HE

Gastroenteric and Zoonotic Diseases in Ireland: Quarterly report



Includes trends to the end of Q1 2025

May 2025





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H Preventing Gastroenteritis and other Zoonotic diseases

See HPSC website for information on prevention of gastroenteritis: Gastroenteritis Fact Sheet

- Ensure that you regularly wash your hands with soap under warm running water and especially:
 - After using or cleaning the toilet
 - After attending to anyone with diarrhoea or vomiting or touching anything contaminated by diarrhoea or vomiting
 - After handling household and garden waste or rubbish (including nappies)
 - After touching or handling pets or other animals
 - On returning to the house having been working in the garden or on the farm
 - Before handling, preparing, serving, or consuming food or drink
- Cook meats and eggs thoroughly before consumption.
- Clean kitchen work surfaces and utensils with soap and water immediately after they have been in contact with raw meat.
- Wash fruit and vegetables thoroughly in clean water, especially those that will not be cooked further.
- Because of the risk of avian influenza, the public are <u>warned of the dangers of sick or dead wild birds</u>. DAFM requests that all sick/dead wild birds are reported via the <u>Avian Check app</u>.

See HPSC website for travel advice for international travellers: <u>Travel Health Fact Sheet</u>

When on holiday, you should take extra travel precautions with your and your family's health and ensure your travel
vaccinations are up to date.

If anyone in your home is suffering from vomiting or diarrhoea, the toilet and other areas should be cleaned and disinfected after use. Anyone who is ill with diarrhoea or vomiting should stay off work/school until they have been symptom free for 48 hours.



Additional information on minimising the risk of foodborne illness:

- www.safefood.net/food-safety
- <u>www.fsai.ie/consumer-advice/food-safety-and-hygiene</u>

Additional information on minimising the risk of zoonotic infection:

www.hpsc.ie/a-z/zoonotic/petsandotheranimals/

Additional information on minimising the risk of travel-associated infection:

- www.ireland.ie/en/dfa/overseas-travel/advice/
- <u>www.who.int/travel-advice</u>
- www.hse.ie/eng/health/immunisation/pubinfo/travelvacc/

Additional information on minimising the risk associated with sexual transmission of shigellosis:

- www.sexualwellbeing.ie/sexual-health/sexually-transmitted-infections/types-of-stis/shigella-in-gbmsm.html
- man2man.ie/shigella/

H Gastroenteric and Zoonotic Diseases: Key Points, Q1 2025

- Compared to Q1 2024, there were higher notification rates in Q1 2025 for campylobacteriosis, noroviral infection, hepatitis A, and shigellosis
 - Campylobacteriosis notification rates have increased year on year since 2020 and the notification rate in Q1 2025 was the highest in the five year period. The notification process for campylobacteriosis changed in Q1 2025, which may have resulted in some duplicate notifications however overall the notification rate has increased in recent years and there is a need for further research to understand transmission routes in Ireland
 - Norovirus notifications were high in Q1 2025. Much of this increased activity has been due to displacement of the dominant NoV genogroup 2 genotype 4 (GII.4) by a novel genogroup 2 genotype 17 (GII.17), however both GII.17 and GII.4 strains continue to circulate at elevated levels
 - Hepatitis A notifications were high in Q1 2025 when compared to the same time period in recent years. One reason for the high number of notifications is an ongoing national outbreak in Ireland, with 17 confirmed cases to date. A foodborne source is suspected and the outbreak investigation is ongoing.
 - Shigellosis notifications approximately doubled among children, adult females and adult males in the first quarter of 2025; the reasons for these increases are currently under investigation to understand if there have been changes in laboratory diagnostic methods or if the increased notifications represent a genuine increase in cases. Shigellosis among gay, bisexual and other men who have sex with men (gbMSM) remains a key feature of the disease in Ireland and elsewhere.
- There were lower notification rates for cryptosporidiosis, rotavirus and paratyphoid in Q1 2025 compared to Q1 2024
 - Although notifications of Rotavirus decreased in Q1 2025 when compared to Q1 2024, notifications remain high when compared to the same time period 2021-2023.
 Vaccine uptake for Rotavirus remains below the target of ≥95%
 - > While the notification rate for cryptosporidiosis decreased in Q1 2025 compared to Q1 2024, the notification rate in Q1 2025 is within the normal range
 - > Notifications of paratyphoid were unusually high in Q1 2024 and returned to within the normal range in Q1 2025
- Notifications of giardiasis, listeriosis, salmonellosis, typhoid, hepatitis E, VTEC and leptospirosis remained largely unchanged in Q1 2025, compared to Q1 2024
 - Despite notification numbers being within the expected range for this time period, the burden on health of these diseases remains high in Ireland due to the high volume of cases and/or disease severity for these illnesses
- We report trends in **antimicrobial resistance** for non-typhoidal *Salmonella*, typhoidal *Salmonella* and *Shigella* in line with their status as <u>WHO Bacterial Priority Pathogens</u> of public health importance to guide research, development and strategies to prevent and control AMR and we report **genomic data** on campylobacteriosis, Hepatitis A, listeriosis, norovirus, salmonellosis, shigellosis and VTEC from our Reference Laboratory partners

H Gastroenteric and Zoonotic diseases in Ireland summary, Q1 2025



Disease category	Disease	Q1 2024	Q1 2025	Increase/ Decrease	% Change	Year to date 2025
Bacterial IID infections	Campylobacter infection	733	852	119	16%	852
	Cholera	1	0	-1	-100%	0
	<u>Listeriosis</u>	5	2	-3	-60%	2
	Paratyphoid	6	2	-4	-67%	2
	<u>Salmonellosis</u>	65	63	-2	-3%	63
	<u>Shigellosis</u>	47	91	44	94%	91
	Typhoid	6	6	0	0%	6
	Verotoxigenic Escherichia coli infection	112	110	-2	-2%	110
	Yersiniosis	10	8	-2	-20%	8
Viral IID infections	Noroviral infection	672	967	295	44%	967
	Rotavirus infection	126	102	-24	-19%	102
Foodborne Hepatitis	<u>Hepatitis A</u>	18	29	11	60%	29
	<u>Hepatitis E</u>	13	10	-3	-33%	10
Parasitic IID infections	<u>Cryptosporidiosis</u>	152	132	-20	-13%	132
	<u>Giardiasis</u>	92	95	3	3%	95
IID toxins	Clostridium perfringens (type A) food- borne disease	0	0	0	0%	0
	Bacillus cereus food-borne infection/intoxication	0	0	0	0%	0
	Botulism	0	0	0	0%	0
	Staphylococcal food poisoning	0	0	0	0%	0

Data source: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025

H Gastroenteric and Zoonotic diseases in Ireland summary, Q1 2025 continued

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Disease category	Disease	Q1 2024	Q1 2025	Increase/ Decrease	% Change	Year to date 2025
Non-IID Zoonotic	Anthrax	0	0	0	0%	0
infections	Brucellosis	0	0	0	0%	0
	Echinococcosis	0	0	0	0%	0
	<u>Leptospirosis</u>	4	1	-3	-75%	1
	Plague	0	0	0	0%	0
	Q fever	0	1	1	N/A	1
	Rabies	0	0	0	0%	0
	Toxoplasmosis	5	7	2	40%	7
	Trichinosis	0	0	0	0%	0

L Campylobacter in Ireland, Q1 2025



Туре	Outbreaks (N)		umber ill	Range ill
Family outbreak	1		2	N/a
Species	Number o isolates			
Campylobacter jejuni	34		9	4%
Campylobacter coli	1	30		3%
Campylobacter fetus	1	1		3%
Total	36		100%	

- 852 cases of Campylobacteriosis notified in Q1 2025, 16% higher than the number notified in Q1 2024 (n=733)
- One Campylobacter outbreak notified in Q1 2025, transmission route was reported as person to person and animal contact
- 36 Campylobacter isolates were sequenced in the sentinel Campylobacter Reference Laboratory, representing approximately 4% of campylobacteriosis cases notified
- *C. jejuni* was most common at 94% followed by *C. coli* (3%) and *C. fetus* (3%)
- Note: The notification procedure for Campylobacteriosis changed at the beginning of 2025 which may have contributed to the increase in notifications and lower proportion of sequenced isolates, due to the possibility of duplicate notifications

HE Cryptosporidiosis in Ireland, Q1 2025



		Ν	% where known			
Domestic		125	99%			
Travel-related		1	1%			
Travel status no	ot known	6	n/a			
Total		132	100%			
Туре	Outbreaks (N)	Number ill	Median ill Range			
Family	6	2	17 2-4			

16

5-11

n/a

- 132 cases of cryptosporidiosis notified in Q1 2025, 13% lower than in Q1 2024 (n=152)
- Eight Cryptosporidiosis outbreaks notified in Q1 2025, lower than the number of outbreaks reported for the same time period in 2024 (n=12)
- Two outbreaks occurred in petting farm/zoo locations with a total of 16 people ill. Transmission route was reported as animal contact.
- 99% of cases in Q1 2025 were domestically-acquired (where travel status was known).

Data source: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025

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General

H Giardiasis in Ireland, Q1 2025



Outbreak Type	Number of outbreaks	Total number ill	Range number ill
Family	6	16	2-4
General	1	3	N/A
Total	7	19	2-4

Travel status	Number of cases	% where known
Domestic	49	73%
Travel-related	18	27%
Travel status not known	28	n/a
Total	95	100%

95 cases of giardiasis notified in Q1 2025, comparable to 92 notified in Q1 2024

- The male to female ratio of cases reported in Q4 2024 was
 2.4, in line with previous years
- Where travel status was known, 73% were domesticallyacquired and 27% were associated with international travel; travel status was not available for 29% of cases so caution is advised when interpreting these data
- Seven outbreaks of giardiasis were notified in Q1 2025; 6 family and 1 general outbreak. The transmission route for the general outbreak was reported as waterborne and was associated with a swimming pool, while transmission routes for the family outbreaks were person-to-person (P-P) (n=4), P-P and animal (n=1) and P-P and waterborne (n=1)

Hepatitis A in Ireland, Q1 2025



	N	% where known
Domestic	15	75%
Travel-related	5	25%
Travel status not known	9	n/a
Total	29	

- 29 cases of Hepatitis A notified in Q1 2025, 60% higher than the number of cases notified in Q1 2024 (n=18)
- One outbreak was notified in Q1 2025. This was a national Hepatitis A outbreak with a total of 17 people ill; transmission route is suspected to be foodborne and remains under investigation
- 75% of cases in Q1 2025 were reported as domestically-acquired (where travel status was known; travel status was known for 69% of cases)
- Genotyping was available for 28/29 cases in Q1 2025; of these, 15 (54%) were genotype 1A, 8 (28%) were IB and 5 (18%) were IIIA

Hepatitis E in Ireland, Q1 2025



Country of infection	Ν	% where known
Ireland	1	10%
Not specified	9	n/a
Total	10	

10 cases of Hepatitis E were notified in
 Q1 2025, comparable to 13 cases in Q1
 2024

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- 60% of cases were male and 40% were female
- All cases were in adults aged between 20 and 70 years old
- No Hepatitis E outbreaks were reported in Q1 2025 or in Q1 2024
- Country of Infection (COI) was specified for 1 of the 10 cases in Q1 2025.

\mathcal{H} Leptospirosis in Ireland, Q1 2025





	Q1 2024	Q1 2025	% Change
Number of cases	4	1	-75%
No. hospitalised	4	1	-75%

 There was 1 notified case of leptospirosis in Q1 2025, 75% lower than Q1 2024 (n=4)

 This is also a decrease of 83% from Q4 2024 (n=6)

H Listeriosis in Ireland, Q1 2025





Listeria monocytogenes 1/2a	2
<i>Listeria monocytogenes</i> 4b	1
Total	3

*The number of isolates sequenced in the NSSLRL may not match the number of cases notified, as dates are based on date received in the laboratory which may not align with notification date. Furthermore, additional isolates for mother/baby pairs may be sequenced in the NSSLRL but only the mother will be notified as a listeriosis case in line with the <u>lrish case definition</u>. Finally, some cases may have been confirmed by molecular methods only and isolates were not available for sequencing.

Adult/Juvenile case Principal Diagnosis	Number of cases	Pregnancy related case outcome	Number of cases
Blood stream infection	1	N/A	0
Meningitis	0	Total	0
Not specified	1		
Total	2		

- Two cases of listeriosis notified in Q1 2025, lower than 5 cases notified in Q1 2024
- Both were adult/juvenile cases and there were no pregnancyassociated cases in Q1 2025
- Three clinical isolates of *Listeria monocytogenes* were sequenced in the NSSLRL^{*}, two isolated from blood and one from a placental swab
- The most frequently seen serotype in Q1 2025 was 1/2a
- There were no outbreaks of listeriosis notified in Q1 2025

Data source: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025 and National Salmonella, Shigella and Listeria Reference Laboratory (NSSLRL)

H Norovirus and Acute Infectious Gastroenteritis (AIG) in Ireland, Q1 2025



Location	Outbreaks (N)		Total Nu	mber ill	Median ill		Range ill	
	Noro	AIG	Noro	AIG	Noro	AIG	Noro	AIG
Hospital	77	3	619	9	6	3	2-25	2-4
Nursing home	33	20	843	239	23	8	2-55	2-34
Residential institution	2	9	12	47	7	5	5-7	3-11
Comm. Hosp/Long-stay unit	6	2	80	11	11	5.5	3-31	3-8
Total	118	34	1554	306	47	21.5	2-55	2-34

¹Eurosurveillance | Increased circulation of GII.17 noroviruses, six European countries and the United States, 2023 to 2024 ² National norovirus and rotavirus report, week 15 report: data to week 13 (data up to 30 March 2025) - GOV.UK

Data sources: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025, the National Virus Reference Laboratory (NVRL) 24/04/2025

- There were 967 notified cases of Norovirus infection in Q1 2025, compared to 672 in Q1 2024, an increase of 43.9%
- 118 Norovirus and 34 AIG outbreaks were reported in Q1 2025. All these outbreaks occurred in health care settings (see table)
- The largest norovirus outbreak notified in Q1, 2025 occurred in a nursing home, where the number ill was 55 and the mode of transmission was person-to-person
- Of 35 representative GII samples from Q1, 2025 sequenced by the NVRL, GII.17 was the most common type at 71% (n=25), followed by GII.4 at 29% (n=10). Change in predominant genotype was first detected in Ireland in February 2024¹, and similar proportions are being observed in the UK²
- A news piece providing key messages for the public on how to manage illness and prevent further spread of disease is regularly updated on the HPSC website <u>Norovirus: Norovirus levels</u> <u>remain high in Ireland - Health Protection</u> <u>Surveillance Centre</u>

H Rotavirus in Ireland, Q1 2025



Туре	Outbreaks (N)	Number ill	Median ill	Range ill
General	0	n/a	n/a	n/a
Family	1	2	n/a	n/a
Total	1	2	n/a	n/a

102 cases of Rotavirus were notified in Q1 2025,
 19% lower than in Q1 2024 (n= 126)

- 49% of cases were aged under 5 years (20% of cases were aged <1 year, 12% were aged 1 year and 17% were aged 2-4 years at the time of notification).
- There was one Rotavirus outbreak notified in Q1 2025, in a private house setting with two people ill, transmission reported as person to person.
- Rotarix[™] vaccine was introduced in Ireland in December 2016 for all babies born from 1st October 2016 onwards²
- Vaccine uptake for Rotavirus has been greater than 89% nationally at 24 months since introduced but remains below the target of ≥95%
- Quarterly and annual immunisation uptake statistics at 12 and 24 months of age for Rotavirus are available on the HPSC website at: <u>https://www.hpsc.ie/a-</u>

z/vaccinepreventable/vaccination/immunisationup takestatistics/

2. Rotavirus Annual Epidemiological Report 2018. Health Protection Surveillance Centre Available at:

https://www.hpsc.ie/a-z/gastroenteric/rotavirus/epidemiologicaldata/annualreportsonrotavirus/2018_Rota_20190415_v1.1.pdf

Data source: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025

\mathcal{H} Salmonellosis in Ireland, Q1 2025

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Outbreak Type	Number of outbreaks	Total number ill	Range number ill
Family	1	3	N/A
General	0	0	N/A
Total	1	3	N/A

	Tr	T • 1 • 1			
Serotype	Domestic	Travel	Unknown		
<i>S.</i> Typhimurium inc. monophasic Typhimurium	9	3	1	13	
S. Enteritidis	4	3	0	7	
Other serotypes	24	9	10	43	
Total	37	15	11	63	

- 63 cases of salmonellosis were notified in Q1 2025, comparable to 65 in Q1 2024
- Where travel history was known (n=52),71% of cases were domestically-acquired and 29% were travel-associated
- The typical association of S. Enteritidis cases with international travel was not seen during Q1 2025, likely due to the lower than usual proportion of travel-associated cases seen during this time period; travel status was missing for 17% of cases so these data should be interpreted with caution
- One family outbreak of *S*. Mikawasima was notified in Q1 2025; transmission route was reported as person-to-person for this outbreak

H Genomic analysis of non-typhoidal Salmonella in Ireland, Q1 2025



Serotype	Number of isolates	Proportion of isolates
<i>S.</i> Typhimurium inc. monophasic Typhimurium	13	19%
S. Enteritidis	8	12%
S. Mikawasima	4	6%
S. Newport	4	6%
Other serotypes	38	57%
Total	67	100%

Antimicrobial class	Isolates with resistance markers			
	Number	Proportion		
Quinolones	19	28%		
Tetracycline	13	19%		
Sulphonamides	9	13%		
Ampicillin	7	10%		
Chloramphenicol	6	9%		
Trimethoprim	4	6%		
Third Generation Cephalosporins	2	3%		
Aminoglycosides	2	3%		
Azithromycin	1	1%		

Specimen type	Number of isolates
Faeces	58
Blood	6
Urine	3
Total	67

*The number of isolates sequenced in the NSSLRL may not match the number of cases notified, as dates are based on date received in the laboratory which may not align with notification date. Furthermore, isolates may be sequenced in the NSSLRL for cases that do not meet the criteria for notification under the <u>lrish case definition</u>.

 67 non-typhoidal Salmonella (NTS) isolates were sequenced in the NSSLRL in Q1 2025^{*}

- The most frequently seen serotypes were *S*. Typhimurium and *S*. Enteritidis
- 9% of isolates were from bloodstream infections
- Antimicrobial resistance is predicted based on whole genome sequencing (WGS) data

H Shigellosis in Ireland, Q1 2025





Tuoval	C	Child		Adult Female		Adult Male		Total	
Travel	Ν	%	N	%	Ν	%	Ν	%	
Domestic	2	22%	5	25%	32	54%	39	44%	
Travel - Europe	0	0%	1	5%	8	14%	9	10%	
Travel - Outside Europe	6	67%	13	65%	12	20%	31	35%	
Unknown	1	11%	1	5%	7	12%	9	10%	
Total	9	100%	20	100%	59	100%	88*	100%	

*Excludes adult cases where sex was not reported (n=3)

•	91 cases of shigellosis were notified in Q1 2025 (71 confirmed and 20 probable),
	almost double the number of cases notified in Q1 2024 (n=47)

- Where travel history was known (90%), 51% were associated with international travel and 49% were domestically-acquired
- Adult males were more likely to have been infected in Ireland or another European country, while children and adult females were more likely to have been infected outside Europe
- Adult males continued to be the group most affected as sexual transmission among gay, bisexual and other men who have sex with men (gbMSM) is a <u>key</u> <u>feature of shigellosis in Ireland</u>
- Two small general outbreaks were notified during Q1 2025. One was in a childcare facility and transmission was reported as person-to-person. The second was part of a larger multi-country outbreak associated with long-haul international travel, transiting through a single airport and suspected foodborne transmission.

Outbreak Type	Number of outbreaks	Total number ill	Range number ill
Family	0	0	N/A
General	2	6	2-4
Total	2	6	2-4

H Genomic analysis of Shigella in Ireland, Q1 2025



Serotype	Number of isolates	Proportion of isolates
Shigella flexneri	35	63.6%
Shigella sonnei	18	32.7%
Shigella boydii	2	3.6%
Total	55	100%



*The number of isolates sequenced in the NSSLRL may not match the number of cases notified, as dates are based on date received in the laboratory which may not align with notification date. Furthermore, according to the <u>Irish case definition</u> probable cases of shigellosis may be notified when *Shigella* spp. nucleic acid is detected in a clinical specimen in the absence of subsequent culture confirmation.

 55 Shigella isolates were sequenced in the NSSLRL in Q1 2025*

• S. flexneri was the most frequently seen serotype

Antimicrobial resistance is predicted based on whole genome sequencing (WGS) data. In Q1 2025:

• 74% of isolates were predicted to be quinolone resistant, decreased from 83% in Q1 2024, but quinolone resistance remains common and is showing a general increasing trend

 56% were predicted to be azithromycin resistant, slightly increased from 52% in Q1 2024

 19% were predicted to be resistant to third generation cephalosporins, decreased from 34% in Q1 2024

 15% were predicted to be resistant to all three classes of antimicrobials, decreased from 28% in Q1 2024

HE Typhoid and Paratyphoid in Ireland, Q1 2025







Asia Europe Americas Africa Unknown

- Six cases of typhoid were notified in Q1 2025, unchanged from six cases notified in Q1 2024
- Two cases of paratyphoid were notified in Q1 2025, decreased from 6 cases notified in Q1 2024
- Where travel history was known (75%), 83% travelled to Asia, most frequently to India
- No outbreaks of typhoid or paratyphoid were notified in Q1 2025

Ireland was reported as country of infection for a small number of cases. These infections were typically secondary infections, following return of a close contact from an endemic country or were laboratory-acquired infections.

H Genomic analysis of Salmonella Typhi and Paratyphi in Ireland, Q1 2025



Antimicrobial class	Isolates with resistance markers			
	Number	Proportion		
Quinolones	7	88%		
Aminoglycosides	0	0%		
Ampicillin	0	0%		
Azithromycin	0	0%		
Chloramphenicol	0	0%		
Sulphonamides	0	0%		
Tetracycline	0	0%		
Third Generation Cephalosporins	0	0%		
Trimethoprim	0	0%		

*The number of isolates sequenced in the NSSLRL may not match the number of cases notified, as dates are based on date received in the laboratory which may not align with notification date. Furthermore, isolates may be sequenced in the NSSLRL for cases that do not meet the criteria for notification under the Irish case definitions for typhoid and paratyphoid.

Eight isolates of *Salmonella* Typhi (n=6) or *S*. Paratyphi A (n=2) were sequenced in the NSSLRL in Q1 2025^{*}

- Antimicrobial resistance is predicted based on whole genome sequencing (WGS) data:
 - Resistance to quinolones was the only type of predicted antimicrobial resistance reported in Q1 2025
 - None were predicted to be resistant to ampicillin, chloramphenicol, sulphonamides, tetracycline and trimethoprim, reduced from the proportions reported in Q4 2024
 - None were predicted to be resistant to third generation cephalosporins aminoglycosides or azithromycin, consistent with previous quarterly data

Data source: National Salmonella, Shigella and Listeria Reference Laboratory (NSSLRL)



	Bloody diarrhoea			HUS
	Ν	% (where known)	Ν	% (where known)
Yes	29	30%	4	5%
No	67	70%	72	95%
Unknown	5	N/A	9	N/A
Not specified	9	N/A	25	N/A
Total	110	N/A	110	N/A

Туре	Outbreaks (N)	Total number ill	Range ill
General	1	17	N/A
Family	2	4	N/A
Total	3	21	2-17

Data source: Computerised Infectious Diseases Reporting (CIDR) system 22/04/2025

- hpsc
- 110 cases of VTEC were notified in Q1 2025, comparable to Q1 2024 (n=112)
- 40 (36%) cases were hospitalised
- Four (5%) cases of HUS in Q1 2025, compared to one (1%) cases of HUS in Q1 2024
- Three VTEC outbreaks were reported in Q1 2025; one was a general outbreak in a childcare facility with 17 people ill (transmission reported as person to person) and two family outbreaks with a total of 4 people ill.

Patient type	Number of cases	Proportion of cases	
GP Patient	48	44%	
Hospital Inpatient	40	36% 15%	
A&E Patient/Outpatient	17		
Other	4	4%	
Unknown	1	1%	
Total	110	100%	

$\int \tilde{z}$ Genomic analysis of VTEC in Ireland, Q1 2025

Serogroup	Verotoxin	N	%	eae positive		ehxA positive	
ociogicap	genes			Ν	%	Ν	%
<i>E. coli</i> O157	vt1	0	N/A	0	N/A	0	N/A
	vt2	4	80%	4	100%	4	100%
	vt1 + vt2	1	20%	1	100%	1	100%
<i>E. coli</i> O26	vt1	2	9%	2	100%	2	100%
	vt2	15	68%	15	100%	15	100%
	vt1 + vt2	5	23%	5	100%	4	80%
Other serogroups	vt1	23	48%	11	48%	17	74%
	vt2	10	21%	2	20%	8	80%
	vt1 + vt2	15	31%	0	0%	11	73%

*The number of isolates sequenced in the Public Health Laboratory, Cherry Orchard (Reference Laboratory) may not match the number of cases notified, as dates are based on date received in the laboratory which may not align with notification date. Furthermore, cases of VTEC may be notified where isolates are not available for sequencing. Please see <u>here</u> for Irish case definition for VTEC

- 76 isolates were sequenced in the VTEC Reference Laboratory^{*}
- The most common serogroups reported among culture confirmed cases were as follows: O26 (29%; n=22), O91 (9%;n=7) and O157 (7%; n=5)
- All O157 were either VT2 (80%) or
 VT1+2 (20%)
- eae and ehxA positivity were higher for O157 and O26 isolates than for other serogroups

