



Public Health
England

Protecting and improving the nation's health

Norovirus data 2010 to 2015 December 2016

National laboratory data for residents of England and Wales

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: [@PHE_uk](https://twitter.com/PHE_uk)
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Gastrointestinal Infections Department
For queries relating to this document, please contact: EEDD@phe.gov.uk

© Crown copyright 2017

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](https://www.nationalarchives.gov.uk/ogl/) or email psi@nationalarchives.gsi.gov.uk. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published January 2017
PHE publications gateway number: 2016581



Contents

About Public Health England	2
Key points	4
Norovirus data 2010 to 2015	5
Data source	8
References	8
Acknowledgements	8

Key points

- Norovirus is the commonest cause of gastrointestinal infections in the UK. Surveillance of norovirus is challenging, largely because most people who are infected do not contact health care services for a diagnosis.
- During the winter months, reports of norovirus activity are published weekly and are available [here](#). Reports are published monthly during the summer months. These reports provide summaries of laboratory reporting, virology and reports of outbreaks in hospitals.
- The Second Study of Infectious Intestinal Disease in the Community (IID2 Study) was conducted in the UK during 2008-2009 and aimed to investigate the incidence of infectious intestinal disease (IID) in the community. Through this study, they estimated that for every one case of norovirus identified by national surveillance, there were 288 cases in the community (95% confidence interval of 239-346 cases). The ratio of norovirus IID incidence in the community to the incidence of reported norovirus IID that actually originates from sporadic cases in the community rather than from institutional outbreaks is, therefore, likely to be higher than reported in this study.
- Enclosed settings are particularly susceptible to outbreaks of norovirus. The virus is highly resilient; able to survive for many days in the environment and has a low infectious dose. As immunity to norovirus infection is short, typically just a few months, there is always a pool of susceptible people.
- Norovirus is predominantly a winter pathogen; however, norovirus infections do occur in the summer months and no two norovirus seasons are the same. The increase in season 2012/2013 began earlier than usual and was associated with the emergence and dominance of a novel strain, however, it did not lead to higher than usual activity across this season.
- Data extracted are for England and Wales, as reported to Public Health England, and are specimens taken from faeces and the lower gastrointestinal tract only.

Norovirus data 2006 to 2015

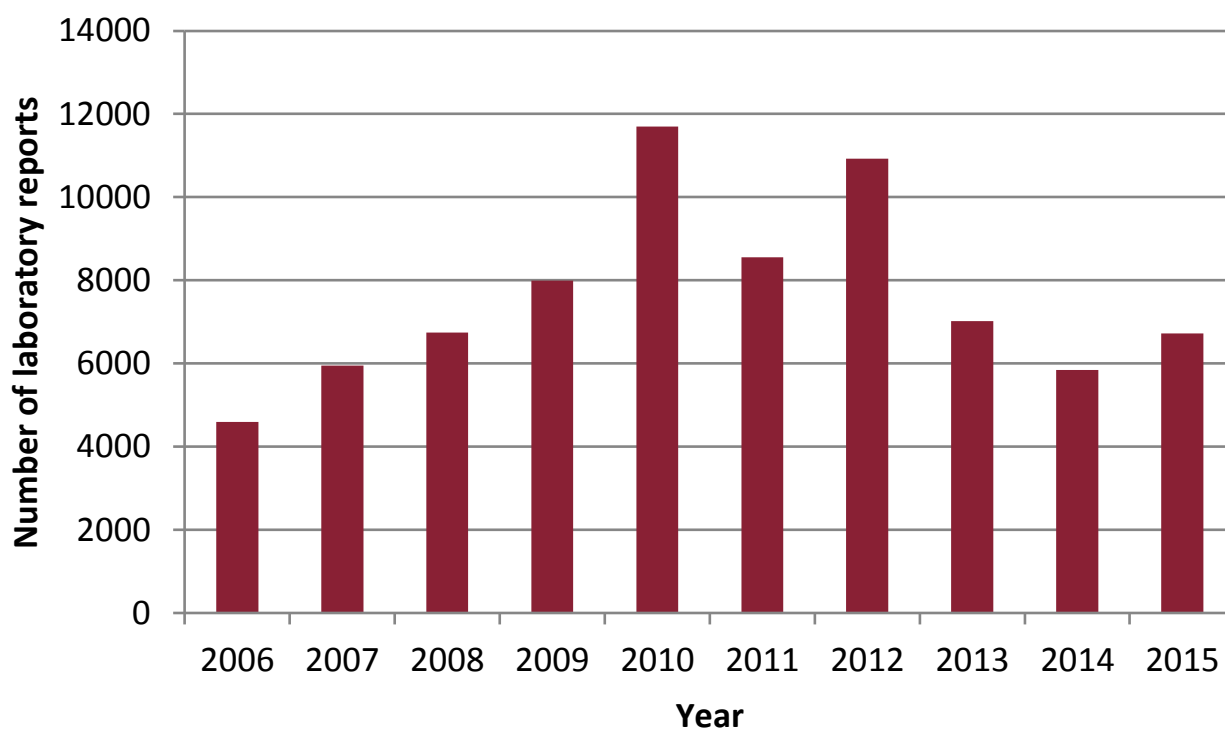
All data presented in this report are correct as of 29 December 2016.

1. Annual data (2006-2015)

Table 1: Annual laboratory reports of norovirus in England and Wales

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2006	4593	8.51
2007	5945	10.93
2008	6736	12.28
2009	7994	14.47
2010	11697	21.00
2011	8547	15.22
2012	10922	19.31
2013	7015	12.32
2014	5838	10.17
2015	6721	11.61

Figure 1: Annual laboratory reports of norovirus in England and Wales



2. Regional data (2015)

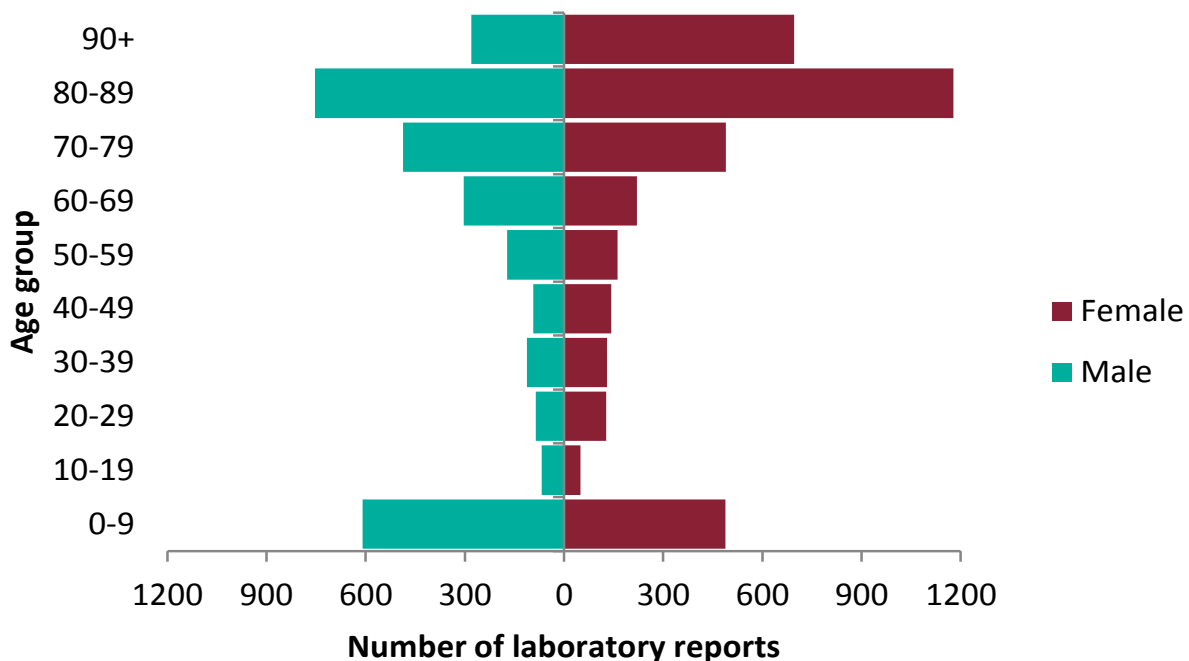
Table 2: Regional distribution of laboratory reports of norovirus in England and Wales

Country	PHE Region	Laboratory reports
England	East Midlands	487
	East of England	929
	London	832
	North East	166
	North West	590
	South East	532
	South West	1609
	Yorkshire and The Humber	955
	West Midlands	397
Wales	Wales	224

Geographies are attributed where possible to the most recent address listed with the patient's current GP practice.

3. Age/sex distribution (2015)

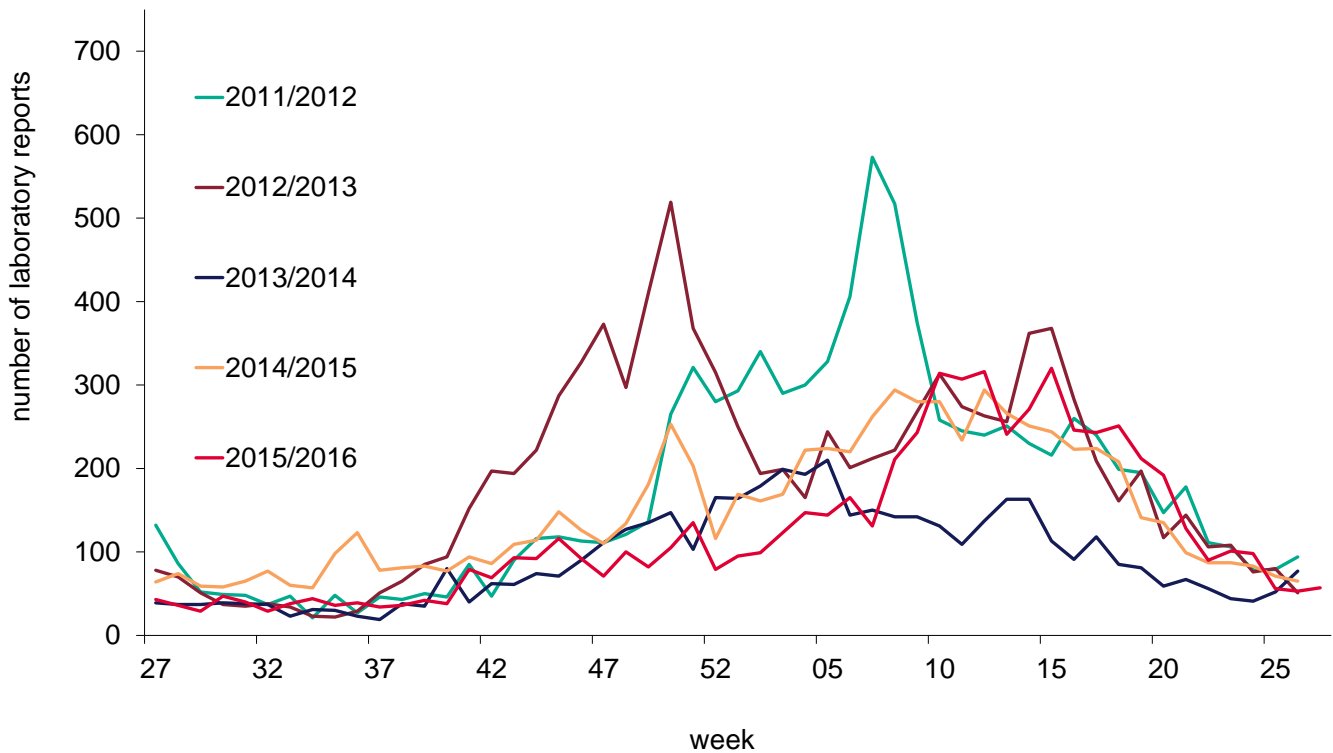
Figure 2: Age/sex distribution of norovirus laboratory reports in England and Wales.*



* 73 cases with unknown data recorded.

4. Seasonal variation*

Figure 3: Seasonal comparison of laboratory reports of norovirus in England and Wales



*In order to capture the winter peak of activity in one season, for reporting purposes, the norovirus season runs from week 27 in year 1 to week 26 in year 2, i.e. week 27 2009 to week 26 2010, July to June.

5. Foodborne outbreak data (2015)

Table 3: Outbreaks of norovirus in England and Wales

Agent	Total Affected	Laboratory confirmed	Hospitalised	Deaths	Setting	Food Description
Norovirus	73	10	0	0	Event catering	Pork and vegetables
Norovirus	120	8	0	0	Pub	Mixed foods
Norovirus	17	5	0	0	Event catering	Oysters

Data source

- Labbase2 (2006 to October 2014); Second Generation Surveillance System (SGSS) (November 2014 onwards). This is a live laboratory reporting system therefore numbers may fluctuate. Data provided in this report are new extractions from this system and provide updated figures to previously published reports. In 2014, PHE upgraded the laboratory reporting system so direct comparisons between data reported from the previous system (LabBase2) and the new system (SGSS) may require cautious interpretation.
- Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS)

References

1. Tam CC, Rodrigues LC, Viviani L, Dodds JP, Evans MR, Hunter PR, et al. Longitudinal study of infectious intestinal disease in the UK (IID2 study): incidence in the community and presenting to general practice. *Gut*. 2011;61(1):69-77.
2. Food Standards Agency. The second study of infectious intestinal disease in the community (IID2 Study). <https://www.food.gov.uk/science/research/foodborneillness/b14programme/b14projlist/b18021>. Accessed 15 Dec 2015.

Acknowledgements

We are grateful to the microbiologists and local authorities, health protection and environmental health specialists who have contributed data and reports to national surveillance systems and the epidemiologists and information officers who have worked on the national surveillance of intestinal infectious diseases for the Centre for Infectious Disease Surveillance and Control and Health Protection Services Colindale.

We are grateful to our colleagues in the:

- Gastrointestinal Bacterial Reference Unit (GBRU) for providing the Reference Laboratory Services and laboratory surveillance functions and expertise
- PHE Information management Department for maintenance and quality assurance of PHE national surveillance databases used for Gastrointestinal Infections (GI) pathogen surveillance at the national level

- PHE Local Public Health Laboratories and Food Water and Environmental Microbiology Services for providing a surveillance function for GI pathogens and testing of food and environmental samples routinely and during outbreak investigation

Public Health England (PHE) has a statutory obligation to collect and report outbreaks of foodborne disease. This is aligned to the requirements of the Zoonoses directive 2003/99/EC. This directive requires that EU member states investigate and report all foodborne outbreaks to the European Food Safety Authority (EFSA). Additionally, information on other zoonoses outbreaks is included in eFOSS, i.e. non-foodborne outbreaks (mode of transmission covering animal contact, person to person contact, and recreational water).

We are grateful to all colleagues who have investigated and reported outbreaks to the Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS).

eFOSS-data extracted from PHE, Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS).

SGSS-data extracted from PHE, Second Generation Surveillance System (SGSS) which manages the flow of reports of infectious diseases from laboratories to PHE.