

Diseases and special health issues under EU surveillance

- **Diseases preventable by vaccination**
- **Sexually transmitted diseases**
- **Viral hepatitis**
- **Food- and waterborne diseases and diseases of environmental origin**
- **Diseases transmitted by non-conventional agents (prions)**
- **Airborne diseases**
- **Zoonoses (other than those listed above)**
- **Serious imported diseases**
- **Vector-borne diseases**
- **Special health issues (HAI, antibiotic resistance)**

Diseases preventable by vaccination

- [Diphtheria](#)
- [Infections with *haemophilus influenzae* group B](#)
- [Influenza – including influenza A\(H1N1\)](#)
- [Measles](#)
- [Mumps](#)
- [Pertussis](#)
- [Poliomyelitis](#)
- [Rubella](#)
- [Smallpox](#)
- [Tetanus](#)

Sexually transmitted diseases

- [Chlamydia infections](#)
 - [Gonococcal infections](#)
 - [HIV infection](#)
 - [Syphilis](#)
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Viral hepatitis

- [Hepatitis A](#)
- [Hepatitis B](#)
- [Hepatitis C](#)

Airborne diseases

- Legionnaires' disease
- Invasive meningococcal disease
- Invasive pneumococcal disease
- Tuberculosis
- Severe Acute Respiratory Syndrome (SARS)

Zoonoses (other than those listed above)

- [Avian influenza in humans](#)
- [Brucellosis](#)
- [Echinococcosis](#)
- [Q fever](#)
- [Rabies](#)
- [Tularaemia](#)
- [West Nile virus infection](#)

Serious imported diseases

- [Cholera](#)
 - [Malaria](#)
 - [Plague](#)
 - [Viral haemorrhagic fevers](#)
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Diseases transmitted by non-conventional agents

- [Transmissible spongiform encephalopathies](#)
- [Variant Creutzfeldt–Jakob's disease](#)

Food- and waterborne diseases and diseases of environmental origin

- [Anthrax](#)
- [Botulism](#)
- [Campylobacteriosis](#)
- [Cryptosporidiosis](#)
- [Giardiasis](#)
- [Infection with enterohaemorrhagic *E. coli*](#)
- [Leptospirosis](#)
- [Listeriosis](#)
- [Salmonellosis](#)
- [Shigellosis](#)
- [Toxoplasmosis](#)
- [Trichinosis](#)
- [Yersiniosis](#)

Vector-borne diseases

- [Tick-borne encephalitis](#)
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Special health issues

- [Nosocomial infections](#)
- [Antimicrobial resistance](#)
- [Antimicrobial consumption](#)

EU definitions - case definitions for reporting communicable diseases

EXPLANATION OF THE SECTIONS USED IN THE DEFINITION AND CLASSIFICATION OF CASES:

A) Clinical criteria

Clinical criteria include common and relevant signs and symptoms of the disease which either individually or in combination constitutes a clear or indicative clinical picture of the disease. They give the general outline of the disease and do not necessarily indicate all the features needed for individual clinical diagnosis.

B) Laboratory criteria

Laboratory criteria are a list of laboratory methods that are used to confirm a case. Usually only one of the listed tests will be enough to confirm the case. If a combination of methods is needed to meet the laboratory confirmation, this is specified. The type of specimen to be collected for the laboratory tests is only specified when only certain specimen types are considered relevant for the confirmation of a diagnosis. Laboratory criteria for a probable case are included for some agreed exceptional cases. Those laboratory criteria consist of a list of laboratory methods which can be used to support the diagnosis of a case but which are not confirmatory.

EU definitions - case definitions for reporting communicable diseases

C) Epidemiological criteria and epidemiological link

Epidemiological criteria are deemed to have been met when an epidemiological link can be established.

Epidemiological link, during the incubation period, means one of the following six:

- Human to human transmission: the fact that a person has had contact with a laboratory confirmed human case in such a way as to have had the opportunity to acquire the infection
- Animal to human transmission: the fact that a person has had contact with an animal with a laboratory confirmed infection/colonisation in such a way as to have had the opportunity to acquire the infection
- Exposure to a common source: the fact that a person has been exposed to the same common source or vehicle of infection, as a confirmed human case
- Exposure to contaminated food/drinking water: the fact that a person has consumed food or drinking water with a laboratory confirmed contamination or has consumed potentially contaminated products from an animal with a laboratory confirmed infection/colonisation
- Environmental exposure: the fact that a person has bathed in water or has had contact with a contaminated environmental source that has been laboratory confirmed
- Laboratory exposure: the fact that a person has worked in a laboratory where there is a potential for exposure

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Transmission may occur by one or more of the following routes:

- **Airborne**: by projection of aerosol from an infected person onto the mucous membranes while coughing, spitting, singing or talking, or when microbial aerosols dispersed into the atmosphere are inhaled by others
- **Contact**: direct contact with an infected person (faecal-oral, respiratory droplets, skin or sexual exposure) or animal (e.g. biting, touching) or
indirect contact to infected materials or objects (infected fomites, body fluids, blood)
- **Vertical**: from mother to child, often in utero, or as a result of the incidental exchange of body fluids usually during the perinatal period
- **Vector transmission**: indirect transmission by infected mosquitoes, mites, flies and other insects which transmit disease to humans through their bites
- **Food or water**: consumption of potentially contaminated food or drinking water.

EU definitions - case definitions for reporting communicable diseases

Case classification Cases are classified as 'possible', 'probable' and 'confirmed'.

The incubation periods for diseases are given in the additional information to facilitate the assessment of the epidemiological link.

Possible case

A possible case means a case classified as possible for reporting purposes. It is usually a case meeting the clinical criteria as described in the case definition without epidemiological or laboratory evidence of the disease in question. The definition of a case as possible has high sensitivity and low specificity. It allows for detection of most cases but some false positives cases will be included into this category.

Probable case

A probable case means a case classified as probable for reporting purposes. It is usually a case with clinical criteria and an epidemiological link as described in the case definition. Laboratory tests for probable cases are specified only for some diseases.

EU definitions - case definitions for reporting communicable diseases

Confirmed case

A confirmed case means a case classified as confirmed for reporting purposes.

Confirmed cases fall in one of the three subcategories listed below.

They will be assigned to one of those subcategories during the analysis of data using the variables collected within the context of the case information.

Laboratory-confirmed case with clinical criteria The case meets the laboratory criteria for case confirmation and the clinical criteria included in the case definition.

Laboratory-confirmed case with unknown clinical criteria The case meets the laboratory criteria for case confirmation but there is no information available regarding the clinical criteria (e.g. only laboratory report).

Laboratory-confirmed case without clinical criteria The case meets the laboratory criteria for case confirmation but doesn't meet the clinical criteria in the case definition or is asymptomatic.

Annual Epidemiological Report - European Union (EU) and European Economic Area (EEA) surveillance 2014.

Among the notifiable diseases under comprehensive case-based surveillance, the most commonly reported in 2014 were, in descending order:

- chlamydia infection,
- campylobacteriosis,
- salmonellosis,
- gonorrhoea and
- tuberculosis.

These diseases accounted for just over 850 000 cases, 75% of the 1.1 million reported cases of notifiable infectious diseases in the EU/EEA in 2014. The highest numbers of deaths were reported for tuberculosis (n=4 279) and HIV/AIDS (n=1 131), followed by invasive pneumococcal disease (n=713), Legionnaires' disease (n=456) and listeriosis (n=210). As high as these morbidity and mortality figures may seem, they are put into perspective by EU/EEA excess all-cause mortality estimates of over 200 000 deaths in people 65 years of age and older during the 2014–15 influenza season, which was dominated by subtype A(H3N2) and aggravated by a poorly effective seasonal vaccine.

ECDC Annual Epidemiological Report.

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Food- and waterborne diseases

Of the seven priority food- and waterborne diseases under enhanced EU/EEA surveillance, **campylobacteriosis** and **yersiniosis** showed no clear trend in notification rate between 2010 and 2014.

Two of the potentially more severe diseases, **listeriosis** and **Shiga-toxin-producing *Escherichia coli* (STEC) infection**, saw an increasing trend in notifications. EU/EEA surveillance of listeriosis is known to be biased towards severe cases, which are especially common among the elderly. The increase observed may thus partly reflect the ageing population in many Member States. STEC surveillance is likely to have benefitted from improved clinical and laboratory awareness following the large outbreak in 2011 (which mainly involved German cases) and from the increasing use of diagnostics based on polymerase chain reaction.

The remaining three food- and waterborne diseases under enhanced EU/EEA surveillance (**non-typhoidal salmonellosis**, **typhoid and paratyphoid fever**, and **shigellosis**) showed decreasing trends, most likely attributable to the implementation of *Salmonella* control programmes in the poultry industry, improved personal hygiene and – for typhoid and paratyphoid fever and shigellosis – changing travel patterns.

Food- and waterborne diseases

- A large **hepatitis A outbreak** associated with the consumption of mixed frozen berries, involving cases in several EU/EEA countries and first detected in 2013, lasted well into 2014.
- Finally, **Legionnaires' disease** continued its increasing trend observed since 2011 and, in 2014, reached the highest rate hitherto recorded, which was partly explained by a large community outbreak near Lisbon.

Sexually transmitted diseases

The notification rates for **chlamydia infection** appear to be stable, but are known to reflect testing practices rather than the epidemiology of the disease.

The rates for **gonorrhoea**, **syphilis** and **lymphogranuloma venereum** all showed increasing trends between 2010 and 2014, largely driven by infections among men who have sex with men (MSM).

The overall **HIV** notification rate has been stable since 2005. However, during the same period, the number and proportion of MSM among newly diagnosed HIV cases has increased markedly, as opposed to all other at-risk subpopulations, which showed a decrease in the percentage of cases.

Hepatitis B and **hepatitis C** notifications remain challenging to interpret. Both rates seem to increase, but the vast majority of cases are known (hepatitis B) or suspected (hepatitis C) to be newly diagnosed chronic cases. It is therefore unclear to what extent this is a consequence of increased testing in the few countries reporting the most cases. The most common route of transmission reported for acute cases of hepatitis B in 2014 was heterosexual contact; for hepatitis C it was injecting drug use.

For both infections, the second most commonly reported route of transmission for acute cases was **nosocomial**. !!!!! Five countries accounted for the overwhelming majority of nosocomially infected cases, which may be partly due to the high prevalence of hepatitis B and C in the general population and suboptimal hospital infection control in these five countries, but may also result from underreporting of nosocomial transmission in some of the other countries.

The declining long-term trend in acute cases of hepatitis B is likely to be attributable to universal childhood vaccination in most Member States.

Tuberculosis

Although still substantial, tuberculosis morbidity and mortality in the EU/EEA has been steadily decreasing for many years and continued to do so in 2014.

Multidrug resistance remained stable at 4% of the mycobacterial isolates tested.

Vaccine-preventable diseases

- **Pertussis** and **invasive pneumococcal disease** accounted for over 50% of all notified cases of vaccine-preventable diseases (VPD) and over 60% of VPD-related deaths in 2014, not counting influenza.

The notification rate of pertussis has increased in recent years despite sustained high vaccination coverage, most likely a result of improved awareness by clinicians, better diagnostics, waning immunity, and changes in circulating strains.

Invasive pneumococcal disease has shown a decreasing trend, but there is a growing proportion of cases caused by serotypes that are not included in the currently licensed conjugate vaccines.

- Compared with previous years, **the number of measles cases** reported in the EU/EEA in 2014 was low. This must be largely due to the reduced number of susceptible individuals after several large outbreaks, as vaccination coverage for the second dose of measles vaccine in 20 Member States was below the 95% minimum coverage threshold recommended by WHO.

Emerging and vector-borne diseases

- The year 2014 marked the first documented **outbreak of Ebola virus disease** in West Africa and the largest epidemic of its kind ever, with close to 30 000 notified cases and over 11 000 deaths, including many **occupational deaths in healthcare workers.!!!** Despite the unprecedented size of this outbreak in Africa, only eight cases of Ebola disease were notified in the EU/EEA in 2014.
- Most emerging and vector-borne diseases under surveillance remained at a low level in 2014 but cases of **chikungunya fever** increased 20 times (compared with 2013 levels) to over 1 400 cases. The majority of cases were related to travel to the Caribbean and the Americas, where a large outbreak was ongoing at that time.
- Eleven autochthonous cases of chikungunya fever notified in southern France serve as a reminder that, with a competent vector present in parts of Europe, it may only take one imported case to trigger a chain of local transmission.

Healthcare-associated infections

- Just as previous years, 2014 was characterised by frequent reports of **surgical site infections** and **healthcare-associated infections in patients admitted to an intensive care unit (ICU) for more than two days**.

These notifications, however, are only one part of the picture because about half of the Member States did not participate in these two EU/EEA surveillance schemes, and even among participating hospitals, reputational concerns may have posed an inherent disincentive to comprehensively report all cases.

- The majority of cases in ICUs were reported as **pneumonia due to intubation**. Device-adjusted infection rates of **ICU-acquired pneumonia, bloodstream** and **urinary tract infections** remained stable compared with 2012.

The most commonly reported **surgical site infections** were those following **colon surgery**, but their in-hospital incidence density showed a decreasing trend between 2011 and 2014. Surgical site infections following **coronary artery bypass grafts** and **knee replacements** also declined whereas the cumulative incidence of infections following **cholecystectomy** increased.

Antimicrobial resistance

Earlier trends in antimicrobial resistance in common bacteria that cause invasive infections continued in 2014.

- This meant a further decrease of **meticillin-resistant *Staphylococcus aureus***, but also increasing trends of resistance in **gram-negative bacteria**, including **multidrug resistance** and **resistance to last-line drugs like carbapenems** and, in certain parts of Europe, **polymyxins**.

Pre-existing geographic trends also persisted in 2014, with lower resistance percentages generally reported by countries in the north and higher resistance percentages in the south and east of Europe.

This is most likely related to differences in antimicrobial use, infection control and healthcare utilisation practices.