Supplementary File 4

Marker Condition Full Results

Table 1: Marker condition sensitivity analysis e.g., for CHEST pain

CHEST PAIN: Diagnosis 1 raw data	n	%	Review 1	Review 2: Clinical ED assessment
Acute coronary syndrome (ACS)	921	19.4	Unclear	Include
Acute pancreatitis	16	0.3	Exclude	Exclude
Acute pulmonary oedema	3	0.1	Unclear	Exclude
Alcohol (ethanol) intoxication	18	0.4	Exclude	Include
Alcohol dependence syndrome	3	0.1	Exclude	Include
Alcohol withdrawal seizure	2	0	Exclude	Exclude
Alcohol withdrawal syndrome	4	0.1	Exclude	Include
Anaemia	2	0	Unclear	Include
Anaemia: iron deficiency	1	0	Unclear	Include
Angina (stable)	29	0.6	Unclear	Include
Angina (unstable)	102	2.1	Exclude	Exclude
Anxiety disorder	206	4.3	Unclear	Include
Aortic dissection	2	0	Exclude	Exclude
Appendicitis	1	0	Exclude	Include
Arrhythmia : other	67	1.4	Unclear	Exclude
Ascending cholangitis	4	0.1	Unclear	Include
Aspiration pneumonia	9	0.2	Exclude	Include
Asthma	31	0.7	Unclear	Include
Atrial fibrillation / flutter	62	1.3	Exclude	Include
Attention to or removal of surgical dressings	1	0	Remove	Remove
Bedsore / pressure sore	1	0	Exclude	Include
Benign paroxysmal vertigo	10	0.2	Exclude	Include
Benzodiazepine overdose	1	0	Exclude	Exclude
Biliary colic	21	0.4	Unclear	Include
Bipolar affective disorder	1	0	Exclude	Include
Boil / abscess	2	0	Unclear	Include
Bowel obstruction	3	0.1	Exclude	Include
Bradycardia	4	0.1	Unclear	Include
Breast problem: pregnancy-related	1	0	Exclude	Include
Bronchiolitis	3	0.1	Unclear	Include
Bronchopneumonia	4	0.1	Unclear	Include
Brugada syndrome	1	0	Exclude	Exclude
Bruise / contusion / abrasion: abdomen	59	1.2	Unclear	Include
Bruise / contusion / abrasion: ankle	1	0	Unclear	Include

Bruise / contusion / abrasion: back	22	0.5	Unclear	Include
Bruise / contusion / abrasion: face	4	0.1	Unclear	Include
Bruise / contusion / abrasion: finger	1	0	Unclear	Include
Bruise / contusion / abrasion: foot	2	0	Unclear	Include
Bruise / contusion / abrasion: forearm	2	0	Unclear	Include
Bruise / contusion / abrasion: hand	1	0	Unclear	Include
Bruise / contusion / abrasion: head	2	0	Unclear	Include
Bruise / contusion / abrasion: hip	1	0	Unclear	Include
Bruise / contusion / abrasion: knee	4	0.1	Unclear	Include
Bruise / contusion / abrasion: lower leg	3	0.1	Unclear	Include
Bruise / contusion / abrasion: neck	5	0.1	Unclear	Include
Bruise / contusion / abrasion: shoulder	18	0.4	Unclear	Include
Bruise / contusion / abrasion: thigh	3	0.1	Unclear	Include
Bruise / contusion / abrasion: thorax	629	13.3	Unclear	Include
Bruise / contusion / abrasion: thumb	1	0	Unclear	Include
Bruise / contusion / abrasion: upper arm	3	0.1	Unclear	Include
Bruise / contusion / abrasion: wrist	1	0	Unclear	Include
Burn: hand	1	0	Exclude	Include
Cardiogenic shock	1	0	Exclude	Exclude
Cardiomyopathy	1	0	Exclude	Exclude
Cellulitis	8	0.2	Unclear	Include
Chickenpox / varicella	1	0	Unclear	Include
Cholecystitis	13	0.3	Include	Include
Chronic obstructive pulmonary disease	44	0.9	Include	Include
Chronic pancreatitis	7	0.1	Exclude	Include
Closed fracture: elbow joint	1	0	Exclude	Include
Closed fracture: hip (NoF)	1	0	Exclude	Include
Closed fracture: rib	31	0.7	Exclude	Include
Closed fracture: scaphoid	1	0	Exclude	Include
Closed fracture: sternum	4	0.1	Exclude	Include
Complication of soft tissue injury: neurological	3	0.1	Exclude	Include
Congenital heart disease	1	0	Exclude	Include
Congestive cardiac failure	9	0.2	Exclude	Include
Constipation	6	0.1	Unclear	Include
Costochondritis	239	5	Include	Include
Crush injury: thorax	5	0.1	Exclude	Exclude
Deep vein thrombosis	10	0.2	Unclear	Include
Degloving injury: thorax	1	0	Unclear	Include
Delirium (acute confusion)	2	0	Exclude	Include

Dental abscess	1	0	Exclude	Include
Dependence on opioids	1	0	Exclude	Include
Depressive disorder	5	0.1	Unclear	Include
Direct admit to a specialty	83	1.7	Remove	Remove
Diverticulitis	1	0	Unclear	Include
Drug reaction	7	0.1	Exclude	Include
Dysmenorrhoea	1	0	Unclear	Include
Ear wax (impacted)	1	0	Unclear	Include
Eating disorder	1	0	Exclude	Include
Endocarditis	1	0	Exclude	Include
Epilepsy: generalised	3	0.1	Exclude	Include
Epistaxis	2	0	Unclear	Include
Fluid electrolyte or acid-base disorder (see free text)	4	0.1	Exclude	Include
Foreign body: alimentary tract	5	0.1	Exclude	Include
Foreign body: respiratory tract	2	0	Unclear	Include
Frozen shoulder	2	0	Exclude	Include
Gallstones with cholecystitis	16	0.3	Include	Include
Gastritis	98	2.1	Include	Include
Gastro:oesophageal reflux	159	3.3	include	Include
Gastroduodenal ulcer	5	0.1	Unclear	Include
Guillain-Barre syndrome	1	0	Exclude	Exclude
Haematological condition not listed above	5	0.1	Exclude	Exclude
Haemopneumothorax	1	0	Exclude	Exclude
Haemoptysis	7	0.1	Exclude	Exclude
Haemorrhoids	1	0	unclear	Include
Hayfever	2	0	Unclear	Include
Heart block: first degree	2	0	Exclude	Include
Hepatitis	1	0	Exclude	Include
Herpes zoster infection (shingles)	8	0.2	Unclear	Include
Hyperemesis gravidarum	1	0	Exclude	Include
Hyperkalaemia	2	0	Exclude	Include
Hypertension	14	0.3	Unclear	Include
Hypoglycaemia	3	0.1	Exclude	Include
Hypokalaemia	4	0.1	Exclude	Include
Incisional hernia	1	0	Exclude	Include
Infectious gastroenteritis	37	0.8	Include	Include
Infectious mononucleosis	1	0	Exclude	Include
Influenza	8	0.2	Include	Include
Inguinal hernia	2	0	Exclude	Include
Inhalation of toxic gas / vapour	4	0.1	Exclude	Exclude
Injury of kidney	1	0	Exclude	Exclude
Injury of liver	1	0	Exclude	Exclude
Intracerebral haemorrhage	1	0	Exclude	Exclude
Labyrinthitis	2	0	Unclear	Include
Left before clinical assessement	144	3	Remove	Remove

Left bundle branch block	1	0	Exclude	Include
Left ventricular failure	1	0	Exclude	Include
Lobar poneumonia	25	0.5	Include	Include
Lower respiratory tract infection	313	6.6	Include	Include
Malignant hypertension	1	0	Exclude	Exclude
Malignant tumour	2	0	Exclude	Exclude
Mechanical complication of cardiac electronic device	6	0.1	Exclude	Exclude
Micturition syncope	1	0	Exclude	Include
Migraine	4	0.1	Unclear	Include
Minor traumatic brain injury (GCS more than 12) : no LOC	5	0.1	Exclude	Include
Multifocal atrial tachycardia	5	0.1	Exclude	Include
Multiple sclerosis	1	0	Exclude	Include
Muscle injury : lower back	12	0.3	Unclear	Include
Muscle injury : lower leg	1	0	Unclear	Include
Muscle injury : neck	2	0	Unclear	Include
Muscle injury : shoulder	24	0.5	Unclear	Include
Muscle injury : upper arm	3	0.1	Unclear	Include
Muscle injury : upper back	117	2.5	Unclear	Include
Myocardial infarction (NSTEMI)	26	0.5	Exclude	Exclude
Myocardial infarction (STEMI)	36	0.8	Exclude	Exclude
Myocarditis	3	0.1	Exclude	Exclude
Neutropenic sepsis	1	0	Exclude	Exclude
No abnormality detected	122	2.6	Include	Include
Non:specific viral rash	3	0.1	Unclear	Include
Oesophageal perforation	1	0	Exclude	Exclude
Oesophageal spasm	17	0.4	Include	Include
Oesophageal stricture	1	0	unclear	Include
Open chest wound	1	0	Exclude	Exclude
Opiate overdose	1	0	Exclude	Include
Osteoarthritis	1	0	Exclude	Exclude
Other endocrine disorder (see free text)	3	0.1	Exclude	Exclude
Other nervous system disorder (see free text)	10	0.2	Exclude	Exclude
Other renal system disorder (see free text)	1	0	Exclude	Exclude
Otitis externa	1	0	Unclear	Include
Otitis media / middle ear infection	2	0	Unclear	Include
Ovarian disorder	1	0	Unclear	Include
Paracetamol overdose	3	0.1	Exclude	Exclude
Pericardial effusion	1	0	Exclude	Exclude
Pericarditis	26	0.5	Unclear	Include
Personality disorder	1	0	Exclude	Include
Pityriasis rosea	1	0	Exclude	Include
Pleural effusion	25	0.5	Unclear	Include

Poisoning (NOT plant / venom / gas / vapour)	3	0.1	Exclude	Exclude
Post-partum infection	1	0	Exclude	Include
Postural hypotension	3	0.1	Exclude	Include
Prescription request	2	0	Remove	Remove
Pseudoseizure	1	0	Exclude	Include
Pulmonary embolism	78	1.6	Unclear	Exclude
Pyelonephritis	4	0.1	Exclude	Include
Pyrexia of unknown origin	5	0.1	Exclude	Include
Recreational drug use	13	0.3	Exclude	Include
Referred to GP / urgent care	131	2.8	Remove	Remove
Renal / ureteric colic due to stone	3	0.1	Exclude	Include
Respiratory failure	1	0	Exclude	Include
Ringworm / dermatophytosis / tinea	1	0	Unclear	Include
Safeguarding concern	1	0	Exclude	Include
Scarlet fever (Invasive Grp A Strep) [ND]	1	0	Unclear	Include
Sciatica	5	0.1	Include	Include
Sebaceous cyst	1	0	Unclear	Include
Sepsis	8	0.2	Exclude	Exclude
Side effect of medication	5	0.1	Exclude	Include
Sinus node dysfunction	4	0.1	Exclude	Include
Sinusitis	1	0	Unclear	Include
Social problem	3	0.1	Exclude	Include
Spinal cord injury	1	0	Exclude	Exclude
Spontaneous pneumothorax	25	0.5	exclude	Exclude
Sprain / ligament injury: cervical spine	3	0.1	Exclude	Include
Sprain / ligament injury: lumbar spine	2	0	Exclude	Include
Sprain / ligament injury: thoracic spine	10	0.2	Unclear	Include
Stroke	3	0.1	Exclude	Exclude
Subarachnoid haemorrhage	1	0	Exclude	Exclude
Supraventricular tachycardia	6	0.1	Exclude	Exclude
Surgical procedure complication	7	0.1	Exclude	Exclude
Tension headache	9	0.2	Unclear	Include
Tension pneumothorax	5	0.1	Unclear	Exclude
Tonsillitis	7	0.1	Unclear	Include
Transient ischaemic attack	3	0.1	Exclude	Exclude
Traumatic pneumothorax	3	0.1	Unclear	Exclude
Trifasicular block	1	0	Exclude	Include
Typhoid [ND]	1	0	Exclude	Exclude
Ulcerative colitis	1	0	Unclear	Exclude
Umbilical hernia	1	0	Exclude	Include
Upper gastrointestinal haemorrhage	4	0.1	Exclude	Exclude
Upper respiratory tract infection	156	3.3	Include	Include

Urinary tract infection	23	0.5	Unclear	Include
Urticaria	1	0	Unclear	Include
Vasovagal syncope	33	0.7	Exclude	Include
Ventricular extrasystole	6	0.1	Exclude	Include
Ventricular tachycardia	4	0.1	Exclude	Exclude
Vestibular neuronitis	1	0	Exclude	Include
Wound: lac / incised / bite: face	1	0	Exclude	Include
Wound: lac / incised / bite: lower leg	1	0	Exclude	Include
Wound: lac / incised / bite: thumb	1	0	Exclude	Include
Total	4747	100		

Marker Condition Base Case Analysis Results - Back Pain

Table 2: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	1,929 (100%)	45.7 (18.6)	2 to 98	45 (31 to 59)	1,509 (78.2%)	46.3 (18.8)	2 to 98	45 (32 to 59.5)	420 (21.8%)	43.8 (17.8)	6 to 87	42 (30 to 56)
Female	1,082 (56.1%)	46.4 (19.6)	4 to 98	45 (30 to 61)	868 (57.5%)	46.9 (19.8)	4 to 98	45.5 (31 to 62)	214 (51.0%)	44.5 (18.4)	8 to 87	43 (29 to 57)
Male	847 (43.9%)	44.9 (17.2)	2 to 93	45 (32 to 57)	641 (42.5%)	45.4 (17.2)	2 to 93	45 (32 to 57)	206 (49.0%)	43.1 (17.1)	6 to 82	42 (30 to 55)

Table 3: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	N	%	N	%	
Investigation cat 3, treatment cat 4	32	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	130	97.7	3	2.3	95.4
Investigation cat 2, treatment cat 4	73	100	0	0.0	100
Investigation cat 2, treatment cat 3	7	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	11	91.7	1	8.3	83.4
Total: more complex cases	**253**	**98.4**	**4**	**1.6**	**96.8**
Investigation cat 2, treatment cat 2	191	97.0	6	3.0	94.0
Investigation cat 2, treatment cat 1	209	86.7	32	13.3	73.4
Investigation cat 1, treatment cat 1-2	739	69.1	330	30.1	39.0
No investigation with no significant treatment	117	70.9	48	29.1	41.8
Total: less complex cases	*1,256*	*75.1*	*416*	*24.9*	*50.2*
Total back pain patients	**1,509**	**78.2**	**420**	**21.8**	**56.4**

Table 4: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3 or 4	discharge	123	48.6	3	75.0	n/a (insufficient GP patients)
	admit	130	51.4	1	25.0	
	Total	**253**	**16.8**	**4**	**1.0**	
Investigations 2 & treatments categorised as 1 or 2	discharge	318	79.5	31	81.6	χ^2 (1) = 0.09 p=0.837
	admit	82	20.5	7	18.4	
	Total	**400**	**26.5**	**38**	**9.0**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	834	97.4	375	99.2	χ^2 (1) =4.2 p=0.047
	admit	22	2.6	3	0.8	
	Total	**856**	**56.7**	**378**	**90.0**	
Total back pain patients		**1,509**	**100.0**	**420**	**100.0**	

Table 5: Time spend in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1,509	GP n=420			
Total Time Patient spends in ED	02:56 (01:34)	02:09 (01:02)	00:47	00:39 to 00:54	<0.001
Time: Arrival to treatment	01:27 (00:52)	01:25 (00:48)	00:01	-00:03 to 00:07	0.529
Time: Treatment to departure	01:28 (01:21)	00:43 (00:42)	00:45	00:39 to 00:51	<0.001

Table 6: Time in ED by severity and doctor type

	Time	N	ED Mean time in hours: minutes (SD)	N	GP Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3 or 4	Arrival to Treatment	253	01:29 (00:51)	4	01:31 (00:32)	-00:01	-00:52 to 00:49	0.943
	Treatment to Depart	253	02:54 (01:29)	4	02:54 (02:29)	-00:00	-01:30 to 01:30	0.999
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	400	01:33 (00:54)	38	01:40 (00:45)	-00:06	-00:24 to 00:11	0.465
	Treatment to Depart	400	01:53 (01:18)	38	01:19 (00:57)	00:33	00:08 to 00:59	0.010
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	856	01:24 (00:51)	378	01:24 (00:48)	00:00	-00:06 to 00:06	0.976
	Treatment to Depart	856	00:51 (00:50)	378	00:38 (00:33)	00:13	00:08 to 00:18	<0.001

Marker Condition Base Case Analysis Results – Chest Pain

Table 7: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)
All Patients	4,747 (100%)	47.0 (19.4)	0 - 96	47 (31 – 61)	4,438 (93.5%)	47.9 (19.2)	0 - 96	48 (32 – 62)	309 (6.5%)	35.0 (17.0)	5 - 88	31 (23 – 45)
Female	2,407 (50.7%)	47.2 (19.8)	0 - 96	47 (30 – 62)	2,230 (50.2%)	48.2 (19.7)	0 - 96	48 (32 – 63)	177 (57.3%)	34.7 (16.9)	8 - 88	31 (23 – 44)
Male	2,339 (49.3%)	46.9 (18.9)	0 - 95	47 (32 – 61)	2,207 (49.8%)	47.6 (18.8)	0 - 95	48 (32 – 62)	132 (42.7%)	35.3 (17.1)	5 - 86	30.5 (23 – 48)

Table 8: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Any Invest + cat 5 treatment	1	100	0	0.0	100
Investigation cat 3, treatment cat 4	29	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	72	100	0	0.0	100
Investigation cat 2, treatment cat 4	299	99.7	1	0.3	99.4
Investigation cat 2, treatment cat 3	54	98.2	1	1.8	96.4
Investigation cat 1, treatment cat 3-4	23	95.8	1	4.2	91.6
Total: more complex cases	**478**	**99.4**	**3**	**0.6**	**98.8**
Investigation cat 2, treatment cat 2	964	99.8	2	0.2	99.6
Investigation cat 2, treatment cat 1	2,048	98.6	29	1.4	97.2
Investigation cat 1, treatment cat 1-2	874	77.6	253	22.4	55.2
No investigation with no significant treatment	74	77.1	22	22.9	54.2
Total: less complex cases	**3,960**	**92.8**	**306**	**7.2**	**85.6**
Total chest pain patients	**4,438**	**93.5**	**309**	**6.5**	**87.0**

Table 9: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	156	32.6	3	100	n/a (insufficient GP patients)
	admit	322	67.4	0	0.0	
	Total	**478**	**10.8**	**3**	**1.0**	
Investigations 2 & treatments categorised as 1 or 2	discharge	2,161	71.7	22	71.0	$\chi^2 (1) = 0.01$ p=1.000
	admit	851	28.3	9	29.0	
	Total	**3,012**	**67.9**	**31**	**10.0**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	920	97.0	273	99.3	$\chi^2 (1) =4.4$ p=0.043
	admit	28	3.0	2	0.7	
	Total	**948**	**21.4**	**275**	**89.0**	
Total chest pain patients		**4,438**	**100**	**309**	**100**	

Table 10: Time spend in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (hours:minutes)	95% CI of the difference	p-value
	ED n=4,438	GP n=309			
Total Time Patient spends in ED	03:05 (1:21)	02:04 (0:56)	01:00	00:54 to 1:07	<0.001
Time: Arrival to treatment	01:26 (0:54)	01:29 (0:46)	-00:02	-00:08 to 00:02	0.317
Time: Treatment to departure	01:38 (1:11)	00:35 (0:32)	01:03	00:59 to 01:07	<0.001

Table 11: Time in ED by severity and doctor type

			ED		GP			
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	478	01:20 (01:02)	3	01:48 (00:53)	-00:28	-01:39 to 00:42	0.428
	Treatment to Depart	478	02:43 (01:30)	3	01:50 (01:51)	00:52	-00.49 to 02:35	0.311
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	3012	01:30 (00:51)	31	01:31 (00:45)	-00:01	-00:19 to 00:17	0.918
	Treatment to Depart	3012	01:45 (01:02)	31	01:18 (00:53)	00:27	00:05 to 00:49	0.016
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	948	001:18 (00:58)	275	01:29 (00:47)	-00:10	-00:17 to -00:04	0.001
	Treatment to Depart	948	00:43 (00:46)	275	00:29 (00:22)	00:14	00:10 to 00:18	<0.001

Marker Condition Base Case Analysis Results – Cough and Breathlessness

Table 12: Patient age and gender profile

Age	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
		All Patients				**ED**				**GP**		
All Patients	7,485 (100%)	35.5 (28.8)	0 - 100	33 (4 – 61)	6,079 (81.2%)	36.0 (29.5)	0 - 100	34 (3 – 63)	1,406 (18.8%)	33.2 (25.5)	0 - 93	32 (6 – 54.25)
Female	3,979 (53.2%)	38.7 (27.9)	0 - 100	38 (13 – 63)	3,227 (53.1%)	39.5 (28.7)	0 - 100	40 (12 – 65)	752 (53.5%)	35.1 (24.2)	0 - 93	33 (18 – 54.50)
Male	3,505 (46.8%)	31.8 (29.3)	0 - 96	27 (2 – 59)	2,852 (46.9%)	32.0 (29.9)	0 - 96	27 (2 – 61)	653 (46.4%)	31.1 (26.7)	0 - 92	29 (3 – 54.50)

Table 13: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Any Invest + cat 5 treatment	1	100	0	0	100
Investigation cat 3, treatment cat 4	20	100	0	0	100
Investigation cat 3, treatment cat 1-3	50	96.2	2	3.8	92.4
Investigation cat 2, treatment cat 4	674	99.7	2	0.3	99.4
Investigation cat 2, treatment cat 3	632	99.5	3	0.5	99.0
Investigation cat 1, treatment cat 3-4	628	90.6	65	9.4	81.2
Total: more complex cases	**2,005**	**96.5**	**72**	**3.5**	**93.0**
Investigation cat 2, treatment cat 2	415	99.0	4	1.0	98.0
Investigation cat 2, treatment cat 1	1,160	94.4	69	5.6	88.8
Investigation cat 1, treatment cat 1-2	2,359	65.8	1,224	34.2	31.6
No investigation with no significant treatment	140	79.1	37	20.9	58.2
Total: less complex cases	**4,074**	**75.3**	**1,334**	**24.7**	**50.6**
Total cough and breathlessness patients	**6,079**	**81.2**	**1,406**	**18.8**	**62.4**

Table 14: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	709	35.4	66	91.7	$\chi^2 (1) = 94.2$ <0.001
	admit	1,296	64.6	6	8.3	
	Total	**2,005**	**33**	**72**	**5.1**	
Investigations 2 & treatments categorised as 1 or 2	discharge	1,258	79.9	63	86.3	$\chi^2 (1) = 1.8$ p=0.229
	admit	317	20.1	10	13.7	
	Total	**1,575**	**25.9**	**73**	**5.2**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	2,351	94.1	1,238	98.2	$\chi^2 (1) = 32.4$ p<0.001
	admit	148	5.9	23	1.8	
	Total	**2,499**	**41.1**	**1,261**	**89.7**	
Total cough and breathlessness patients		**6,079**	**100**	**1,406**	**100**	

Table 15: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=6,079	GP n=1,406			
Total Time Patient spends in ED	02:52 (01:22)	02:05 (01:03)	00:47	00:42 to 00:52	<0.001
Time: Arrival to treatment	01:16 (00:50)	01:26 (00:52)	-00:09	-00:12 to -00:07	<0.001
Time: Treatment to departure	01:36 (01:16)	00:38 (00:41)	00:57	00:54 to 01:00	<0.001

Table 16: Time spent in ED by severity and doctor type

	Time	ED		GP		Mean difference Minutes	95% CI of the difference	p value
		N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)			
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	2,005	01:11 (00:50)	72	01:23 (00:54)	-00:11	-00:23 to 00:00	0.053
	Treatment to Depart	2,005	02:28 (01:22)	72	00:52 (01:13)	01:35	01:16 to 01:55	<0.001
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	1,575	01:27 (00:51)	73	01:35 (00:56)	-00:08	-00:20 to 00:03	0.178
	Treatment to Depart	1,575	01:38 (01:04)	73	01:07 (00:55)	00:30	00:15 to 00:45	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	2,499	01:13 (00:49)	1261	01:26 (00:52)	-00:12	-00:15 to -00:08	<0.001
	Treatment to Depart	2,499	00:52 (00:47)	1261	00:36 (00:37)	00:16	00:13 to 00:19	<0.001

Marker Condition Base Case Analysis Results – Fever (under 10's)

Table 17: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	2,528 (100%)	2.1 (2.1)	0 - 9	1 (1 – 3)	1,813 (71.7%)	2.1 (2.1)	0 - 9	1 (0 – 3)	715 (28.3%)	2.2 (2.1)	0 - 9	2 (1 – 3)
Female	1,223 (48.4%)	2.2 (2.1)	0 - 9	2 (1 – 3)	885 (48.8%)	2.2 (2.2)	0 - 9	2 (0 - 3)	338 (47.3%)	2.3 (2.0)	0 - 9	2 (1 – 3)
Male	1,305 (51.6%)	2.1 (2.1)	0 - 9	1 (0 – 3)	928 (51.2%)	2.0 (2.1)	0 - 9	1 (0 – 3)	377 (52.7%)	2.2 (2.2)	0 - 9	1 (1 – 3)

Table 18: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Any Invest + cat 5 treatment	1	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	3	100	0	0.0	100
Investigation cat 2, treatment cat 4	14	100	0	0.0	100
Investigation cat 2, treatment cat 3	6	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	49	98.0	1	2.0	96.0
Total: more complex cases	**73**	**98.6**	**1**	**1.4**	**97.2**
Investigation cat 2, treatment cat 2	123	90.4	13	9.6	80.8
Investigation cat 2, treatment cat 1	146	85.9	24	14.1	71.8
Investigation cat 1, treatment cat 1-2	1,430	68.4	661	31.6	36.8
No investigation with no significant treatment	41	71.9	16	28.1	43.8
Total: less complex cases	**1,740**	**70.9**	**714**	**29.1**	**41.8**
Total fever patients	**1,813**	**71.7**	**715**	**28.3**	**43.4**

Table 19: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	35	47.9	1	100.0	n/a (insufficient GP patients)
	admit	38	52.1	0	0.0	
	Total	**73**	**4.0**	**1**	**0.1**	
Investigations 2 & treatments categorised as 1 or 2	discharge	188	69.9	36	97.3	χ^2 (1) = 12.5 p=0.001
	admit	81	30.1	1	2.7	
	Total	**269**	**14.8**	**37**	**5.2**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	1339	91.0	661	97.6	χ^2 (1) =31.6 p<0.001
	admit	132	9.0	16	2.4	
	Total	**1471**	**81.1**	**677**	**94.7**	
Total fever patients		1813	100.0	715	100	

Table 20: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1,813	GP n=715			
Total Time Patient spends in ED	02:35 (01:00)	02:16 (00:56)	00:19	00:14 to 00:24	<0.001
Time: Arrival to treatment	01:19 (00:48)	01:37 (00:50)	-00:18	-00:22 to -00:13	<0.001
Time: Treatment to departure	01:16 (00:55)	00:38 (00:34)	00:37	00:32 to 00:40	<0.001

Table 21: Time spent in ED by severity and doctor type

		ED		GP				
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	73	01:09 (00:43)	1	00:39 (-)	00:29	-00:58 to 01:58	0.500
	Treatment to Depart	73	01:45 (01:03)	1	00:00 (-)	01:45	-00:22 to 03:52	0.105
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	269	01:14 (00:40)	37	01:41 (00:46)	-00:27	-00:41 to -00:13	<0.001
	Treatment to Depart	269	01:43 (00:57)	37	00:49 (00:55)	00:54	00.34 to 01:13	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	1,471	01:21 (00:49)	677	01:37 (00:50)	-00:16	-00:21 to -00:11	<0.001
	Treatment to Depart	1,471	01:09 (00:52)	677	00:38 (00:33)	00:31	00:27 to 00:34	<0.001

Marker Condition Base Case Analysis Results – Abdominal Pain

Table 22: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	7,824 (100%)	39.1 (21.0)	0 - 98	35 (24 – 54)	6,714 (85.8%)	40.3 (21.0)	0 - 98	36 (25 – 55)	1,110 (14.2%)	32.1 (19.8)	0 - 90	29 (17 – 46)
Female	4,931 (63.0%)	38.0 (20.0)	0 - 98	34 (23 – 51)	4,280 (63.7%)	38.9 (20.0)	0 - 98	34 (24 - 52)	651 (58.6%)	32.0 (19.0)	0 - 83	29 (18 – 45)
Male	2,891 (37.0%)	41.1 (22.5)	0 - 96	39 (24 – 58)	2,432 (36.3%)	42.8 (22.5)	0 - 96	41 (26 – 60)	459 (41.4%)	32.3 (20.8)	0 - 90	30 (14 – 46)

Table 23: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Investigation cat 3, treatment cat 4	382	99.7	1	0.3	99.4
Investigation cat 3, treatment cat 1-3	351	98.0	7	2.0	96.0
Investigation cat 2, treatment cat 4	1,323	99.9	1	0.1	99.8
Investigation cat 2, treatment cat 3	22	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	80	95.2	4	4.8	90.4
Total: more complex cases	**2,158**	**99.4**	**13**	**0.6**	**98.8**
Investigation cat 2, treatment cat 2	1,363	99.3	10	0.7	98.6
Investigation cat 2, treatment cat 1	1,813	93.6	123	6.4	87.2
Investigation cat 1, treatment cat 1-2	1,266	57.8	926	42.2	15.6
No investigation with no significant treatment	114	75.0	38	25.0	50.0
Total: less complex cases	**4,556**	**80.6**	**1,097**	**19.4**	**61.2**
Total abdominal pain patients	**6,714**	**85.8**	**1,110**	**14.2**	**71.6**

Table 24: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	754	34.9	10	76.9	n/a (insufficient GP patients)
	admit	1,404	65.1	3	23.1	
	Total	**2,158**	**32.1**	**13**	**1.2**	
Investigations 2 & treatments categorised as 1 or 2	discharge	2,628	82.7	121	91.0	χ^2 (1) = 6.2 p=0.013
	admit	548	17.3	12	9.0	
	Total	**3,176**	**47.3**	**133**	**12.0**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	1,306	94.6	926	96.1	χ^2 (1) =2.5 p=0.116
	admit	74	5.4	38	3.9	
	Total	**1,380**	**20.6**	**964**	**86.8**	
Total abdominal pain patients		6,714	100.0	1,110	100.0	

Table 25: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=6,714	GP n=1,110			
Total Time Patient spends in ED	03:14 (1:26)	02:06 (1:01)	01:08	01:03 to 01:12	<0.001
Time: Arrival to treatment	01:28 (0:54)	01:28 (0:52)	<00:01	-00:03 to 00:03	0.936
Time: Treatment to departure	01:45 (1:18)	00:37 (0:36)	01:08	01:03 to 01:12	<0.001

Table 26: Time spent in ED by severity and doctor type

	Time	ED		GP		Mean difference Minutes	95% CI of the difference	p value
		N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)			
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	2,158	01:25 (00:54)	13	01:10 (00:40)	00:15	-00:14 to 00:45	0.315
	Treatment to Depart	2,158	02:42 (01:21)	13	01:53 (01:43)	00:49	00:04 to 01:33	0.030
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	3,176	01:35 (00:53)	133	01:32 (00:48)	00:02	-00:06 to 00:11	0.588
	Treatment to Depart	3,176	01:31 (01:00)	133	00:57 (00:55)	00:33	00:23 to 00:44	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	1,380	01:18 (00:54)	964	01:28 (00:52)	-00:10	-00:14 to -00:05	<0.001
	Treatment to Depart	1,380	00:49 (00:49)	964	00:33 (00:28)	00:15	00:12 to 00:18	<0.001

Marker Condition Base Case Analysis Results – Headache

Table 27: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	1,907 (100%)	37.0 (21.5)	0 - 96	33 (21 – 53)	1,572 (82.4%)	37.8 (21.9)	0 - 96	34 (22 – 54)	335 (17.6%)	33.5 (19.4)	2 - 87	31 (20 – 47)
Female	1,122 (58.8%)	38.0 (21.2)	0 - 96	34 (22 - 53)	929 (59.1%)	38.9 (21.6)	0 - 96	35 (23 – 55)	193 (57.6%)	33.5 (18.1)	2 - 81	32 (21 – 47)
Male	784 (41.1%)	35.7 (22.0)	0 - 93	33 (19 - 52)	642 (40.8%)	36.1 (22.2)	0 - 93	34 (20 – 52)	142 (42.4%)	33.6 (21.1)	2 - 87	28 (19 – 47)

Table 28: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Investigation cat 3, treatment cat 4	55	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	247	99.2	2	0.8	98.4
Investigation cat 2, treatment cat 4	79	100	0	0.0	100
Investigation cat 2, treatment cat 3	6	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	12	92.3	1	7.7	84.6
Total: more complex cases	**399**	**99.3**	**3**	**0.7**	**98.6**
Investigation cat 2, treatment cat 2	243	97.2	7	2.8	94.4
Investigation cat 2, treatment cat 1	486	83.9	93	16.1	67.8
Investigation cat 1, treatment cat 1-2	400	65.3	213	34.7	30.6
No investigation with no significant treatment	44	69.8	19	30.2	39.6
Total: less complex cases	**1,173**	**77.9**	**332**	**22.1**	**55.8**
Total headache patients	**1,572**	**82.4**	**335**	**17.6**	**64.8**

Table 29: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	182	45.6	2	66.7	n/a (insufficient GP patients)
	admit	217	54.4	1	33.3	
	Total	**399**	**3**	**3**	**0.9**	
Investigations 2 & treatments categorised as 1 or 2	discharge	673	92.3	96	96.0	χ² (1) = 1.8 p=0.220
	admit	56	7.7	4	4.0	
	Total	**729**	**100**	**100**	**29.9**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	432	97.3	228	98.3	χ² (1) =0.6 p=0.516
	admit	12	2.7	4	1.7	
	Total	**444**	**232**	**232**	**69.3**	
Total headache patients		**1,572**	**100**	**335**	**100**	

Table 30: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1,572	GP n=335			
Total Time Patient spends in ED	2:57 (1:26)	2:09 (0:56)	0:48	0:41 to 0:56	<0.001
Time: Arrival to treatment	1:31 (0:54)	1:36 (0:49)	-0:05	-0:04 to 0:03	0.069
Time: Treatment to departure	1:26 (1:14)	0:33 (0:29)	0:54	0:49 to 0:59	<0.001

Table 31: Time in ED by severity and doctor type

	Time	ED		GP		Mean difference in hours: minutes	95% CI of the difference	p value
		N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)			
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	399	1:31 (0:54)	3	1:35 (0:16)	0:04	-0:58 to 1.06	0.894
	Treatment to Depart	399	2:40 (1:20)	3	2:46 (1:40)	0:06	-1.25 to 1:38	0.891
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	729	1:34 (0:52)	100	1:38 (0:52)	0:04	-0:07 to 0:15	0.435
	Treatment to Depart	729	1:13 (0:54)	100	0:34 (0:26)	0:39	0:28 to 0:50	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	444	1:24 (0:56)	232	1:35 (0:49)	0:11	0:03 to 0:19	0.010
	Treatment to Depart	444	0:43 (0:41)	232	0:31 (0:25)	0:12	0:07 to 0:17	<0.001

Regression analysis

Table 32: Parameter estimates for time from arrival to treatment

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	98.831	1.876	52.669	<0.001	95.153	102.509
Treated by ED doctor	-9.856	.956	-10.310	<0.001	-11.730	-7.983
Treated by GP	0	.	.	.	.	.
Abdominal Pain	-2.643	1.336	-1.978	.048	-5.263	-.024
Back Pain	-1.135	1.710	-.664	.507	-4.486	2.216
Chest Pain	-4.920	1.436	-3.425	<0.001	-7.735	-2.105
Cough or Breathlessness	-11.078	1.350	-8.205	<0.001	-13.724	-8.431
Fever (under 10s)	-6.427	1.683	-3.819	<0.001	-9.726	-3.129
Headache	0	.	.	.	.	.
Age	-.091	.015	-5.878	<0.001	-.121	-.060
Discharged	2.367	.921	2.570	.010	.562	4.172
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-4.469	1.095	-4.082	<0.001	-6.614	-2.323
Investigations 2 with treatment 1 or 2	8.660	.995	8.707	<0.001	6.710	10.609
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.

Table 33: Parameter estimates for time from treatment to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	148.487	2.060	72.079	<0.001	144.450	152.525
Treated by ED doctor	17.524	1.041	16.841	<0.001	15.484	19.563
Treated by GP	0	.	.	.	.	.
Abdominal Pain	5.784	1.429	4.048	<0.001	2.983	8.585
Back Pain	12.862	1.827	7.039	<0.001	9.281	16.443
Chest Pain	4.415	1.545	2.858	0.004	1.387	7.443
Cough or Breathlessness	5.650	1.443	3.915	<0.001	2.821	8.479
Fever (under 10s)	21.048	1.801	11.689	<0.001	17.519	24.578
Headache	0	.	.	.	.	.
Age	.197	.017	11.832	<0.001	.165	.230
Discharged	-62.828	.988	-63.571	<0.001	-64.765	-60.891
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-58.954	1.207	-48.830	<0.001	-61.321	-56.588
Investigations 2 with treatment 1 or 2	-31.670	1.065	-29.743	<0.001	-33.757	-29.583
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.
Triage Category 3	-15.965	4.010	-3.982	<0.001	-23.825	-8.106
Triage Category 4	-10.646	.839	-12.685	<0.001	-12.291	-9.001
Triage Category 5	0	.	.	.	.	.

Table 34: Parameter estimates for time from arrival to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	247.163	2.495	99.074	<0.001	242.274	252.053
Treated by ED doctor	7.697	1.260	6.108	<0.001	5.227	10.166
Treated by GP	0	.	.	.	.	.
Abdominal Pain	3.176	1.731	1.835	.066	-.216	6.568
Back Pain	11.756	2.213	5.313	<0.001	7.419	16.093
Chest Pain	-.424	1.871	-.226	.821	-4.090	3.243
Cough or Breathlessness	-5.440	1.748	-3.112	.002	-8.865	-2.014
Fever (under 10s)	14.684	2.181	6.734	<0.001	10.410	18.958
Headache	0	.	.	.	.	.
Age	.108	.020	5.344	<0.001	.068	.147
Discharged	-60.501	1.197	-50.550	<0.001	-62.847	-58.155
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-63.590	1.462	-43.493	<0.001	-66.456	-60.725
Investigations 2 with treatment 1 or 2	-23.037	1.289	-17.866	<0.001	-25.564	-20.510
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.
Triage Category 3	-11.654	4.856	-2.400	.016	-21.171	-2.136
Triage Category 4	-10.349	1.016	-10.182	.000	-12.341	-8.357
Triage Category 5	0	.	.	.	.	.

Marker Condition Sensitivity Analysis Results – Back Pain

Table 35: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)
All Patients	1,339 (100%)	45.4 (17.9)	6 to 93	45 (31 - 58)	1,028 (76.8%)	45.7 (17.9)	7 to 93	45 (32 - 58)	311 (23.2%)	44.5 (18.1)	6 to 87	44 (30 - 58)
Female	719 (53.7%)	46.4 (18.9)	8 to 93	45 (31 - 61)	569 (55.4%)	46.7 (19.0)	8 to 93	46 (31.5 - 61)	150 (48.2%)	45.1 (18.8)	8 to 87	44 (29 - 58)
Male	620 (46.3%)	44.2 (16.6)	6 to 91	44	459 (44.6%)	44.3 (16.3)	7 to 91	44	161 (51.8%)	44.0 (17.5)	6 to 82	43

Table 36: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	N	%	N	%	
Investigation cat 3, treatment cat 4	23	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	108	99.1	1	0.9	98.2
Investigation cat 2, treatment cat 4	52	100	0	0.0	100
Investigation cat 2, treatment cat 3	6	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	6	100	0	0.0	100
Total: more complex cases	**195**	**99.5**	**1**	**0.5**	**99.0**
Investigation cat 2, treatment cat 2	141	97.2	4	2.8	94.5
Investigation cat 2, treatment cat 1	159	87.4	23	12.6	74.7
Investigation cat 1, treatment cat 1-2	602	68.3	279	31.7	36.7
No investigation with no significant treatment	80	72.7	30	27.3	45.5
Total: less complex cases	**982**	**74.5**	**336**	**25.5**	**49.0**
Total back pain patients	**1,177**	**77.7**	**337**	**22.3**	**55.5**

Table 37: Hospital admission by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3 or 4	discharge	101	51.8	0	0	n/a (insufficient GP patients)
	admit	94	48.2	1	100	
	Total	**195**	**16.6**	**1**	**0.3**	
Investigations 2 & treatments categorised as 1 or 2	discharge	251	83.7	24	88.9	χ^2 (1) = 0.51 p=0.477
	admit	49	16.3	3	11.1	
	Total	**300**	**25.5**	**27**	**8.0**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	664	97.4	306	99.0	χ^2 (1) =2.9 p=0.091
	admit	18	2.6	3	1.0	
	Total	**682**	**57.9**	**309**	**91.7**	
Total back pain patients		**1,177**	**100**	**337**	**100**	

Table 38: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1177	GP n=337			
Total Time Patient spends in ED	02:55 (01:30)	02:08 (01:02)	00:46	00:38 to 00:55	<0.001
Time: Arrival to treatment	01:27 (00:50)	01:26 (00:48)	<00:01	-00:05 to 00:06	0.848
Time: Treatment to departure	01:28 (01:19)	00:42 (00:43)	00:46	00:39 to 00:52	<0.001

Table 39: Time in ED by severity and doctor type

			ED		GP			
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3 or 4	Arrival to Treatment	195	01:29 (00:51)	1	01:24 (-)	00:05	-01:36 to 01:47	0.917
	Treatment to Depart	195	02:54 (01:28)	1	06:12 (-)	-03:18	-06:12 to -00:23	0.026
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	300	01:32 (00:51)	27	01:32 (00:44)	00:00	-00:20 to -00:20	0.989
	Treatment to Depart	300	01:50 (01:15)	27	01:22 (01:03)	00:27	-00:01 to 00:57	0.065
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	682	01:23 (00:50)	309	01:25 (00:49)	-00:02	-00:08 to -00:04	0.528
	Treatment to Depart	682	00:54 (00:51)	309	00:37 (00:34)	00:16	00:11 to 00:22	<0.001

Marker Condition Sensitivity Analysis Results – Chest Pain

Table 40: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	3,915 (100%)	46.8 (19.4)	0 - 96	47 (31 – 61)	3,637 (92.9%)	47.7 (19.3)	0 - 96	48 (32 – 62)	278 (7.1%)	34.3 (16.8)	5 - 88	31 (22 – 44)
Female	1,988 (50.8%)	47.2 (19.8)	0 - 96	47 (31 – 62)	1,829 (92.0%)	48.4 (19.6)	0 - 96	49 (32 – 63)	159 (8.0%)	33.9 (16.5)	8 - 88	31 (22 – 43)
Male	1,926 (49.2%)	46.3 (19.0)	0 - 95	46 (31 – 60)	1,807 (93.8%)	47.1 (18.9)	0 - 95	47 (32 – 61)	119 (6.2%)	34.8 (17.3)	5 - 86	30 (23 – 45)

Table 41: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Investigation cat 3, treatment cat 4	22	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	49	100	0	0.0	100
Investigation cat 2, treatment cat 4	224	99.6	1	0.4	99.1
Investigation cat 2, treatment cat 3	46	97.9	1	2.1	95.7
Investigation cat 1, treatment cat 3-4	21	95.5	1	4.5	90.9
Total: more complex cases	**362**	**99.2**	**3**	**0.8**	**98.4**
Investigation cat 2, treatment cat 2	802	99.8	2	0.2	99.5
Investigation cat 2, treatment cat 1	1,788	98.7	24	1.3	97.4
Investigation cat 1, treatment cat 1-2	667	74.3	231	25.7	48.6
No investigation with no significant treatment	18	50	18	50.0	0.0
Total: less complex cases	**3,275**	**92.3**	**275**	**7.7**	**84.5**
Total chest pain patients	**3,637**	**92.9**	**278**	**7.1**	**85.8**

Table 42: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	123	34.0	3	100	n/a (insufficient GP patients)
	admit	239	66.0	0	0.0	
	Total	**362**	**10.0**	**3**	**1.1**	
Investigations 2 & treatments categorised as 1 or 2	discharge	1,911	73.8	20	76.9	$\chi^2 (1) = 0.13$ p=0.717
	admit	679	26.2	6	23.1	
	Total	**2,590**	**71.2**	**26**	**9.4**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	661	96.5	247	99.2	$\chi^2 (1) = 4.9$ p=0.027
	admit	24	3.5	2	0.8	
	Total	**685**	**18.8**	**249**	**89.6**	
Total chest pain patients		**3,637**	**100**	**278**	**100**	

Table 43: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (hours: minutes)	95% CI of the difference	p-value
	ED n=3,637	GP n=278			
Total Time Patient spends in ED	03:07 (1:16)	02:03 (0:55)	01:04	00:57 to 1:11	<0.001
Time: Arrival to treatment	01:27 (0:52)	01:28 (0:45)	-00:01	-00:06 to 00:05	0.860
Time: Treatment to departure	01:40 (1:09)	00:35 (0:33)	01:05	01:00 to 01:09	<0.001

Table 44: Time spent in ED by severity and doctor type

		ED		GP				
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	362	01:18 (00:56)	3	01:49 (00:53)	-00:31	-02:42 to 01:42	0.421
	Treatment to Depart	362	02:41 (01:26)	3	01:50 (01:51)	00:50	-03.44 to 05:24	0.516
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	2,590	01:30 (00:50)	26	01:31 (00:46)	-00:02	-00:20 to 00:17	0.855
	Treatment to Depart	2,590	01:44 (01:02)	26	01:20 (00:55)	00:25	00:02 to 00:47	0.031
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	685	01:22 (00:58)	249	01:27 (00:45)	-00:05	-00:12 to 00:02	0.198
	Treatment to Depart	685	00:51 (00:47)	249	00:30 (00:23)	00:21	00:17 to 00:26	<0.001

Marker Condition Sensitivity Analysis Results – Cough and Breathlessness

Table 45: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	7,001 (100%)	35.3 (29.0)	0 - 100	33 (3 – 62)	5,667 (80.9%)	35.8 (29.7)	0 - 100	34 (3 – 63)	1,334 (19.1%)	33.2 (25.5)	0 - 93	32 (6 – 54)
Female	3,718 (53.1%)	38.7 (28.2)	0 - 100	38 (12 – 63)	3,008 (53.1%)	39.6 (29.0)	0 - 100	40 (9 – 66)	710 (53.2%)	35.1 (24.2)	0 - 93	33 (18 – 54.25)
Male	3,282 (46.9%)	31.3 (29.4)	0 - 96	26 (2 – 59)	2,659 (46.9%)	31.4 (30.0)	0 - 96	25 (2 – 61)	623 (46.7%)	31.0 (26.9)	0 - 92	29 (3 – 54)

Table 46: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Any Invest + cat 5 treatment	1	100	0	0	100
Investigation cat 3, treatment cat 4	20	100	0	0	100
Investigation cat 3, treatment cat 1-3	45	95.7	2	4.3	91.5
Investigation cat 2, treatment cat 4	647	99.8	1	0.2	99.7
Investigation cat 2, treatment cat 3	623	99.5	3	0.5	99.0
Investigation cat 1, treatment cat 3-4	600	90.9	60	9.1	81.8
Total: more complex cases	**1,936**	**96.7**	**66**	**3.3**	**93.4**
Investigation cat 2, treatment cat 2	406	99.0	4	1.0	98.0
Investigation cat 2, treatment cat 1	1,086	94.5	63	5.5	89.0
Investigation cat 1, treatment cat 1-2	2,166	64.8	1,179	35.2	29.5
No investigation with no significant treatment	73	76.8	22	23.2	53.7
Total: less complex cases	**3,731**	**74.6**	**1,268**	**25.4**	**49.3**
Total cough and breathlessness patients	**5,667**	**80.9**	**1,334**	**19.1**	**61.9**

Table 47: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	677	35.0	60	90.9	χ² (1) =85.9 <0.001
	admit	1,259	65.0	6	9.1	
	Total	**1,936**	**34.2**	**66**	**4.9**	
Investigations 2 & treatments categorised as 1 or 2	discharge	1,202	80.1	60	89.6	χ² (1) = 3.4 p=0.067
	admit	290	19.9	7	10.4	
	Total	**1,492**	**26.3**	**67**	**5.0**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	2,099	93.7	1,182	98.4	χ² (1) =38.7 p<0.001
	admit	140	6.3	19	1.6	
	Total	**2,239**	**36.5**	**1,201**	**90.0**	
Total cough and breathlessness patients		**5,667**	**100**	**1,334**	**100**	

Table 48: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=5,667	GP n=1,334			
Total Time Patient spends in ED	02:55 (01:21)	02:03 (01:03)	00:52	00:48 to 00:56	<0.001
Time: Arrival to treatment	01:16 (00:50)	01:25 (00:52)	-00:09	-00:12 to -00:06	<0.001
Time: Treatment to departure	01:39 (01:16)	00:38 (00:42)	01:01	00:58 to 01:04	<0.001

Table 49: Time in ED by severity and doctor type

		ED		GP				
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	1,936	01:11 (00:50)	66	01:22 (00:54)	-00:10	-00:22 to 00:02	0.131
	Treatment to Depart	1,936	02:29 (01:22)	66	00:54 (01:16)	01:35	01:16 to 01:54	<0.001
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	1,492	01:27 (00:51)	67	01:34 (00:57)	-00:07	-00:21 to 00:07	0.310
	Treatment to Depart	1,492	01:39 (01:04)	67	01:04 (00:54)	00:35	00:21 to 00:48	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	2,239	01:13 (00:48)	1,201	01:25 (00:52)	-00:12	-00:15 to -00:08	<0.001
	Treatment to Depart	2,239	00:56 (00:47)	1,201	00:36 (00:37)	00:21	00:18 to 00:24	<0.001

Marker Condition Sensitivity Analysis Results – Fever (Under 10's)

Table 50: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	2,405 (100%)	2.1 (2.1)	0 - 9	1 (1 – 3)	1,724 (71.7%)	2.1 (2.1)	0 - 9	1 (0 – 3)	681 (28.3%)	2.2 (2.1)	0 - 9	2 (1 – 3)
Female	1,175 (48.9%)	2.2 (2.2)	0 - 9	2 (1 – 3)	849 (49.2%)	2.2 (2.2)	0 - 9	2 (0 - 3)	326 (47.9%)	2.3 (2.0)	0 - 9	2 (1 – 3)
Male	1,230 (51.1%)	2.1 (2.1)	0 - 9	1 (0 – 3)	875 (50.8%)	2.0 (2.1)	0 - 9	1 (0 – 3)	355 (52.1%)	2.2 (2.2)	0 - 9	1 (1 – 3)

Table 51: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Any Invest + cat 5 treatment	1	100	0	0.0	100
Investigation cat 3, treatment cat 1-3	3	100	0	0.0	100
Investigation cat 2, treatment cat 4	13	100	0	0.0	100
Investigation cat 2, treatment cat 3	6	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	48	100	0	0.0	100
Total: more complex cases	**71**	**100**	**0**	**0.0**	**100**
Investigation cat 2, treatment cat 2	121	90.3	13	9.7	80.6
Investigation cat 2, treatment cat 1	143	86.7	22	13.3	73.3
Investigation cat 1, treatment cat 1-2	1,366	68.1	639	31.9	36.3
No investigation with no significant treatment	23	76.7	7	23.3	53.3
Total: less complex cases	**1,653**	**70.8**	**681**	**29.2**	**41.6**
Total fever patients	**1,724**	**71.7**	**681**	**28.3**	**43.4**

Table 52: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	35	49.3	0	-	n/a (insufficient GP patients)
	admit	36	50.7	0	-	
	Total	**71**	**4.1**	**0**	**-**	
Investigations 2 & treatments categorised as 1 or 2	discharge	187	70.8	35	100	n/a (insufficient GP patients)
	admit	77	29.2	0	0.0	
	Total	**264**	**15.3**	**35**	**5.1**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	1,262	90.9	632	97.8	χ^2 (1) =33.3 p<0.001
	admit	127	9.1	14	2.2	
	Total	**1,389**	**80.6**	**646**	**94.9**	
Total fever patients		**1,724**	**100.0**	**681**	**100**	

Table 53: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1,724	GP n=681			
Total Time Patient spends in ED	02:38 (00:59)	02:15 (00:56)	00:23	00:18 to 00:28	<0.001
Time: Arrival to treatment	01:20 (00:48)	01:37 (00:49)	-00:17	-00:21 to -00:12	<0.001
Time: Treatment to departure	01:18 (00:55)	00:38 (00:34)	00:40	00:37 to 00:44	<0.001

Table 54: Time spent in ED by severity and doctor type

		ED		GP				
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	71	01:07 (00:43)	0	-	-	-	-
	Treatment to Depart	71	01:45 (01:04)	0	-	-	-	-
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	264	01:15 (00:40)	35	01:45 (00:45)	-00:31	-00:47 to -00:15	<0.001
	Treatment to Depart	264	01:42 (00:58)	35	00:41 (00:45)	01:01	00.44 to 01:18	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	1,389	01:22 (00:49)	646	01:36 (00:50)	-00:15	-00:19 to -00:10	<0.001
	Treatment to Depart	1,389	01:12 (00:52)	646	00:38 (00:33)	00:34	00:31 to 00:38	<0.001

Marker Condition Sensitivity Analysis Results – Abdominal Pain

Table 55: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min - max)	Median Age (IQR)
All Patients	6,967 (100%)	38.9 (21.1)	0 - 98	35 (23 – 54)	5,944 (85.3%)	40.1 (21.1)	0 - 98	36 (25 – 55)	1,023 (14.7%)	31.9 (19.9)	0 - 90	29 (17 – 45)
Female	4,417 (63.4%)	37.8 (20.1)	0 - 98	33 (23 – 51)	3,824 (64.3%)	38.8 (20.0)	0 - 98	34 (24 - 52)	593 (58.0%)	31.6 (19.1)	0 - 83	29 (17.5 – 44)
Male	2,548 (36.6%)	40.8 (22.7)	0 - 96	38 (24 – 59)	2,118 (35.6%)	42.5 (22.7)	0 - 96	40 (25 – 60.25)	430 (42.0%)	32.3 (20.9)	0 - 90	29.5 (13.75 – 467

Table 56: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Investigation cat 3, treatment cat 4	329	99.7	1	0.3	99.4
Investigation cat 3, treatment cat 1-3	329	97.9	7	2.1	95.8
Investigation cat 2, treatment cat 4	1,145	100	0	0.0	100
Investigation cat 2, treatment cat 3	20	100	0	0.0	100
Investigation cat 1, treatment cat 3-4	70	94.6	4	5.4	89.2
Total: more complex cases	**1.893**	**99.4**	**12**	**0.6**	**98.7**
Investigation cat 2, treatment cat 2	1,263	99.2	10	0.8	98.4
Investigation cat 2, treatment cat 1	1,685	93.6	116	6.4	87.1
Investigation cat 1, treatment cat 1-2	1,051	54.9	864	45.1	9.8
No investigation with no significant treatment	52	71.2	21	28.8	42.5
Total: less complex cases	**4,051**	**80.0**	**1,011**	**20.0**	**60.1**
Total abdominal pain patients	**5,944**	**85.3**	**1,023**	**14.7**	**70.6**

Table 57: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	711	37.6	9	75.0	χ² (1) = 7.1 p=0.008
	admit	1,182	62.4	3	25.0	
	Total	**1,893**	**31.8**	**12**	**1.2**	
Investigations 2 & treatments categorised as 1 or 2	discharge	2,468	83.7	116	92.1	χ² (1) = 6.3 p=0.012
	admit	480	16.3	10	7.9	
	Total	**2,948**	**49.6**	**126**	**12.3**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	1,039	94.2	855	96.6	χ² (1) =6.3 p=0.012
	admit	64	5.8	30	3.4	
	Total	**1,103**	**18.6**	**885**	**86.5**	
Total abdominal pain patients		**5,944**	**100.0**	**1,023**	**100.0**	

Table 58: Time spent in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=5,944	GP n=1,023			
Total Time Patient spends in ED	03:15 (1:23)	02:05 (1:01)	01:10	01:06 to 01:15	<0.001
Time: Arrival to treatment	01:29 (0:54)	01:28 (0:52)	00:01	-00:03 to 00:05	0.584
Time: Treatment to departure	01:46 (1:16)	00:37 (0:36)	01:09	01:06 to 01:12	<0.001

Table 59: Time in ED by severity and doctor type

			ED		GP				
	Time	N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)	Mean difference Minutes	95% CI of the difference	p value
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	1,893	01:25 (00:56)	12	01:09 (00:42)	00:17	-00:10 to 00:43	0.202
	Treatment to Depart	1,893	02:41 (01:20)	12	02:01 (01:43)	00:39	-00:26 to 01:45	0.212
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	2,948	01:35 (00:53)	126	01:33 (00:49)	00:02	-00:07 to 00:11	0.685
	Treatment to Depart	2,948	01:31 (00:59)	126	00:59 (00:56)	00:32	00:22 to 00:43	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	1,103	01:20 (00:53)	885	01:28 (00:52)	-00:08	-00:13 to -00:03	0.001
	Treatment to Depart	1,103	00:56 (00:50)	885	00:33 (00:28)	00:23	00:20 to 00:27	<0.001

Marker Condition Sensitivity Analysis Results – Headache

Table 60: Patient age and gender profile

Age	All Patients				ED				GP			
	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)	N (%)	Mean Age (SD)	Age Range (min-max)	Median Age (IQR)
All Patients	1,361 (100%)	37.8 (20.9)	0 - 96	34 (23 − 53)	1,104 (81.1%)	38.7 (21.2)	0 - 96	35 (23 − 54)	257 (18.9%)	33.9 (18.9)	2 - 87	30 (21 − 476
Female	810 (59.5%)	38.2 (20.4)	0 - 96	34 (23 - 53)	653 (59.1%)	39.3 (20.9)	0 - 96	35 (24 − 55)	157 (61.1%)	33.5 (18.0)	2 - 81	29 (21 − 45)
Male	550 (40.4%)	37.1 (21.5)	0 - 88	34 (21 - 53)	450 (40.8%)	37.7 (21.7)	0 - 88	35 (22 − 53)	100 (38.9%)	34.5 (20.5)	2 - 87	28 (20 − 46)

Table 61: Severity by doctor type

	ED		GP		% point difference (minus sign favours being seen by a GP)
	n	%	n	%	
Investigation cat 3, treatment cat 4	51	100.0%	0	0.0%	100.0%
Investigation cat 3, treatment cat 1-3	212	99.1%	2	0.9%	98.1%
Investigation cat 2, treatment cat 4	60	100.0%	0	0.0%	100.0%
Investigation cat 2, treatment cat 3	4	100.0%	0	0.0%	100.0%
Investigation cat 1, treatment cat 3-4	9	100.0%	0	0.0%	100.0%
Total: more complex cases	**336**	**99.7%**	**1**	**0.3%**	**99.4%**
Investigation cat 2, treatment cat 2	187	97.4%	5	2.6%	94.8%
Investigation cat 2, treatment cat 1	331	82.3%	71	17.7%	64.7%
Investigation cat 1, treatment cat 1-2	230	57.6%	169	42.4%	15.3%
No investigation with no significant treatment	20	66.7%	10	33.3%	33.3%
Total: less complex cases	**768**	**69.6%**	**336**	**30.4%**	**39.1%**
Total headache patients	**1,104**	**76.6%**	**337**	**23.4%**	**53.2%**

Table 62: Hospital admissions by severity and doctor type

		ED		GP		Pearson's Chi-square P value Exact sig. two sided
		N	%	N	%	
Investigations & treatments involving category 3, 4, or 5	discharge	146	43.5	1	50.0	χ² (1) = 0.03 p=0.852
	admit	190	56.5	1	50.0	
	Total	**336**	**30.4**	**2**	**0.9**	
Investigations 2 & treatments categorised as 1 or 2	discharge	473	91.3	73	**28.4**	χ² (1) = 2.0 p=0.157
	admit	45	8.7	3	3.9	
	Total	**518**	**46.9**	**76**	**29.6**	
No investigations/significant treatment +invest 1 treat 1&2	discharge	239	95.6	176	98.3	χ² (1) =2.5 p=0.117
	admit	11	4.4	3	1.7	
	Total	**250**	**22.6**	**179**	**69.6**	
Total headache patients		**1,104**	**100**	**257**	**100**	

Table 63: Time spend in ED by doctor type

	Physician Group Mean time in hours/minutes (SD)		Mean difference (minutes)	95% CI of the difference	p-value
	ED n=1,104	GP n=257			
Total Time Patient spends in ED	3:07 (1:25)	2:06 (0:55)	1:01	0:52 to 0:69	<0.001
Time: Arrival to treatment	1:31 (0:52)	1:35 (0:49)	-0:04	-0:11 to 0:03	0.266
Time: Treatment to departure	1:36 (1:16)	0:31 (0:27)	1:05	0:59 to 0:70	<0.001

Table 64: Time spent in ED by doctor type

	Time	ED		GP		Mean difference in hours: minutes	95% CI of the difference	p value
		N	Mean time in hours: minutes (SD)	N	Mean time in hours: minutes (SD)			
Investigations & treatments involving category 3, 4, or 5	Arrival to Treatment	336	1:31 (0:53)	2	1:26 (0:04)	0:05	-0:07 to 0:17	0.340
	Treatment to Depart	336	2:42 (1:21)	2	3:44 (0:15)	-1:02	-2:18 to 0:16	0.068
Investigations 2 & treatments categorised as 1 or 2	Arrival to Treatment	518	1:35 (0:51)	76	1:39 (0:52)	-0:04	-0:16 to 0:09	0.534
	Treatment to Depart	518	1:15 (0:55)	76	0:30 (0:21)	0:45	0:38 to 0:51	<0.001
No investigation or significant treatment +invest 1 treat 1&2	Arrival to Treatment	250	1:24 (0:52)	179	1:34 (0:49)	-0:09	-0:19 to 0:00	0.054
	Treatment to Depart	250	0:49 (0:39)	179	0:29 (0:21)	0:20	0:14 to 0:26	<0.001

Regression analysis (PP)

Table 65: Parameter estimates for time from arrival to treatment

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	96.589	2.045	47.239	<0.001	92.581	100.596
Treated by ED doctor	-8.604	1.002	-8.583	<0.001	-10.569	-6.639
Treated by GP	0	.	.	.	.	.
Abdominal Pain	-2.788	1.525	-1.828	.068	-5.777	.201
Back Pain	-2.486	1.949	-1.275	.202	-6.307	1.335
Chest Pain	-5.548	1.640	-3.383	.001	-8.761	-2.334
Cough or Breathlessness	-11.815	1.534	-7.701	<0.001	-14.823	-8.808
Fever (under 10s)	-6.576	1.848	-3.559	<0.001	-10.198	-2.955
Headache	0	.	.	.	.	.
Age	-.070	.016	-4.329	<0.001	-.101	-.038
Discharged	2.747	.968	2.838	.005	.850	4.645
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-2.969	1.156	-2.568	.010	-5.235	-.703
Investigations 2 with treatment 1 or 2	8.853	1.043	8.484	<0.001	6.808	10.898
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.

Table 66: Parameter estimates for time from treatment to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	137.495	2.206	62.321	<0.001	133.171	141.820
Treated by ED doctor	24.280	1.082	22.448	<0.001	22.160	26.400
Treated by GP	0	.	.	.	.	.
Abdominal Pain	6.041	1.645	3.671	<0.001	2.815	9.266
Back Pain	10.549	2.103	5.015	<0.001	6.426	14.672
Chest Pain	6.437	1.769	3.638	<0.001	2.969	9.905
Cough or Breathlessness	4.450	1.655	2.688	.007	1.205	7.694
Fever (under 10s)	20.257	1.994	10.162	<0.001	16.350	24.165
Headache	0	.	.	.	.	.
Age	.253	.017	14.532	<0.001	.219	.287
Discharged	-62.595	1.045	-59.919	<0.001	-64.642	-60.547
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-58.033	1.247	-46.523	<0.001	-60.478	-55.588
Investigations 2 with treatment 1 or 2	-32.483	1.126	-28.852	<0.001	-34.690	-30.277
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.

Table 67: Parameter estimates for time from arrival to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	234.084	2.628	89.070	<0.001	228.933	239.235
Treated by ED doctor	15.676	1.288	12.167	<0.001	13.151	18.202
Treated by GP	0	.	.	.	.	.
Abdominal Pain	3.253	1.960	1.659	.097	-.589	7.095
Back Pain	8.063	2.506	3.218	.001	3.152	12.974
Chest Pain	.889	2.108	.422	.673	-3.242	5.020
Cough or Breathlessness	-7.366	1.972	-3.735	<0.001	-11.231	-3.501
Fever (under 10s)	13.681	2.375	5.761	<0.001	9.027	18.336
Headache	0	.	.	.	.	.
Age	.183	.021	8.831	<0.001	.142	.224
Discharged	-59.848	1.244	-48.094	<0.001	-62.287	-57.409
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-61.002	1.486	-41.053	<0.001	-63.915	-58.090
Investigations 2 with treatment 1 or 2	-23.630	1.341	-17.620	<0.001	-26.259	-21.002
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.

Regression analysis (ITT)

Table 68: Parameter estimates for time from arrival to treatment

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	98.831	1.876	52.669	<0.001	95.153	102.509
Treated by ED doctor	-9.856	.956	-10.310	<0.001	-11.730	-7.983
Treated by GP	0	.	.	.	.	.
Abdominal Pain	-2.643	1.336	-1.978	.048	-5.263	-.024
Back Pain	-1.135	1.710	-.664	.507	-4.486	2.216
Chest Pain	-4.920	1.436	-3.425	<0.001	-7.735	-2.105
Cough or Breathlessness	-11.078	1.350	-8.205	<0.001	-13.724	-8.431
Fever (under 10s)	-6.427	1.683	-3.819	<0.001	-9.726	-3.129
Headache	0	.	.	.	.	.
Age	-.091	.015	-5.878	<0.001	-.121	-.060
Discharged	2.367	.921	2.570	.010	.562	4.172
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-4.469	1.095	-4.082	<0.001	-6.614	-2.323
Investigations 2 with treatment 1 or 2	8.660	.995	8.707	<0.001	6.710	10.609
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.

Table 69: Parameter estimates for time from treatment to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	148.487	2.060	72.079	<0.001	144.450	152.525
Treated by ED doctor	17.524	1.041	16.841	<0.001	15.484	19.563
Treated by GP	0	.	.	.	.	.
Abdominal Pain	5.784	1.429	4.048	<0.001	2.983	8.585
Back Pain	12.862	1.827	7.039	<0.001	9.281	16.443
Chest Pain	4.415	1.545	2.858	0.004	1.387	7.443
Cough or Breathlessness	5.650	1.443	3.915	<0.001	2.821	8.479
Fever (under 10s)	21.048	1.801	11.689	<0.001	17.519	24.578
Headache	0	.	.	.	.	.
Age	.197	.017	11.832	<0.001	.165	.230
Discharged	-62.828	.988	-63.571	<0.001	-64.765	-60.891
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-58.954	1.207	-48.830	<0.001	-61.321	-56.588
Investigations 2 with treatment 1 or 2	-31.670	1.065	-29.743	<0.001	-33.757	-29.583
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.
Triage Category 3	-15.965	4.010	-3.982	<0.001	-23.825	-8.106
Triage Category 4	-10.646	.839	-12.685	<0.001	-12.291	-9.001
Triage Category 5	0	.	.	.	.	.

Table 70: Parameter estimates for time from arrival to departure

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Time in minutes	247.163	2.495	99.074	<0.001	242.274	252.053
Treated by ED doctor	7.697	1.260	6.108	<0.001	5.227	10.166
Treated by GP	0	.	.	.	.	.
Abdominal Pain	3.176	1.731	1.835	.066	-.216	6.568
Back Pain	11.756	2.213	5.313	<0.001	7.419	16.093
Chest Pain	-.424	1.871	-.226	.821	-4.090	3.243
Cough or Breathlessness	-5.440	1.748	-3.112	.002	-8.865	-2.014
Fever (under 10s)	14.684	2.181	6.734	<0.001	10.410	18.958
Headache	0	.	.	.	.	.
Age	.108	.020	5.344	<0.001	.068	.147
Discharged	-60.501	1.197	-50.550	<0.001	-62.847	-58.155
Admitted	0	.	.	.	.	.
No investigations/significant treatment; investigation 1 with treatment 1 or 2	-63.590	1.462	-43.493	<0.001	-66.456	-60.725
Investigations 2 with treatment 1 or 2	-23.037	1.289	-17.866	<0.001	-25.564	-20.510
Investigations or treatments 3, 4, or 5	0	.	.	.	.	.
Triage Category 3	-11.654	4.856	-2.400	.016	-21.171	-2.136
Triage Category 4	-10.349	1.016	-10.182	.000	-12.341	-8.357
Triage Category 5	0	.	.	.	.	.