40.109 (without status epilepticus)	*(continued on next page)*

	G40.11 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with *simple* partial seizures, *intractable…*)	- 345.71 (*with* intractable epilepsy)
	- G40.111 (with status epilepticus)	
	G40.2 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizure)	*345.4 (localization-related (focal) (partial) epilepsy and epileptic syndromes with complex partial seizures…)*
	G40.20 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, *not intractable…*)	- 345.40 (*without* mention of intractable epilepsy)
	- G40.201 (with status epilepticus)	
	- G40.209 (without status epilepticus)	
	G40.21 (localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, *intractable…*)	- 345.41 (*with* intractable epilepsy)
	- G40.211 (with status epilepticus)	
	- G40.219 (without status epilepticus)	
	G40.3 (generalized idiopathic epilepsy and epileptic syndromes)	*345.1 (generalized convulsive epilepsy…)*
		345.3 (grand mal status)
	G40.30 (generalized idiopathic epilepsy and epileptic syndromes, *not intractable…*)	- 345.10 (*without* mention of intractable epilepsy)
	- G40.301 (with status epilepticus)	
	- G40.309 (without status epilepticus)	
	G40.31 (generalized idiopathic epilepsy and epileptic syndromes, *intractable…*)	- 345.11 (*with* intractable epilepsy)
	- G40.311 (with status epilepticus)	
	- G40.319 (without status epilepticus)	
	G40.A (absence epileptic syndrome)	*345.0 (generalized nonconvulsive epilepsy…)*
		345.2 (petit mal status)
	G40.A0 (absence epileptic syndrome, *not intractable…*)	- 345.00 (*without* mention of intractable epilepsy)
	- G40.A01 (with status epilepticus)	-
	- G40.A09 (without status epilepticus)	
	G40.A1 (absence epileptic syndrome, *intractable…*)	- 345.01 (*with* intractable epilepsy)
	- G40.A11 (with status epilepticus)	*(continued on next page)*

	- G40.A19 (without status epilepticus)	
	G40.B (juvenile myoclonic epilepsy [impulsive petit mal])	345.8 (other forms of epilepsy and recurrent seizures…)
	G40.B0 (juvenile myoclonic epilepsy, not intractable…)	- 345.80 (without mention of intractable epilepsy)
	- G40.B01 (with status epilepticus)	
	- G40.B09 (without status epilepticus)	
	G40.B1 (juvenile myoclonic epilepsy, intractable…)	- 345.81 (with intractable epilepsy)
	- G40.B11 (with status epilepticus)	
	- G40.B19 (without status epilepticus)	
	G40.4 (other generalized epilepsy and epileptic syndromes)	345.1 (above)
	G40.40 (other generalized epilepsy and epileptic syndromes, not intractable…)	- 345.10 (above)
	- G40.401 (with status epilepticus)	
	- G40.409 (without status epilepticus)	
	G40.41 (other generalized epilepsy and epileptic syndromes, intractable…)	- 345.11 (above)
	- G40.411 (with status epilepticus)	
	- G40.419 (without status epilepticus)	
	G40.5 (epileptic seizures related to external causes)	348.8 (above)
	G40.50 (epileptic seizure related to external causes, not intractable…)	- 345.80 (above)
	- G40.501 (with status epilepticus)	
	- G40.509 (without status epilepticus)	
	G40.8 (other epilepsy and recurrent seizures)	
	G40.80 (other epilepsy…)	
	- G40.801 (not intractable, with status epilepticus)	
	- G40.802 (not intractable, without status epilepticus)	
	- G40.803 (intractable, with status epilepticus)	
	- G40.804 (intractable, without status epilepticus)	(continued on next page)

	G40.81 (Lennox-Gastaut syndrome…)	
	- G40.811 (not intractable, with status epilepticus)	
	- G40.812 (not intractable, without status epilepticus)	
	- G40.813 (intractable, with status epilepticus)	
	- G40.814 (intractable, without status epilepticus)	
	G40.82 (epileptic spasms …)	
	- G40.821 (not intractable, with status epilepticus)	
	- G40.822 (not intractable, without status epilepticus)	
	- G40.823 (intractable, with status epilepticus)	
	- G40.824 (intractable, without status epilepticus)	
	G40.89 (other seizures)	
	G40.9 (epilepsy, unspecified)	*345.9 (epilepsy, unspecified…)*
	G40.90 (epilepsy, unspecified, *not intractable*…)	- 345.90 (*without* mention of intractable epilepsy)
	- G40.901 (with status epilepticus)	
	- G40.909 (without status epilepticus)	
	G40.91 (epilepsy, unspecified, *intractable*…)	- 345.91 (*with* intractable epilepsy)
	- G40.911 (with status epilepticus)	
	- G40.919 (without status epilepticus)	
Epilepsy complicating pregnancy	*Translated ICD10 codes too broad for inclusion. In ICD10 a specific code for epilepsy is used independent of pregnancy status.*	649.4 (epilepsy complicating pregnancy, child-birth, or the puerperium…)
		- 649.40 (unspecified as to episode of care or not applicable)
		- 649.41 (delivered, with or without mention of antepartum condition)
		- 649.42 (delivered, with mention of postpartum condition)
		- 649.43 (antepartum condition or complication)
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		- 649.44 (postpartum condition or complication)

Development and Revisions

- In February of 2017 the case definition was updated to include ICD10 codes.

- The definition was developed in May 2013 by the *Medical Surveillance Monthly Report (MSMR)* staff for use in a *MSMR* article on epilepsy.[3] The case definition was developed based on reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.

Case Definition and Incidence Rule Rationale

- This case definition is designed for epilepsy surveillance only; not for seizures of other etiologies. Accordingly, the code set, exclusions, and incidence rules are established to optimize the sensitivity and specificity for cases of epilepsy to the exclusion of other causes of seizures, including one time instances of seizures of either unknown etiology or due to a transient, known cause.

- In this case definition, ICD9 code 780.39 (other convulsions; includes convulsive disorder NOS, fits NOS, recurrent convulsions NOS, and seizure NOS) and ICD10 R56.9 (unspecified convulsions) are used only to assign an incidence date. If an epilepsy case has an encounter with ICD9 code 780.39 / ICD10 R56.9 prior to any of the case defining encounters, the date of the first "other" or "unspecified" convulsions encounter is considered the incidence date of the patient's epilepsy. An individual does not qualify as an epilepsy case if the health record contains only the codes ICD9 780.39 /ICD10 R56.9.

  This determination is based on coding practices that are standard for coding seizures and epilepsy. Epilepsy is generally coded when seizures occur on more than one occasion (e.g., after a first seizure episode generally coded by ICD9 780.3 9/ ICD10 R56.9).[4]

- This case definition specifies no time interval within which the two outpatient encounters with an epilepsy code must occur. Investigators who use this case definition should consider whether or not to specify such a time interval when planning surveillance studies.

Reports

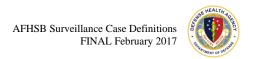AFHSB reports on epilepsy in the following reports:

- None

Review

Feb 2017   Case definition reviewed and updated by the AFHSB Surveillance Methods and
                  Standards (SMS) working group.

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[3] Armed Forces Health Surveillance Center. Epilepsy in Active Component Service Members, 1998-2012. *Medical Surveillance Monthly Report (MSMR).* 2013 May; 20(5): 19-22.

[4] Barkley GL. New inclusion terms for 345.7 and posttraumatic seizure code. ICD-9-CM Coordination and Maintenance Meeting. March 12, 2009. http:// www.cdc.gov/nchs/ppt/icd9/att1BarkleyMar09.ppt. Accessed February 28, 2013.

Jul 2013   Case definition reviewed and adopted by the AFHSC Surveillance Methods and
                  Standards (SMS) working group.

May 2013   Case definition reviewed and adopted by the AFHSC MSMR staff.

Comments

None