

## Rabies

Reporting on 2014 data retrieved from TESSy\* on 19 November 2015

Suggested citation: European Centre for Disease Prevention and Control. Annual Epidemiological Report 2016 – Rabies. [Internet]. Stockholm: ECDC; 2016 [cited YYYY Month DD]. Available from: <http://ecdc.europa.eu/en/healthtopics/rabies/Pages/Annual-epidemiological-report-2016.aspx>

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### Key facts

- Three imported cases of rabies were reported in 2014.
- Every year, a small number of human cases is reported in Europe, either travel related or autochthonous.

### Methods

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- Thirty EU/EEA countries reported data in TESSy in 2014.
- Twenty-four countries use the EU case definition. An alternative case definition was used by Denmark, Germany and Italy. Belgium, Finland and France did not specify their case definitions.
- Reporting is compulsory in 28 countries (not in Belgium and the United Kingdom). Surveillance is comprehensive in all reporting countries and passive in 27 countries except the Czech Republic, Slovakia and United Kingdom. Reporting is case based in 29 countries (except in Bulgaria) and conducted at the national level. Cases are mostly reported by physicians (27 countries) (Annex).

### Epidemiology

Very few cases of rabies in humans are reported in the EU, and most EU Member States have not had autochthonous cases for decades. In 2011 and 2013 only one human case of rabies was reported in Europe. In 2012, two human cases were reported among European citizens. In 2014, three cases of rabies in people who travelled to a non-EU/EEA country endemic for rabies were reported: a 46-year-old woman from Spain bitten by a dog in Morocco, a 57-year-old man from France infected by a canine strain of rabies virus in Mali (Africa), and a 35-year-old Dutch woman bitten by a dog in India [1]. The case in France resulted in 158 healthcare workers potentially exposed to rabies. In 2013, one travel-associated case of rabies was reported from the Netherlands. The patient was a 51-year-old man, exposed to an unknown source in Haiti.

### Discussion

Every year, human rabies claims more than 50 000 lives worldwide. It is a rare and vaccine-preventable zoonosis in Europe, but the disease is invariably fatal in infected humans once the first clinical symptoms have appeared.

Rabies is a neurological disease caused by a virus of the genus *Lyssavirus*, *Rhabdoviridae* family. The virus can infect all warm-blooded animals and is transmitted through contact with saliva from infected animals via bites, in Europe typically from foxes and stray dogs but also raccoon dogs for example. Bats are also carriers of other rhabdoviruses such as EBLV-1 (European Bat *Lyssavirus*) or EBLV-2, and can transmit rabies to other mammals including humans.

In many places in Asia and Africa, stray dogs are a main source of infections for humans. People visiting these areas should be aware of this. Illegal importation of animals is a risk for rabies. Illegally imported dogs infected with rabies virus were reported in France (2012 and 2015), Spain (2013) and the Netherlands (2013) [2] [3]. The re-emergence of rabies in northern Italy in 2008–2011 and in Greece in 2012–2013 shows the importance of maintaining high awareness levels [4]. Data on rabies surveillance in animals in Europe are available online from the WHO Collaboration Centre for Rabies Surveillance and Research [5] and from the joint ECDC/EFSa report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks [6].

### Public health conclusions

It remains important to inform the public about the risk of contracting rabies if bitten by animals (especially dogs) while travelling to rabies-endemic countries or in Member States which have not eradicated the disease in their animal population [7]. Preventive measures include vaccination of domestic carnivores and oral vaccination of wildlife.

Timely prophylaxis in case of exposure to a potentially infected animal is of utmost importance, and knowledge of the epidemiological situation is vital to make decisions with regard to appropriate post-exposure measures [8]. Treatment consists of local wound care, vaccination and, if indicated, passive immunisation with immunoglobulin. To be effective, treatment has to occur as soon as possible after exposure. Every year, more than 15 million people worldwide receive a post-bite vaccination to prevent the disease. This is estimated to prevent hundreds of thousands of rabies deaths annually.

### References

1. Contou D, Dacheux L, Bendib I, Jolivet S, Rodriguez C, Tomberli F, et al. Severe ketoalkalosis as initial presentation of imported human rabies in France. *J Clin Microbiol.* 2015 Jun;53(6):1979-82.
2. Rabies confirmed in an illegally imported dog in France. *Vet Rec.* 2015 May 30;176(22):558.
3. Netherlands rabies cases a 'wake-up call', says BVA. *Vet Rec.* 2013 Nov 2;173(17):407.
4. Tsiodras S, Dougas G, Baka A, Billinis C, Doudounakis S, Balaska A, et al. Re-emergence of animal rabies in northern Greece and subsequent human exposure, October 2012–March 2013. *Euro Surveill.* 2013;18(18):20474.
5. World Health Organization. Rabies surveillance. Available from: <http://www.who-rabies-bulletin.org/Queries/Surveillance.aspx>
6. EFSa (European Food Safety Authority), ECDC. The European Union summary report on trends and sources of zoonoses, zoonotic agents and foodborne outbreaks in 2014. *EFSa Journal* 2015;13(12):4329. doi:10.2903/j.efsa.2015.4329. Available from: <http://ecdc.europa.eu/en/publications/Publications/zoonoses-trends-sources-EU-summary-report-2014.pdf>
7. Cliquet F, Picard-Meyer E, Robardet E. Rabies in Europe: what are the risks? Expert review of anti-infective therapy. *Expert Rev Anti Infect Ther.* 2014 Aug;12(8):905-8.
8. World Health Organization. Prevention of rabies in humans. Available from: [http://www.who-rabies-bulletin.org/About\\_Rabies/Prevention\\_Humans.aspx](http://www.who-rabies-bulletin.org/About_Rabies/Prevention_Humans.aspx)

### Additional information

[ECDC Surveillance Atlas of Infectious Diseases](#)

World Health Organization. Global distribution of risk to humans of contracting rabies. Geneva: World Health Organization, 2013.

[http://www.who.int/rabies/Global\\_distribution\\_risk\\_humans\\_contracting\\_rabies\\_2013.png](http://www.who.int/rabies/Global_distribution_risk_humans_contracting_rabies_2013.png)

### Annex

Table. Rabies, surveillance systems overview, 2014

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\* The European Surveillance System (TESSy) is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.