

Incidence, risk factors, and health service burden of sequelae of *Campylobacter* and Non-typhoidal *Salmonella* infections in England, 2000-2015: a retrospective cohort study using linked electronic health records

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METHODS

Table S1. Read codes for patient selection into the cohort

<i>Campylobacter</i> patients	
Read code	Definition in CPRD
A074300	<i>Campylobacter</i> gastrointestinal tract infection
A074311	Diarrhoea due to <i>Campylobacter jejuni</i>
A074312	<i>Campylobacter</i> enteritis
<i>NTS</i> patients	
A020.12	Salmonella food poisoning
A020.00	Salmonella gastroenteritis
A020.11	Salmonellosis

Clinical outcomes

Table S2. Read and ICD-10 codes for clinical outcomes

Outcome	Definition in CPRD [†]	Definition in HES [†]
Reactive arthritis (ReA)	Any occurrence of Read codes for reactive arthritis up to 12 months after “Index date”.	ICD-10 code for reactive arthritis using “any mentions” in the diagnostic category.
Guillain-Barré Syndrome (GBS)	Any occurrence of Read codes for Guillain-Barré syndrome up to 12 months after “Index date”.	ICD-10 code for GBS using “any mentions” in the diagnostic category.
Irritable bowel syndrome (IBS)	Any occurrence of Read codes for Irritable bowel syndrome up to 12 months after “Index date”.	ICD-10 code for IBS using “any mentions” in the diagnostic category.
Ulcerative colitis (UC)	Any occurrence of Read codes for ulcerative colitis up to 12 months after “Index date”.	ICD-10 code for ulcerative colitis using “any mentions” in the diagnostic category and OPCS-4 code for radiology and histology.
Crohn’s disease (CD)	Read codes for the first consultation of Crohn’s disease up to 12 months after “Index date”.	ICD-10 code for Crohn’s disease using “any mentions” and OPCS-4 code for radiology and histology.
Rheumatoid arthritis (RA)	Read codes for the first consultation of rheumatoid arthritis up to 12 months after “Index date”.	ICD-10 code for rheumatoid arthritis using “any mentions” in the diagnostic category.

[†] Code lists available at <https://github.com/OluwaseunEsan/Sequelae-of-gastrointestinal-infections>

Health service utilisation: Primary care resource use and costs

Consultations were classified by consultation and staff type and included GP consultations in surgery, by telephone and at home/out-of-hours, and nurse consultations in surgery and at home/out-of-hours (Table S1) [1,2]. Associated unit costs were assigned as identified in the PSSRU 2014/2015 (Table S3) [3]. It was possible for a patient to consult on the same day with two different staff categories and through different modes, e.g. telephone consultation with a nurse and surgery consultation with a GP. These consultations were considered separately, and costs attached accordingly. Duplicate records with the same staff category and consultation type on the same date for the same patient were excluded. Records with unknown staff category were also excluded (0.7%).

Drugs were classified according to their BNF chapter, and the corresponding mean cost was attached according to the 2014 prices from the PCA [4]. Where missing data for the specific drug supplied prevented the use of this approach, the 2014 median prescription cost, as reported in the PCA, was attributed to the relevant drug. Costs were attached to PPI and the three classes of antibiotics (cephalosporins, quinolones and macrolides) from their specific BNF chapter subparagraph. These costs selected from the BNF chapter subparagraph were subtracted from the relevant BNF chapter to prevent double costing (Table S2).

All individual tests for each patient recorded in the CPRD test file, up to five years before and after the index date for *Campylobacter* or NTS infections, were identified. Tests were categorised as laboratory tests (clinical biochemistry; haematology; microbiology) and other diagnostic services (e.g. imaging), and the relevant unit costs were attached (Table S2). Some laboratory tests are performed in batches. These batches of tests were identified through the help of an academic GP and according to current practices (Table S3) [5]. For each patient, each batch of tests or any sub-group within the same batch recorded on the same day were counted as one test only.

Tests routinely performed by a GP during a regular consultation, such as weight measurement, blood pressure and other physical examination, were excluded to avoid double counting as these tests were already incorporated in the GP consultation costs (Table S3) [6,7].

Outcomes: Secondary care resource use and costs

All admitted patient care (APC), and outpatient records in HES data in the five years before and after the index date of *Campylobacter* or NTS infections were extracted and analysed. Standard practices were followed to determine the HRG for each patient's hospital encounter.

For APC, the spell level record was used to determine the HRG. This required reformatting of the HES data. All episodes were grouped into spells, which include patient demographics, all diagnoses fields, all specialists seen within the spell period, all investigations, and procedures (excluding blood tests). The reformatted spell level records were parsed through the grouper to determine the HRG [8]. The main driver for deriving the HRG code is the dominant procedure. Procedures are ranked according to their hierarchy values. The procedure with the highest hierarchy value is classified as the dominant procedure. If a dominant procedure is not present, the primary diagnosis field is used. Once the dominant procedure is known, the grouper considers the presence or absence of complications and comorbidities (CC) [8,9].

The final cost of care for each spell was derived by linking the assigned HRG code to the relevant reference costs according to the nature of admission (elective vs emergency) and the excess length of stay where applicable. Some HRGs attract additional costs known as unbundled HRGs, which are components within a care pathway which are costed separately such as chemotherapy and diagnostic imaging; these costs were also considered [10] (Appendix 7-4).

Outpatients' procedures were also reformatted for the same time window and processed into the relevant HRGs. The allocated HRGs were linked to the NHS 2014/2015 reference costs based on the treatment function code and the attendance type. The treatment function code represents the specialised service within which the patient is treated, and the attendance type in the reference cost is coded as first or follow-up visit. All attendances were considered as single consultant appointments for costing purposes and not multidisciplinary team appointments. Outpatients attendances with no procedures were not parsed through the grouper, but costs were assigned using the NHS 2014/2015 reference costs.

HRGs for colonoscopies were specifically identified from the APC and Outpatients data. Each procedure was classified as elective or non-elective according to the coding in the HES dataset. The NHS 2014/2015 reference costs were attached.

Table S3-1 Consultation category

CPRD code	Consultation type	Category Hobbs 2017	by <i>et.al</i>	Category for Study
1	Clinic	S	S	
2	Night visit, Deputising service	O	VO	
3	Follow-up/routine visit	V	VO	
4	Night visit, Local rota	O	VO	
5	Mail from patient	A	A	
6	Night visit , practice	V	VO	
7	Out of hours, Practice	O	VO	
8	Out of hours, Non Practice	O	VO	
9	Surgery consultation	S	S	
10	Telephone call from a patient	T	T	
11	Acute visit	V	V	
12	Discharge details	A	A	
13	Letter from Outpatients	A	A	
14	Repeat Issue	A	A	
15	Other	A	A	
16	Results recording	A	A	
17	Mail to patient	A	A	
18	Emergency Consultation	S	S	
19	Administration	A	A	
20	Casualty Attendance	O	O	
21	Telephone call to a patient	T	T	
22	Third Party Consultation	A	A	
23	Hospital Admission	O	O	
24	Children's Home Visit	V	VO	
25	Day Case Report	A	A	
26	GOS18 Report	A	A	
27	Home Visit	V	VO	
28	Hotel Visit	V	VO	
29	NHS Direct Report	A	A	

CPRD code	Consultation type	Category Hobbs 2017	by <i>et.al</i> Category for Study
30	Nursing Home Visit	V	VO
31	Residential Home Visit	V	VO
32	Twilight Visit	V	VO
33	Triage	T	T
34	Walk-in Centre	O	VO
35	Co-op Telephone advice	O	VO
36	Co-op Surgery Consultation	O	VO
37	Co-op Home Visit	O	VO
38	Minor Injury Service	O	O
39	Medicine Management	A	A
40	Community Clinic	O	O
43	Data Transferred from other system	A	A
46	Health Visitor Report	A	A
47	Hospital Inpatient Report	A	A
50	Night Visit	O	VO
52	Radiology Result	A	A
53	Referral Letter	A	A
55	Telephone Consultation	T	T
57	GP to GP communication transaction	A	A
58	Non-consultation medication data	A	A
59	Non-consultation data	A	A
60	ePharmacy message	A	A

Table S3-2 Staff Category

CPRD code	Staff type	Category <i>et.al</i> 2017	by Hobbs	Category for study
1	Senior Partner	G		G
2	Partner	G		G
10	Sole Practitioner	G		G
47	Salaried Partner	G		G
3	Assistant	G		G
4	Associate	G		G
5	Non-commercial local rota of less than 10 GPs	G		G
6	Commercial Deputising service	G		G
7	Locum	G		G
8	GP Registrar	G		G
50	GP Retainer	G		G
58	Other Additional Clinical Services	O		O
11	Practice Nurse	N		N
12	Health Visitor	O		N
13	Community Nurse	N		N
14	Midwife	O		N
15	Community Psychiatric Nurse	O		N
26	Physiotherapist	O		N
27	Chiropodist	O		N
28	Dentist	O		N
29	Dietician	O		N
30	Counsellor	O		N
31	Osteopath	O		N
33	Other Health Care Professional	O		N
34	Hospital Nurse	O		N
36	School Nurse	O		N
37	Health Education Officer	O		N
38	Contact Tracing Nurse	O		N
39	Stomatherapist	O		N

CPRD code	Staff type	Category by Hobbs et.al 2017	Category for study
42	Chiropractor	O	N
43	Acupuncturist	O	N
44	Homeopath	O	N
45	Mental Handicap Nurse	O	N
48	Occupational Therapist	O	N
49	Speech Therapist	O	N
51	Phlebotomist	O	N
52	Other Medical & Dental	O	N
53	Other Students	O	O
54	Other Nursing & Midwifery	O	N
55	Other Allied Health Professionals	O	N
56	Other Professional Scientific & Technical	O	N
57	Other Healthcare Scientists	O	N
19	Non-qualified Dispenser	O	O
20	Practice Manager	A	A
21	Fund Manager	A	A
22	Business Manager	A	A
23	Administrator	A	A
24	Secretary	A	A
25	Receptionist	A	A
32	Maintenance staff	A	A
40	Computer Manager	A	A
41	Interpreter/Link Worker	O	O
59	Other Admin & Clerical	A	A
60	Clinical Practitioner Access Role	O	O
61	Nurse Access Role	O	O
62	Nurse Manager Access Role	O	O
63	Health Professional Access Role	O	O
64	Healthcare Student Access Role	O	O
65	Biomedical Scientist Access Role	O	O

CPRD code	Staff type	Category by Hobbs et.al 2017	Category for study
66	Clinical Coder Access Role	A	A
17	Pharmacist	O	O
18	Dispenser	O	O
9	Consultant	O	O
16	Social Worker	O	O
35	Community Medical Officer	O	O
67	Optometrist	O	O
68	Radiographer	O	O
0	Data Not Entered		
46	Carer		O

Key: A- Administration, G-General Practitioner, N- Nurse, O-Other. All other categories were excluded from the analysis.

Table S4 Unit costs applied to primary care resource use

Resource	Unit cost (£)	Source	Notes
Consultations			
Consultation in surgery	GP - £32.30 (per 9.22 min consultation) Nurse - £7 (per 9.72 min consultation)	Unit Costs of Health and Social Care 2014. PSSRU [11]. Consultation duration[2]	Table 10.3b General Practitioner. Cost including qualifications, excluding direct staff costs: £41 per 11.7 min consultation including travel. Table 10.6 Nurse (GP Practice) - Cost per hour including qualifications: £43
GP consultation by telephone	£19.28 (per 5.4 min consultation)	Unit Costs of Health and Social Care 2014. PSSRU	Table 10.3b General Practitioner. Cost including qualifications, excluding direct staff costs: £25 per 7 min consultation excluding travel.
Consultation at home/out-of-hours	GP - £122.20 Nurse - £22.63	Unit Costs of Health and Social Care 2010. PSSRU [11] Hospital and community health services pay and price inflation index (HCHS) 2015/2016.	PSSRU: Table 10.6 Nurse (GP Practice). Cost including travel: £20 Table 10.8b General Practitioner. Cost including qualifications and travel, excluding direct staff costs: £108 HCHS: Inflation multiplier for 2014/2015 (0.8838)
Tests			
Clinical biochemistry	£1	NHS reference costs 2014/15 [12].	Main Schedule of Reference Costs Spreadsheet. Tab: Direct Access Pathology Services Service code: DAPS04 Average cost
Cytology	£7	NHS reference costs 2014/15 [12].	
Histology	£29	NHS reference costs 2014/15 [12].	
Immunology	£5	NHS reference costs 2014/15 [12].	
Diagnostic Imaging	£87.62	NHS reference costs 2014/15 [12].	
Diagnostic Tests	£31.61	NHS reference costs 2014/15 [12].	

Resource	Unit cost (£)	Source	Notes
Haematology	£3	NHS reference costs 2014/15 [12].	Main Schedule of Reference Costs Spreadsheet. Tab: Direct Access Pathology Services Service code: DAPS05 Average cost
Microbiology	£7	NHS reference costs 2014/15 [12].	Main Schedule of Reference Costs Spreadsheet. Tab: Direct Access Pathology Services Service code: DAPS07 Average cost
Other Pathology tests		NHS reference costs 2014/15 [12].	
Prescriptions			
Prescriptions by British National Formulary (BNF) category:			
BNF 01: Gastrointestinal system	£5.35	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF paragraph 1.3.5.0: Proton Pump Inhibitors	£2.19	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF 1.3.5.0 (NIC Per Item)
BNF 02: Cardiovascular system	£3.20	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 03: Respiratory system	£16.15	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 04: Central nervous system	£9.58	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 05: Infections	£4.85	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF paragraph 5.1.2.1: Cephalosporins	£3.02	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF 5.1.2.1 (NIC Per Item)
BNF paragraph 5.1.5.0: Macrolides	£5.55	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF 5.1.5.0 (NIC Per Item)
BNF paragraph 05.1.12.0: Quinolones	£5.15	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF 5.1.12.0 (NIC Per Item)
BNF 06: Endocrine system	£12.29	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 07: Obstetrics, gynaecology, & urinary-tract disorders	£12.83	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)

Resource	Unit cost (£)	Source	Notes
BNF 08: Malignant disease & immunosuppression	£53.51	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 09: Nutrition & blood	£11.36	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 10: Musculoskeletal & joint diseases	£6.37	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 11: Eye	£6.73	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 12: Ear, nose & oropharynx	£6.37	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 13: Skin	£7.38	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 14: Immunological products & vaccines	£8.68	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
BNF 15: Anaesthesia	£13.35	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)
Miscellaneous	£22.13	NHS Digital PCA 2014/2015 [4].	TAB: Totals for BNF chapters – NIC/PXs (£)

Table S5 Laboratory and diagnostic tests grouping

Number	description	CPRD_category	Study_Category	Cost_Category
1	Bone studies	Biochemistry (Routine)	Bone profile*	Clinical Biochemistry
2	Calcium	Biochemistry (Routine)	Bone profile*	Clinical Biochemistry
3	Calcium adjusted	Biochemistry (Routine)	Bone profile*	Clinical Biochemistry
4	Female sex hormone profile	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
5	Male sex hormone profile	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
6	Gonadotrophin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
7	Follicle stimulating hormone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
8	Human chorionic gonadotropin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
9	Luteinising hormone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
10	Oestrodiol level	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
11	Progesterone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
12	Prolactin level	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry

Number	description	CPRD_category	Study_Category	Cost_Category
13	Testosterone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
14	Prostate specific antigen	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
15	Serum cortisol	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
16	Sex hormone binding globulin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
17	E2 prostaglandin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
18	Feto-placental hormones	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
19	Serum parathyroid hormone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
20	Gastrointestinal hormones	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
21	Serum growth hormone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
22	Serum insulin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
23	Serum adrenaline	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
24	Serum noradrenaline	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
25	Serum aldosterone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
26	Serum renin	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
27	Serum adrenocorticotrophic hormone	Biochemistry (Hormone)	Clinical Biochemistry	Clinical Biochemistry
28	B12 & Folate level	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
29	Drug levels	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
30	Iron studies	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
31	Guthrie test	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
32	Chemical function tests	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
33	Iron kinetics	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
34	Toxicology	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
35	Other drug levels	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
36	Blood gases	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
37	Disaccharidase tolerance test	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
38	Biochemical screening tests	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
39	B12 levels	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
40	Carbamazepine	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry

Number	description	CPRD_category	Study_Category	Cost_Category
41	Digoxin blood level	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
42	Serum ferritin	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
43	Folate level	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
44	Lithium levels	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
45	Phenobarbitone	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
46	Phenytoin	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
47	Theophylline	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
48	Valproate	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
49	Amylase	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
50	Cardiac enzymes	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
51	Blood trace elements/vitamins	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
52	Free tri-iodothyronine	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
53	Free thyroxine	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
54	Serum iron tests	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
55	Tricyclics	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
56	Serum amino acids	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
57	Blood lead level	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
58	Blood alcohol level	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
59	Methotrexate	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
60	Enzymes/specific protein	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
61	Other biochemistry test	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
62	Serum paracetamol	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
63	Serum cyclosporin	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
64	Schilling test - b12 absorption	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
65	Serum lactate	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
66	Carboxyhaemoglobin	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
67	Serum amiodarone	Biochemistry (Other)	Clinical Biochemistry	Clinical Biochemistry
68	Glucose tolerance test	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
69	Urinalysis - Glucose	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
70	Urinalysis - Protein	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
71	Acid phosphatase	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
72	Creatine phosphokinase level	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry

Number	description	CPRD_category	Study_Category	Cost_Category
73	Creatinine clearance	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
74	Lactate dehydrogenase	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
75	Serum inorganic phosphate	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
76	Prostatic acid phosphatase	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
77	Total protein	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
78	HbA1c - diabetic control	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
79	Uric acid blood level	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
80	Serum osmolality	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
81	Serum globin	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
82	Urine biochemistry	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
83	Total iron binding capacity	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
84	Fructosamine	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
85	Urine microalbumin	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
86	Anion gap	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
87	Glomerular Filtration Rate	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
88	Urine Leucocytes	Biochemistry (Routine)	Clinical Biochemistry	Clinical Biochemistry
89	Calculus examination	Microbiology	Clinical Biochemistry	Clinical Biochemistry
90	Urine cytology	Other Tests	Pathology Cytology	Cytology
91	Sputum cytology	Other Tests	Pathology Cytology	Cytology
92	Cervical cytology	Other Tests	Pathology Cytology	Cytology
93	Barium enema	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
94	Barium meal	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
95	Intravenous pyelogram (IVP)	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
96	Mammogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
97	Abdominal ultra sound	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
98	Pelvic ultra sound	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging

Number	description	CPRD_category	Study_Category	Cost_Category
99	Other diagnostic imaging	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
100	Ankle x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
101	Chest x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
102	Elbow x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
103	Upper leg x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
104	Foot x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
105	Hand x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
106	Hip x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
107	Upper arm x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
108	Knee x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
109	Neck x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
110	Pelvis x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
111	Ribs x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
112	Shoulder x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
113	Sinus x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
114	Skull x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
115	Spine x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
116	Lower leg x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
117	Wrist x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
118	Nuclear medicine	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
119	CAT scan	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
120	MRI scan	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
121	Carotid angiogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
122	Coronary angiogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
123	Femoral arteriogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
124	Barium swallow	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
125	Barium follow through	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
126	General ultra sound scan	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
127	Abdominal xray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
128	Lower arm x-ray	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
129	Bone density studies	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
130	Venography	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
131	Renal arteriography	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
132	Fluoroscopy	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
133	Lymphangiography	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging

Number	description	CPRD_category	Study_Category	Cost_Category
134	Tomography	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
135	Sialogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
136	Abdominal aortogram	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
137	Dexa scan/bone mineral density	Diagnostic Imaging	Diagnostic Imaging	Diagnostic Imaging
138	Tactile Sensation	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
139	Scoring test result	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
140	ECG exercise	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
141	Nerve conduction studies	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
142	Doppler ultrasound peripheral pulse	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
143	ECG ambulatory	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
144	Pulmonary function tests	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
145	Ambulatory blood pressure	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
146	Skin prick test	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
147	Electroencephalography	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
148	Oesophagoscopy	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
149	Echocardiogram	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
150	Transfer coefficient for CO	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
151	Intraocular pressure left	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
152	Intraocular pressure right	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
153	Pulse oximetry	Diagnostic Tests	Diagnostic Tests	Diagnostic Tests
154	Serum chloride	Biochemistry (Routine)	Electrolytes*	Clinical Biochemistry
155	Serum creatinine	Biochemistry (Routine)	Electrolytes*	Clinical Biochemistry
156	Blood glucose	Biochemistry (Routine)	Electrolytes*	Clinical Biochemistry
157	Fasting glucose	Biochemistry (Routine)	Electrolytes*	Clinical Biochemistry
158	Serum electrolytes	Biochemistry (Routine)	Electrolytes*	Clinical Biochemistry
159	Endoscopy	Diagnostic Tests	Endoscopy*	Diagnostic Tests
160	Bronchoscopy	Diagnostic Tests	Endoscopy*	Diagnostic Tests
161	Duodenoscopy	Diagnostic Tests	Endoscopy*	Diagnostic Tests
162	Colonoscopy	Diagnostic Tests	Endoscopy*	Diagnostic Tests
163	Sigmoidoscopy	Diagnostic Tests	Endoscopy*	Diagnostic Tests
164	Blood lipids	Biochemistry (Routine)	Fats*	Clinical Biochemistry

Number	description	CPRD_category	Study_Category	Cost_Category
165	Lipoprotein electrophoresis	Biochemistry (Routine)	Fats*	Clinical Biochemistry
166	Serum cholesterol	Biochemistry (Routine)	Fats*	Clinical Biochemistry
167	High density lipoprotein	Biochemistry (Routine)	Fats*	Clinical Biochemistry
168	Low density lipoprotein	Biochemistry (Routine)	Fats*	Clinical Biochemistry
169	Triglycerides	Biochemistry (Routine)	Fats*	Clinical Biochemistry
170	Very low density lipoprotein	Biochemistry (Routine)	Fats*	Clinical Biochemistry
171	HDL/LDL ratio	Biochemistry (Routine)	Fats*	Clinical Biochemistry
172	Full blood count	Haematology	Full blood count*	Clinical Biochemistry
173	Differential white cell count	Haematology	Full blood count*	Clinical Biochemistry
174	Eosinophil count	Haematology	Full blood count*	Clinical Biochemistry
175	Haemoglobin	Haematology	Full blood count*	Clinical Biochemistry
176	Monocyte count	Haematology	Full blood count*	Clinical Biochemistry
177	Neutrophil count	Haematology	Full blood count*	Clinical Biochemistry
178	Platelets	Haematology	Full blood count*	Clinical Biochemistry
179	Red blood cell count	Haematology	Full blood count*	Clinical Biochemistry
180	Lymphocyte count	Haematology	Full blood count*	Clinical Biochemistry
181	Packed cell volume	Haematology	Full blood count*	Clinical Biochemistry
182	Basophil count	Haematology	Full blood count*	Clinical Biochemistry
183	RBC red blood cell size	Haematology	Full blood count*	Clinical Biochemistry
184	PF best ever	Asthma	GP does in surgery*	Exclude
185	PF predicted	Asthma	GP does in surgery*	Exclude
186	PF current	Asthma	GP does in surgery*	Exclude
187	Urine dipstick for glucose	Biochemistry (Routine)	GP does in surgery*	Exclude
188	Urine dipstick for protein	Biochemistry (Routine)	GP does in surgery*	Exclude
189	Urine dipstick for ketones	Biochemistry (Routine)	GP does in surgery*	Exclude
190	Urine dipstick for blood	Biochemistry (Routine)	GP does in surgery*	Exclude
191	Urine dipstick for ph	Biochemistry (Routine)	GP does in surgery*	Exclude
192	Urine dipstick for nitrites	Biochemistry (Routine)	GP does in surgery*	Exclude

Number	description	CPRD_category	Study_Category	Cost_Category
193	Electrocardiogram	Diagnostic Tests	GP does in surgery*	Exclude
194	Forced expiration volume in 1 sec	Diagnostic Tests	GP does in surgery*	Exclude
195	FEV1 / FVC	Diagnostic Tests	GP does in surgery*	Exclude
196	Forced vital capacity	Diagnostic Tests	GP does in surgery*	Exclude
197	Airway reversibility	Diagnostic Tests	GP does in surgery*	Exclude
198	Total lung capacity	Diagnostic Tests	GP does in surgery*	Exclude
199	Spirometry	Diagnostic Tests	GP does in surgery*	Exclude
200	Lung function post steroids	Diagnostic Tests	GP does in surgery*	Exclude
201	Lung function pre-steroids	Diagnostic Tests	GP does in surgery*	Exclude
202	Height	Examination Findings	GP does in surgery*	Exclude
203	Fundoscopy	Examination Findings	GP does in surgery*	Exclude
204	Target blood pressure	Examination Findings	GP does in surgery*	Exclude
205	Weight	Examination Findings	GP does in surgery*	Exclude
206	Peripheral oedema	Examination Findings	GP does in surgery*	Exclude
207	Heart examination	Examination Findings	GP does in surgery*	Exclude
208	Blood pressure	Examination Findings	GP does in surgery*	Exclude
209	Jugular venous pressure	Examination Findings	GP does in surgery*	Exclude
210	Respiratory rate	Examination Findings	GP does in surgery*	Exclude
211	Temperature	Examination Findings	GP does in surgery*	Exclude
212	Postural drop in BP	Examination Findings	GP does in surgery*	Exclude
213	Faecal occult blood	Microbiology	GP does in surgery*	Exclude
214	Blood group	Haematology	Haematology*	Haematology
215	Clotting tests	Haematology	Haematology*	Haematology
216	Blood group antibodies	Haematology	Haematology*	Haematology
217	Film report	Haematology	Haematology*	Haematology
218	Bone marrow examination	Haematology	Haematology*	Haematology
219	Colour index	Haematology	Haematology*	Haematology
220	Microscopy for malarial parasites	Haematology	Haematology*	Haematology
221	Red blood cell shape	Haematology	Haematology*	Haematology

Number	description	CPRD_category	Study_Category	Cost_Category
222	Red blood cell colour	Haematology	Haematology*	Haematology
223	Haemoglobin variants	Haematology	Haematology*	Haematology
224	Red blood cell clumping	Haematology	Haematology*	Haematology
225	Red blood cells enzymes	Haematology	Haematology*	Haematology
226	Sickle cell disease screen	Haematology	Haematology*	Haematology
227	Haematology screening tests	Haematology	Haematology*	Haematology
228	Mean corpuscular haemoglobin	Haematology	Haematology*	Haematology
229	MCH Hb Concentration	Haematology	Haematology*	Haematology
230	Mean corpuscular volume	Haematology	Haematology*	Haematology
231	Reticulocytes	Haematology	Haematology*	Haematology
232	Total White Blood cell count	Haematology	Haematology*	Haematology
233	Erythrocyte sedimentation rate	Haematology	Haematology*	Haematology
234	Large unstained cells	Haematology	Haematology*	Haematology
235	Prothrombin time	Haematology	Haematology*	Haematology
236	Partial thromboplastin time	Haematology	Haematology*	Haematology
237	INR	Haematology	Haematology*	Haematology
238	RBC - folate	Haematology	Haematology*	Haematology
239	Plasma viscosity	Haematology	Haematology*	Haematology
240	Serum fibrinogen level	Haematology	Haematology*	Haematology
241	Thrombin time	Haematology	Haematology*	Haematology
242	Histology	Other Pathology Tests	Histology	Histology
243	Glandular fever test	Serology Immunology	& Immunology	Immunology
244	Serology	Serology Immunology	& Immunology	Immunology
245	Rubella test	Serology Immunology	& Immunology	Immunology
246	Tuberculin test	Serology Immunology	& Immunology	Immunology
247	Anti mitochondrial antibodies	Serology Immunology	& Immunology	Immunology
248	Anti nuclear antibodies	Serology Immunology	& Immunology	Immunology
249	Syphilis test	Serology Immunology	& Immunology	Immunology
250	Viral studies	Serology Immunology	& Immunology	Immunology
251	Plasma electrophoresis	Serology Immunology	& Immunology	Immunology

Number	description	CPRD_category	Study_Category	Cost_Category
252	SH-antigen (hepatitis b) test	Serology Immunology	& Immunology	Immunology
253	HIV test	Serology Immunology	& Immunology	Immunology
254	Infection titres	Serology Immunology	& Immunology	Immunology
255	Anti smooth muscle autoantibodies	Serology Immunology	& Immunology	Immunology
256	Thyroid autoantibodies	Serology Immunology	& Immunology	Immunology
257	DNA binding autoantibodies	Serology Immunology	& Immunology	Immunology
258	Other autoantibodies	Serology Immunology	& Immunology	Immunology
259	Hepatitis a test	Serology Immunology	& Immunology	Immunology
260	CAP (RAST)	Serology Immunology	& Immunology	Immunology
261	LE cells	Serology Immunology	& Immunology	Immunology
262	Other immunology tests	Serology Immunology	& Immunology	Immunology
263	Legionella antibody test	Serology Immunology	& Immunology	Immunology
264	Immuno electrophoresis	Serology Immunology	& Immunology	Immunology
265	HLA tissue typing	Serology Immunology	& Immunology	Immunology
266	Parietal cell autoantibodes	Serology Immunology	& Immunology	Immunology
267	Adrenal autoantibodies	Serology Immunology	& Immunology	Immunology
268	C Reactive protein	Serology Immunology	& Immunology	Immunology
269	Immunoglobulin	Serology Immunology	& Immunology	Immunology
270	Rheumatoid factor	Serology Immunology	& Immunology	Immunology
271	Antistreptolysin o titre	Serology Immunology	& Immunology	Immunology
272	Complement tests	Serology Immunology	& Immunology	Immunology
273	Tumour markers	Serology Immunology	& Immunology	Immunology
274	Immunology screening tests	Serology Immunology	& Immunology	Immunology

Number	description	CPRD_category	Study_Category	Cost_Category
275	Hepatitis B Antibody	Serology Immunology	& Immunology	Immunology
276	Liver function tests	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
277	Liver enzymes	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
278	Albumin	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
279	Alkaline phosphatase	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
280	Alanine aminotransferase	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
281	Aspartate aminotransferase	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
282	Bilirubin	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
283	Gamma glutamyl transpeptidase	Biochemistry (Routine)	Liver function tests*	Clinical Biochemistry
284	Mid-stream specimen of urine	Microbiology	Microbiology	Microbiology
285	Nail clippings	Microbiology	Microbiology	Microbiology
286	Sputum culture	Microbiology	Microbiology	Microbiology
287	Stool culture	Microbiology	Microbiology	Microbiology
288	Urine test	Microbiology	Microbiology	Microbiology
289	Eye swab	Microbiology	Microbiology	Microbiology
290	Cervical swab	Microbiology	Microbiology	Microbiology
291	High vaginal swab	Microbiology	Microbiology	Microbiology
292	Nose swab	Microbiology	Microbiology	Microbiology
293	Other swab	Microbiology	Microbiology	Microbiology
294	Penile swab	Microbiology	Microbiology	Microbiology
295	Skin swab	Microbiology	Microbiology	Microbiology
296	Throat swab	Microbiology	Microbiology	Microbiology
297	Vaginal swab	Microbiology	Microbiology	Microbiology
298	Wound swab	Microbiology	Microbiology	Microbiology
299	Examination of faeces	Microbiology	Microbiology	Microbiology
300	Synovial fluid examination	Microbiology	Microbiology	Microbiology
301	Sputum examination	Microbiology	Microbiology	Microbiology
302	Other bacteriology tests	Microbiology	Microbiology	Microbiology
303	Urethral swab	Microbiology	Microbiology	Microbiology
304	Vomit examination	Microbiology	Microbiology	Microbiology

Number	description	CPRD_category	Study_Category	Cost_Category
305	Chlamydia	Microbiology	Microbiology	Microbiology
306	Cerebro-spinal fluid examination	Microbiology	Microbiology	Microbiology
307	Ascitic fluid examination	Microbiology	Microbiology	Microbiology
308	Microscopy culture & sensitivities	Microbiology	Microbiology	Microbiology
309	Pleural fluid examination	Microbiology	Microbiology	Microbiology
310	Ear swab	Microbiology	Microbiology	Microbiology
481	Other laboratory tests	Other Pathology Tests	Other_Pathology	Other_Pathology
482	Other Lab Result Information	Other Pathology Tests	Other_Pathology	Other_Pathology
483	Thyroid function	Biochemistry (Other)	Thyroid*	Clinical Biochemistry
484	Thyroxine	Biochemistry (Other)	Thyroid*	Clinical Biochemistry
485	Thyroid disorder screening	Biochemistry (Routine)	Thyroid*	Clinical Biochemistry
486	Triiodothyronine	Biochemistry (Routine)	Thyroid*	Clinical Biochemistry
487	Thyroid disease	Disease Registers	Thyroid*	Clinical Biochemistry
488	Thyroid stimulating hormone	Biochemistry (Hormone)	Thyroid*	Clinical Biochemistry
489	Urea and electrolytes	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry
490	Potassium	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry
491	Sodium	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry
492	Urea - blood	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry
493	Serum bicarbonate	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry
494	Albumin creatinine ratio	Biochemistry (Routine)	Urea and Eelectrolytes*	Clinical Biochemistry

***Batch tests – 1 record per batch selected**

Statistical analyses

Box 1. Total cost impact of sequelae of *Campylobacter*/NTS infections on the NHS in England

Step 1: Determine mean annual cost impact per patient

Mean annual cost impact of sequelae per patient =

DID[†] per quarter X 4

Step 2: Determine expected number developing sequelae annually in England

a) Numbers presenting to GP annually in England = IID2 study numbers for UK * 0.8[‡]

b) Results from step a * proportion expected to develop sequelae

Step 3: Determine mean total annual cost impact of sequelae on the NHS in England

Mean total annual cost impact of sequelae on NHS in England =

Results from step 1 * Results from step 2b

[†]DID - Difference in the mean total costs accrued by patients with the selected GI infection and sequelae in comparison to the mean total costs accrued by patients with the selected GI infection only.

[‡]IID2 study was for UK only, of which 80% of participants were from England [13].

A three-step approach was adopted to determine the annual total cost impact of sequelae on the NHS in England. First, the mean annual cost impact per patient was estimated by quadrupling the per-patient mean quarterly difference in the total costs accrued by patients with the selected GII who developed sequelae in comparison with patients who had only the GII. Second, the number of people expected to consult their GP annually for *Campylobacter*/NTS infections annually (from published estimates from the IID2 study[13]) was multiplied by the rate of sequelae amongst *Campylobacter* or NTS patients in our study. This produced the expected number of people who would develop sequelae in England amongst those consulting their GP for GII. Third, we estimated the total cost impact of sequelae in England by multiplying the results from steps 1 and 2 (Appendix Box 1, p23). Error propagation at each step to account for uncertainty in the final estimates was incorporated [14].

RESULTS

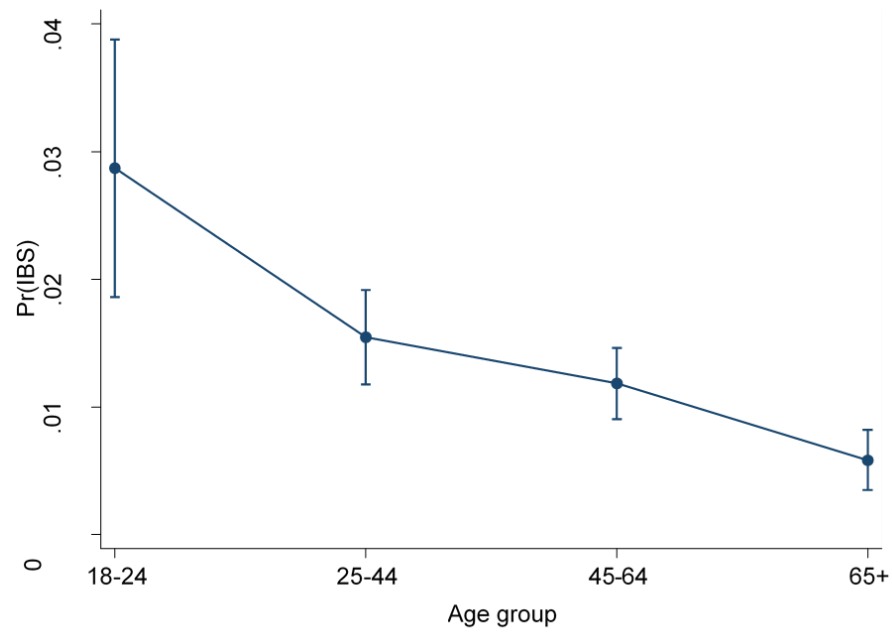
Table S6 Campylobacter and NTS Patients from CPRD with or without a linked record in HES

	<i>Campylobacter</i>		<i>Non-typhoidal Salmonella</i>	
	HES linked, N = 13,960	CPRD only, N =3,878	HES linked, N = 2,115	CPRD only, N =608
	N (%)	N (%)	N (%)	N (%)
<i>Age (years)</i>				
Mean (Sd)	44.7 (21.2)	44.6 (21.1)	38 (18, 54)	36 (16, 55)
<i>Sex</i>				
Male	7,511 (53.8)	2,043 (52.7)	1,017 (48.1)	318 (52.3)
Female	6,449 (46.2)	1,835 (47.3)	1,098 (51.9)	290 (47.7)
<i>Index of Multiple Deprivation (IMD)</i>				
1-Least deprived	4189 (30.0)	†	587 (27.8)	†
2	3627 (26.0)	0 (0.0)	494 (23.4)	†
3	2743 (19.6)	†	436 (20.6)	0 (0.0)
4	2107 (15.1)	†	359 (17.0)	0 (0.0)
5-Most deprived	1283 (9.2)	0 (0.0)	237 (11.2)	0 (0.0)
Missing	11 (0.1)	3874 (99.9)	†	607 (99.8)
<i>CCI presence or absence</i>				
No comorbidity	9165 (65.7)	2535 (65.4)	1559 (73.7)	420 (69.1)
1 or more CCI	4795 (34.3)	1343 (34.6)	556 (26.3)	188 (30.9)

Abbreviations and symbols: sd – Standard deviation; CCI – Charlson comorbidity index; - not applicable to data source; † events less than 5 not shown due to deductive disclosure in accordance with the ISAC protocol, where only category had events less than 5, a second category was also masked.

Test for trend

Figure S1 Test for liner trend on the effect of age on the onset of irritable bowel syndrome following prescription of PPI in patients with *Campylobacter* infection



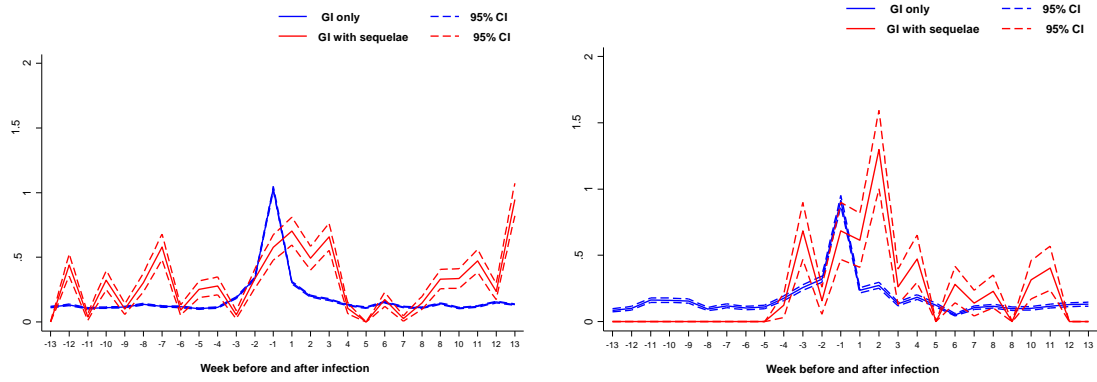
Resource use

Table S7. The estimated mean total annual cost impact of sequelae of *Campylobacter* and NTS infection on the NHS in England

Step 1						
Annual cost impact of sequelae per patient						
	Cost impact per case per quarter	lcl	ucl	Cost impact per case per year	lcl	ucl
<i>Campylobacter</i>	£331	£260.70	£401.40	£1,324.00	£1,183.30	£1,464.70
NTS	£211	£58.80	£364.30	£884.00	£578.50	£1,189.50
Step 2						
Number presenting to GP annually						
	UK	lcl	ucl	England	lcl	ucl
<i>Campylobacter</i>	78,973	55,486	112,401	63,178	44,389	89,921
NTS	11,291	4,649	27,418	9,033	3,719	21,934
Sequelae rate for England only						
	Rate	lcl	ucl			
<i>Campylobacter</i>	0.02	0.01	0.02			
NTS	0.03	0.02	0.03			
Expected number developing sequelae annually						
	Number	lcl	ucl			
<i>Campylobacter</i>	948	584	1312			
NTS [†]	253	0	512			
Step 3						
Estimated total annual cost impact on NHS						
	Total cost	lcl	ucl			
<i>Campylobacter</i>	£1,254,715	£754,525	£1,754,906			
NTS [†]	£223,585	£0	£465,210			
Abbreviations: lcl - lower confidence limit (95% confidence interval); ucl - upper confidence limit (95% confidence limit); †negative values were truncated to zero.						

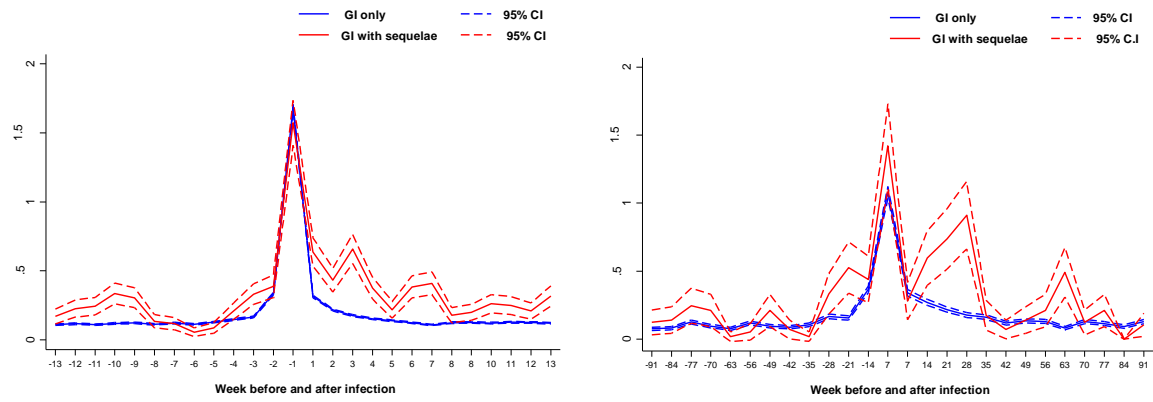
Figure S2 Weekly average number of consultations and tests per patient in the cohort

Consultations



(Left to right – Campylobacter patients, NTS patients)

Tests



(Left to right – Campylobacter patients, NTS patients)

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