

## ALCOHOL RELATED DISORDERS

*Includes Alcohol Abuse, Alcohol Abuse In Remission, and Alcohol Dependence; Does not include “Alcohol Use” Disorders.*

### Background

This case definition was developed by the Armed Forces Health Surveillance Division (AFHSD) for the purpose of descriptive epidemiological reports on mental disorders and mental health problems among active duty Service members.<sup>1</sup> The reports provide a comprehensive look at the status of mental health in the Services and provide in depth information on numbers, rates, and trends of alcohol related disorders and other mental health diagnoses.

### Clinical Description

Alcohol *abuse* is a maladaptive pattern of alcohol use leading to clinically significant impairment or distress. Occurring within a 12-month period, alcohol abuse is usually manifested by recurrent alcohol use resulting in a failure to fulfill major role obligations, use in situations that are physically hazardous, alcohol-related legal problems, and continued alcohol use despite social and interpersonal problems caused by, or exacerbated by, the effects of alcohol.

Alcohol *dependence* is a maladaptive pattern of alcohol abuse leading to clinically significant impairment, distress, and hardship. There is a pattern of repeated alcohol use that often results in tolerance, withdrawal, and compulsive drinking behavior. Often, a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects. There are persistent desires to drink and unsuccessful efforts to cut down or control use. Denial of an alcohol abuse related problem is an inherent component of dependence.<sup>2</sup>

### Case Definition and Incidence Rules

For surveillance purposes, a case of an alcohol disorder is defined as:

- *One hospitalization* with a case defining diagnosis of an alcohol related disorder (see ICD9 and ICD10 code lists below) in the *first or second* diagnostic position; or
- *Two outpatient or Theater Medical Data Store (TMDS) medical encounters*, within *180 days* of each other, with a case defining diagnosis of an alcohol related disorder (see ICD9 and ICD10 code lists below) in the *first or second* diagnostic position; or
- *One outpatient medical encounter in a psychiatric or mental health care specialty setting*, defined by Medical Expense and Performance Reporting System (MEPRS) code BF, with a case defining diagnosis of an alcohol related disorder (see ICD9 and ICD10 code lists below) in the *first or second* diagnostic position.

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<sup>1</sup> Armed Forces Health Surveillance Division. Mental health disorders and mental health problems, active component, U.S. Armed Forces, 2016-2020. *Medical Surveillance Monthly Report (MSMR)*. August 2021; Vol. 28 (8): 2-9.

<sup>2</sup> American Psychiatric Association. Adjustment Disorders. In: *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*. Arlington, VA: 2013.



### 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 case defining diagnosis of an alcohol related disorder.
- An individual is considered an incident case *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  |
|---------------------------------------|--|---|
| Alcohol Abuse<br>(includes remission) | <i>F10.1 (alcohol abuse...)</i>                            | <i>305.0 (alcohol abuse...)</i>   |
|                                       | F10.10 (uncomplicated)                                     | 305.00 (unspecified)  |
|                                       | F10.11 (in remission); <i>new 2022</i>                     | 305.01 (continuous)   |
|                                       | F10.12 (alcohol abuse with intoxication...)                | 305.02 (episodic)   |
|                                       | - F10.120 (uncomplicated)                                  | 305.03 (in remission)   |
|                                       | - F10.121 (delirium)                                       |   |
|                                       | - F10.129 (unspecified)                                    |   |
|                                       | F10.13 (alcohol abuse with withdrawal...); <i>new 2022</i> | <i>No data available to convert ICD10 codes added after 2018.</i>                               |
|                                       | - F10.130 (uncomplicated)                                  |   |
|                                       | - F10.131 (delirium)                                       |   |
|                                       | - F10.132 (with perceptual disturbance)                    |   |
|                                       | - F10.139 (unspecified)                                    |   |
|                                       | F10.14 (alcohol abuse with alcohol-induced mood disorder)  | <i>Translated code 291.89 (other alcohol-induced mental disorders) too broad for inclusion.</i> |

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|--|---|--|
|  | F10.15 (alcohol abuse with alcohol-induced psychotic disorder...) |  |
|  | - F10.150 (with delusions)  | <i>Translated code 291.5 (alcohol-induced psychotic disorders with delusions) too broad for inclusion.</i> |
|  | - F10.151 (with hallucinations)                                   |  |
|  | - F10.159 (unspecified)   |  |
|  | F10.18 (alcohol abuse with other alcohol-induced disorders...)    | <i>Translated code 291.89 (other alcohol-induced mental disorders) too broad for inclusion.</i>            |
|  | - F10.180 (with alcohol-induced anxiety disorder)                 |  |
|  | - F10.181 (with alcohol-induced sexual dysfunction)               |  |
|  | - F10.182 (with alcohol-induced sleep disorder)                   |  |
|  | - F10.188 (with other alcohol-induced disorder)                   |  |
|  | F10.19 (alcohol abuse with unspecified alcohol-induced disorder)  | <i>Translated code 291.9 (unspecified alcohol-induced mental disorders) too broad for inclusion.</i>       |

| <b>Condition</b>          | <b>ICD-10-CM Codes</b>                           | <b>ICD-9-CM Codes</b>   |
|---------------------------|--|---|
| Alcohol Dependence        | <i>F10.2 (alcohol dependence...)</i>             | <i>303.9 (other and unspecified alcohol dependence...)</i>  |
|                           | F10.20 (uncomplicated)                           | - 303.90 (unspecified)<br>- 303.91 (continuous)<br>- 303.92 (episodic)                            |
|                           | F10.21 (in remission)                            | - 303.93 (in remission)   |
|                           | F10.22 (alcohol dependence with intoxication...) | 303.0 (acute alcoholic intoxication in alcoholism...)   |
|                           | - F10.220 (uncomplicated)                        | - 303.00 (unspecified)<br>- 303.01 (continuous)<br>- 303.02 (episodic)<br>- 303.03 (in remission) |
|                           | - F10.221 (with delirium)                        | 291.0 (alcohol withdrawal delirium)   |
|                           | - F10.229 (unspecified)                          | 303.00-303.03 (above)   |
|                           | F10.23 (alcohol dependence with withdrawal...)   | 291.81 (alcohol withdrawal)   |
| - F10.230 (uncomplicated) | <i>(continued on next page)</i>                  |   |



|   |   |
|---|---|
| - F10.231 (with delirium)   | 291.0 (above)   |
| - F10.232 (with perceptual disturbance)   | 291.81 (above)  |
| - F10.239 (unspecified)   |   |
| F10.24 (alcohol dependence with withdrawal with alcohol-induced mood disorder)                              | <i>Translated code 291.89 (other alcohol-induced mental disorders) too broad for inclusion.</i>                     |
| F10.25 (alcohol dependence with alcohol-induced psychotic disorder...)                                      | <i>Translated code 291.5 (alcohol-induced psychotic disorder with delusions) too broad for inclusion.</i>           |
| - F10.250 (with delusions)  |   |
| - F10.251 (with hallucinations)   |   |
| - F10.259 (unspecified)   |   |
| F10.26 (alcohol dependence with alcohol-induced persisting amnestic disorder)                               | <i>Translated code 291.1 (alcohol-induced persisting amnestic disorder with delusions) too broad for inclusion.</i> |
| F10.27 (alcohol dependence with alcohol-induced persisting dementia)  | <i>Translated code 291.2 (alcohol-induced persisting dementia) too broad for inclusion.</i>                         |
| F10.28 (alcohol dependence with other alcohol-induced disorders...)   | <i>Translated code 291.89 (other alcohol-induced mental disorders) too broad for inclusion.</i>                     |
| - F10.280 (with alcohol-induced anxiety disorders)  |   |
| - F10.281 (with other alcohol-induced sexual dysfunction)   |   |
| - F10.282 (with other alcohol-induced sleep disorder)   | <i>Translated code 291.82 (alcohol induced sleep disorders) too broad for inclusion.</i>                            |
| - F10.288 (with other alcohol-induced disorder)   | <i>Translated code 291.89 (other alcohol-induced mental disorders) too broad for inclusion.</i>                     |
| F10.29 (alcohol dependence with other alcohol-induced disorders; with unspecified alcohol-induced disorder) | <i>Translated code 291.9 (unspecified alcohol-induced mental disorders) too broad for inclusion.</i>                |

### **Development and Revisions**

- In October of 2014 the case definition was updated to include ICD10 codes.
- This case definition was developed in November of 2010 by the Armed Forces Health Surveillance Center (AFHSC) *Medical Surveillance Monthly Report (MSMR)* staff for an article on mental disorders and mental health problems among active duty Service members.<sup>1</sup> 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*

- To increase the specificity of the case definition for outpatient encounters, two such encounters with a case defining diagnoses are required. The period of 180 days was established to allow for



the likelihood that “true” cases of an alcohol use disorders would have a second encounter within that interval.

- The requirement of two outpatient medical encounters to identify a case may underestimate the incidence and prevalence of alcohol abuse and dependence because, in the Armed Forces, some affected individuals may purposefully avoid seeking care for their disorders. As such, estimates of incidence derived from health care encounters will not capture all cases.
- For the purposes of counting new incident cases, AFHSD 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:*

- In February 2022, new IC10 codes F10.13[0,1,2,9] (alcohol abuse with withdrawal...) were added to the code set. F10.11 (alcohol abuse, in remission) was also added. The code was inadvertently omitted in previous versions of the code set.
- The code set and groupings of mental health disorder-specific diagnoses used in this case definition are based on code sets developed by Garvey *et al.*<sup>3</sup> and Seal *et al.*<sup>4</sup> The final code set was selected after a review of the scientific literature and of the relevant codes in the International Classification of Diseases, 9<sup>th</sup> and 10<sup>th</sup> Revisions.
- This case definition groups abuse and dependence together for the purposes of the analyses and reports dealing with all mental health disorders. For other analyses focusing on abuse or dependence individually, or on a specific substance, investigators may wish to consider a more sensitive case definition.

## Reports

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The AFHSD reports on alcohol related disorders in the following reports:

- Periodic *MSMR* articles
- Annually: *MSMR* article on the “Absolute and relative morbidity burdens attributable to various illnesses and injuries U.S. Armed Forces” (see *Comments* section below).
- Quarterly: AFHSD Mental Health Report for the Department of Defense (Office of the Assistant Secretary of Defense for Health Affairs);<sup>5</sup> this report describes the incidence rates of, and proportions of the population affected by, major depression, bipolar disorder, alcohol dependence, substance dependence and post-traumatic stress disorder. The case definition and code sets used for this report differ slightly from the case definition for alcohol related disorders documented here.

<sup>3</sup> Garvey Wilson A, Messer S, Hoge C. U.S. military mental health care utilization and attrition prior to the wars in Iraq and Afghanistan. *Soc Psychiatry Psychiatr Epidemiol.* 2009; 44 (6):473-481.

<sup>4</sup> Seal KH, Bertenthal D, Miner CR, Sen S, Marmar C. Bringing the War Back Home: Mental Health Disorders Among 103 788 US Veterans Returning from Iraq and Afghanistan Seen at Department of Veterans Affairs Facilities. *Arch Intern Med.* March 12, 2007; 167 (5):476-482.

<sup>5</sup> Armed Forces Health Surveillance Center. Selected mental health disorders among active component members, U.S. Armed Forces, 2007-2010. *Medical Surveillance Monthly Report (MSMR).* 2010 November; 17(11): 2-5.



## Review

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| Feb 2022 | Case definition reviewed and updated by the AFHSD Surveillance Methods and Standards (SMS) working group.      |
| Mar 2019 | Case definition reviewed and updated by the Armed Forces Health Surveillance Branch (AFHSB) SMS working group. |
| Oct 2014 | Case definition reviewed and updated by the AFHSC SMS working group.   |
| Jul 2012 | Case definition reviewed and adopted by the AFHSC SMS working group.   |
| Nov 2010 | Case definition developed by the AFHSC <i>MSMR</i> staff.  |

## Comments

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### *Burden of Disease Reports:*

The AFHSD articles and reports on the “burden” of illness and injury in the U.S. Armed Forces group all illness and injury-specific diagnoses, defined by ICD9 and ICD10 codes, into 142 burden of disease-related conditions and 25 categories based on a modified version of the classification system developed for the Global Burden of Disease (GBD) Study.<sup>6</sup> In general, the GBD system groups diagnoses with common pathophysiologic or etiologic bases and/or significant international health policymaking importance.

The AFHSD disaggregates some diagnoses that are grouped into single categories in the GBD system (e.g., mental disorders) to increase the military relevance of the results. The category of mental health disorders is separated into the following sub-categories of “disorders”: anxiety, substance abuse, adjustment, mood, tobacco dependence, psychotic, personality, somatoform, and all other mental disorders.<sup>7</sup>

Because reports on disease burden are based on the total numbers of medical encounters for specific conditions, a slightly different case definition is used for burden analyses. The case definition requires capturing only the diagnosis in the primary (first) diagnostic position of each record of an inpatient or outpatient medical encounter. Each individual is allowed only one medical encounter per condition per day, and inpatient encounters are prioritized over outpatient encounters on the same day. Case defining codes are any ICD9 codes between 001 and 999, any ICD10 codes between A00 and T88, ICD10 codes beginning with Z37 (outcome of delivery), and DoD unique personal history codes DoD 0101-0105.

### *Comprehensive AFHSD Mental Health Reports:*

For analyses and reports requiring data on *all* mental disorders, AFHSD includes *all* mental health diagnoses that fall within the range of ICD9 codes 290-319 / ICD10 codes F01-F99 (mental disorders) in the first or second diagnostic position. The following diagnoses are excluded from the analysis.

- ICD9 310.2 / ICD10 F07.81 (post-concussion syndrome)
- ICD9 305.1 / ICD10 F17\* (tobacco use disorder / nicotine dependence) is not included as tobacco-cessation efforts are widespread within primary care clinics in the military and this diagnosis is not treated as a mental health disorder.
- ICD9 317\*-319\* / ICD10 F70-F79 (mental retardation)
- ICD9 315\* / ICD10 F80\*-F82\*, F88-F89 (specific delays in development)

<sup>6</sup> The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Murray, CJ and Lopez, AD, eds. Harvard School of Public Health (on behalf of the World Health Organization and The World Bank), 1996:120-2.

<sup>7</sup> Armed Forces Health Surveillance Division. Absolute and relative morbidity burdens attributable to various illnesses and injuries, active component, *Medical Surveillance Monthly Report (MSMR)*. May 2021; Vol. 28 (5): 2-9.



- ICD9 299\*/ ICD10 F84\* (pervasive developmental disorders)
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*Other AFHSD Alcohol Use Related Case Definitions:*

- 1) Alcohol-related Diagnoses, Active Component, U.S. Armed Forces, 2001-2010. *Medical Surveillance Monthly Report (MSMR)*. 2011 October; Vol. 18(10): 9-13.

This report describes trends and demographic characteristics of *acute, chronic, and recurrent alcohol-related diagnoses* among active component members of the U.S. Armed Forces. The case definition includes the following case defining criteria and ICD9 code set.

- *One hospitalization or outpatient medical encounter* with a case defining diagnosis of an alcohol-related diagnosis in *any* diagnostic position.
- *A recurrent case* is defined as an individual with *three or more* acute encounters separated by *at least 30 days* but occurring within 1 year of the first of the three diagnoses.

The code set includes the following ICD9 codes:

- *Acute case*: 305.0x (alcohol abuse), 980.x (toxic effect of alcohol), 790.3 (excessive blood level of alcohol), and E860.x (accidental poisoning by alcohol, not elsewhere classified)
  - *Chronic case*: 303.0x (acute intoxication in presence of alcohol dependence), 291.x (alcohol-induced mental disorders), 303.9x (other and unspecified alcohol dependence, includes chronic alcoholism), 571.0-571.3 (alcoholic liver disease), 425.5 (alcoholic cardiomyopathy), 535.3x (alcoholic gastritis), 357.5 (alcoholic polyneuropathy), and V11.3 (personal history of alcoholism).
- 2) Surveillance Snapshot: Recurrent medical encounters associated with alcohol-abuse-related diagnostic codes, active component, U.S. Armed Forces, 2001-2010. *Medical Surveillance Monthly Report (MSMR)*. 2012 February; Vol. 19 (2): 23.

To distinguish treatment and counseling-related medical encounters for alcohol abuse from true recurrent cases, this surveillance snapshot excluded individuals with four or more medical encounters with a diagnosis of alcohol abuse within a 42-day period, assuming these cases were “likely treatment-related,” (i.e., associated with rehabilitation programs), and not true recurrent case.

