Surveillance report.

General bacterial and protozoal outbreaks of infectious intestinal disease reported to HPS in 2018

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ObSurv is the surveillance system established in 1996 for all general outbreaks of Infectious Intestinal Disease (IID) in Scotland. For the purpose of ObSurv an outbreak is defined as an incident in which two or more linked cases experience the same illness or when the observed number of cases unaccountably exceeds the expected number. The system seeks information on general outbreaks, defined as outbreaks affecting members of more than one household or residents of an institution. This system does not include outbreaks were infection is believed to have been acquired overseas. Overseas outbreaks are reported separately https://www.hps.scot.nhs.uk/web-resources-container/overseas-outbreaks-of-infectious-intestinal-disease-2018/.

Bacterial outbreaks

Shiga-toxigenic *Escherichia coli* (STEC)

During 2018, six general outbreaks of Shiga-toxigenic *Escherichia coli* (STEC) were reported. These were due to three different serogroups, three of O157, two O145 and one O26. This is comparable to the number of STEC outbreaks seen in the previous five years (2013-2017), where there was an average of five outbreaks and a range of three to nine outbreaks per year.

In five of the outbreaks the main mode of transmission was considered to be foodborne and in the sixth a combination of foodborne and person to person.

Since August 2017, whole genome sequencing of all STEC isolates has been routine practice in Scotland. This is supporting the identification of small outbreaks or clusters of cases which are microbiologically linked and is also supporting the comparison of isolates in Scotland with those elsewhere in the UK.

Salmonella

There were six general outbreaks of *Salmonella* identified in 2018, these were due to five different serotypes, two of *S. Enteritidis,* and one each of *S. Typhiumurium, S. Agona, S. Newport, S. Bovismorbificans*. This is comparable to the number of *Salmonella* outbreaks reported in the previous five years (2013-2017), with an average of four and a range of two to seven outbreaks per year.

One of the outbreaks of *S. Enteritidis* was associated with the consumption of eggs which was part of wider European outbreak. Further information on this outbreak is available at: https://ecdc.europa.eu/en/news-events/epidemiological-update-multi-country-outbreak-salmonella-enteritidis-infections-linked

The second outbreak of *S. Enteritids* was associated with the handling of frozen feeder mice for reptiles. Advice on reducing the risk of *Salmonella* associated with reptiles is available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/377731/Salmonella_in_reptiles_factsheet__2_.pdf

The outbreak of *S. Newport* was associated with an imported unpasteurised goats milk cheese.

Since October 2017, whole genome sequencing of all *Salmonella* isolates has been routine practice in Scotland. This is supporting the identification of small outbreaks or clusters of cases which are microbiologically linked and is also supporting the comparison of isolates in Scotland with those elsewhere in the UK and Europe.

Campylobacter

Although *Campylobacter* is the most common bacterial cause of infectious intestinal disease, no general outbreaks were identified in 2018, highlighting that most cases are apparently sporadic. This is similar to the trend seen in recent years with one *Campylobacter* outbreak in each of 2012 and 2014, and none in 2017, 2016 or 2015.

Protozoal outbreaks

Cryptosporidium

Two general outbreaks of *Cryptosporidium* were reported in 2018, which is comparable to that reported in the previous five years (2013-2017) with an average of two outbreaks per year. The mode of transmission in one was considered waterborne and the other was due to person to person transmission.

Giardia

No general outbreaks of *Giardia* were reported in 2018. General outbreaks of *Giardia* are relatively unusual in Scotland, with only two general *Giardia* outbreaks reported in the previous ten years, one each in 2009 and 2014.

Viral outbreaks

Hepatitis A

There were no general outbreaks of Hepatitis A identified in 2018. Although there were two general outbreaks of hepatitis A in 2017, it is more usual for there to be no such outbreaks.

Foodborne norovirus outbreaks

The majority of outbreaks of norovirus are due to person to person transmission in particular in semi-closed environments such as hospitals, care homes and schools. During 2018 only one general outbreak of norovirus was reported in which food was a possible factor along with person to person transmission.

Toxin outbreaks

There were no outbreaks of Scombrotoxin reported in 2018, this is the same as the previous four years (2014-2017) with the last general outbreak of Scombrotoxin reported in Scotland in 2013.

Table 1: General outbreaks of Infectious Intestinal Disease reported to HPS during the 2018, of bacterial, protozoal, hepatitis A origin and food borne norovirus.

NHS board	Organism	Confirmed, Suspected, Nil return	Location	Main mode/s of spread	Cases ill	Cases positive	Suspect vehicle	Evidence for suspicion
VV	*E. coli* O157	C	Community	FB	5	5	N/K	N/A
VV	*E. coli* O26	C	Community	Multi+FB	5	5	N/K	N/A
VV	*E. coli* O145	C	Community	FB	2	2	N/K	N/A
VV	*E. coli* O157	C	Community	FB	5	5	N/K	N/A
VV	*E. coli* O145	C	Community	FB	3	3	N/K	N/A
VV	*E. coli* O157	C	Community	FB	2	2	N/K	N/A
VV	*Salmonella Enteritidis*	C	Community	Other	7	7	Feeder mice	D
VV	*Salmonella Enteritidis*	C	Community	FB	2	2	Eggs (Poland)	D
VV	*Salmonella Typhimurium*	C	Community	FB	2	2	Multiple	D
VV	*Salmonella Agona*	C	Community	FB	8	8	N/K	N/A
VV	*Salmonella Newport*	C	Community	FB	6	6	Unpasteurised goats milk cheese (France)	D, M
VV	*Salmonella Bovismorbificans*	C	Restaurants	FB	5	5	N/K	N/A
TY	*Cryptosporidium*	C	School	P to P	2	2	N/A	N/A
LN	*Cryptosporidium*	C	Swimming pool	Water	3	3	N/A	N/A
FV	NV	C	Event	Multi+FB	60	4	N/K	N/A

Modes of transmission: FB = Foodborne, P to P = Person to Person, E = Environmental, W = water, Multi excl FB = multiple modes without a foodborne element, Multi incl FB = multiple modes including a foodborne element.

Evidence for suspicion: D = descriptive, M = microbiological, E = epidemiological.

N/K = not known, N/A = not applicable.

NHS board abbreviations

AA	Ayrshire & Arran	BR	Borders	DG	Dumfries & Galloway	GGC	Greater Glasgow & Clyde
FF	Fife	FV	Forth Valley	GR	Grampian	HG	Highland
LO	Lothian	LN	Lanarkshire	OR	Orkney	SH	Shetland
TY	Tayside	WI	Western Isles	VV	various NHS boards		

Acknowledgements

HPS should like to thank all the consultants in public health medicine, health protection nurses, infection control nurses, environmental health officers and microbiologists who contribute to the outbreak surveillance system.

HPS Surveillance Report

Published by: Health Protection Scotland

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