VARICELLA (CHICKENPOX)

Includes confirmed and possible cases; Does not include recurrent varicella infection (herpes zoster).

Background

This case definition was developed by the Armed Forces Health Surveillance Division (AFHSD) for the purpose of epidemiological surveillance of primary varicella infection.

Clinical Description

Varicella, commonly known as chickenpox, is an acute and highly contagious disease caused by the varicella-zoster virus (VZV). While the primary infection manifests as chickenpox, VZV remains latent in the cranial nerves or the dorsal root ganglia and may reactivate years later as herpes zoster, or shingles. The virus is transmitted through the inhalation of aerosolized droplets from the respiratory tract or through direct contact with the infectious fluid of skin lesions. Clinically, the disease presents with fever, malaise, and a distinctive pruritic rash characterized by small fluid-filled vesicles on an erythematous base. While the disease is typically self-limiting in healthy children, adults are at a significantly higher risk for severe disease, including pulmonary and neurological complications. Recovery from primary infection generally confers lifelong immunity. Receipt of the varicella vaccine is preventative and is required for entry into military service.[1]

Case Definition and Incidence Rules *(October 2017 - present)*

For surveillance purposes, a *confirmed* case of varicella is defined as:

- One record of a reportable medical event (RME) *with* laboratory or epidemiological confirmation.

For surveillance purposes, a *possible* case of varicella is defined as:

- One record of a RME of varicella *without* laboratory or epidemiological confirmation; or
- *One hospitalization or outpatient medical encounter* with a case defining diagnosis of a *possible* case of varicella (see ICD9 and ICD10 code lists below) in the *first* diagnostic position.

Incidence rules:

- For individuals who meet the case definition:
- The incidence date is considered the date of onset documented in a RME report, or the first hospitalization or outpatient medical encounter that includes a case defining diagnosis of varicella.

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[1] Clinical Overview of Chickenpox (Varicella). Centers for Disease Control and Prevention (CDC), July 2024. Available at: https://www.cdc.gov/chickenpox/hcp/clinical-overview/index.html. Accessed June 2026.

Case Definition and Incidence Rules *(continued)*

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

Exclusions: *(applies to possible cases of varicella only):*

- Cases with *one* medical encounter with evidence of varicella immunization *within 7 days* before or after the case defining encounter; indicated by the following vaccine administered (CVX) codes: 21 (varicella virus vaccine), 36 (varicella zoster immune globulin/VSIG), 94 (measles, mumps, rubella, and varicella [MMRV]), 117 (varicella zoster immune globulin [VZIG]/investigative new drug [IND])
- Individuals with evidence of a positive test for serologic immunity to VSV *within 7 days* before or after the case defining encounter.
- Cases with *one* Current Procedure Code (CPT) or *one* ICD10/9 procedure code indicating varicella vaccination or antibody testing recorded during the *same* medical encounter; as indicated by the following codes.
- In ICD10 use Z23 (encounter for immunization) plus a procedure code for type of immunization.

- ICD9: Need for prophylactic vaccination and inoculation against… V04.8 (other viral disease), V04.89 (other viral diseases), V05.4 (varicella), V05.8 (other specified disease), V05.9 (unspecified single disease).
- CPT: 90716 (varicella vaccine), 90710 (MMRV vaccine), 96372 (therapeutic, prophylactic, or diagnostic injections, SQ or IM), 90772 (therapeutic, prophylactic, or diagnostic injections, SQ or IM).

Codes

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

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Varicella *(Possible case)*	*B01 (varicella chickenpox)*	*052 (chickenpox)*
	B01.0 (varicella meningitis)	052.7 (chickenpox with other specified conditions)
	B01.1 (varicella encephalitis, myelitis and encephalomyelitis)	--
	- B01.11 (varicella encephalitis and encephalomyelitis)	052.0 (post varicella encephalitis)
	- B01.12 (varicella myelitis)	052.2 (post varicella myelitis)

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	B01.2 (varicella pneumonia)	052.1 (varicella [hemorrhagic] pneumonitis)
	B01.8 (varicella with other complications)	--
	- B01.81 (varicella keratitis)	052.7 (above)
	- B01.89 (other varicella complications)	052.8 (chickenpox with unspecified complication)
	B01.9 (varicella without complication)	052.9 (chickenpox without mention of complication)

Development and Revisions

- The original case definition was developed in October 2017 by the *Medical Surveillance Monthly Report (MSMR)* staff for use in a *MSMR* article on measles, mumps, rubella, and varicella.[2] The case definition was developed based on reviews of the ICD9 and ICD10 codes, the scientific literature, and previous AFHSD analyses.

Case Definition and Incidence Rule Rationale

- The AFHSD methodology attempts to capture both "confirmed" and "possible" cases of varicella, while recognizing that data regarding "possible" cases lacks specificity and must be interpreted with caution. During case definition development, a review of cases with an initial primary diagnosis of varicella revealed that many were misdiagnoses, tentative "rule out" diagnoses, or miscoded encounters for vaccination or laboratory testing. To optimize specificity and focus on verifiable infections, AFHSD limits possible cases to individuals with varicella listed in the *first* diagnostic position, accompanied by *at least one* associated mumps symptom in any other diagnostic position.

- An RME with a diagnosis of varicella classified as "probable" or "suspected" and never updated to "confirmed" is treated as a "possible" case. Thus, "possible" cases may include true varicella cases without follow-up RMEs confirming the diagnosis, as well as cases documented during inpatient or outpatient medical encounters for which no RMEs was transmitted by local military public health officials.

- The vaccine exclusions used for the case definition apply only to "possible" cases of varicella. The list of vaccine exclusions includes vaccination codes specific for, and related to, VZV vaccination. Related vaccinations given during the same medical encounter as the varicella diagnosis would cast doubt on the accuracy of the diagnosis.

Code Set Determination and Rationale

- None

Reports

The AFHSD reports on varicella in the following reports:

- Periodic *MSMR* articles.

[2] Armed Forces Health Surveillance Branch. Measles, Mumps, Rubella, and Varicella Among Service Members and Other Beneficiaries of the Military Health System, 2010-2016. *MSMR.* 2017; 24(10): 2-10.

- The Defense Centers for Public Health-Aberdeen (DCPH-A) publishes a monthly RME Report which can be obtained by sending an email to: dha.apg.Pub-Health-A.mbx.disease-epidemiologyprogram13@health.mil. A link to this email is also available on the Defense Health Agency (DHA) website; https://www.health.mil/Military-Health-Topics/Health-Readiness/Public-Health/AFHSD/Reports-and-Publications/Armed-Forces-Reportable-Medical-Events. Accessed May 2026.

Review

May 2026	Case definition updated by the AFHSD Surveillance Methods and Standards (SMS) working group.
Jan 2018	Case definition reviewed and adopted by the Armed Forces Health Surveillance Branch (AFHSB) SMS working group.
Oct 2017	Case definition developed by AFHSB MSMR staff.

Comments

- Varicella (chicken pox) is a reportable medical event in the *Armed Forces Reportable Medical Events* surveillance system, listed under "Vaccine Preventable Diseases."