

Outcomes for Emergency Department Final Diagnosis of Non-specific Complaint compared to Dyspnoea and Pain

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Abstract

Aim: To compare outcomes in Emergency Department (ED) final diagnoses of (non-specific complaint) NSC, dyspnoea and pain.

Methods: We studied all ED final diagnoses of NSC, dyspnoea, and pain over 6 years (2015-2020). Multivariable logistic regression was performed.

Results: There were 49,965 admissions. 30-day in-hospital mortality was significantly lower for pain, 3.0% (95%CI 2.4%, 3.6%), compared to NSC, 4.2% (95%CI 3.8%, 4.7%), and dyspnoea, 4.6% (95%CI 4.2%, 5.0%). NSC did not predict 30-day in-hospital mortality— univariate OR 1.05 (95%CI 0.93, 1.19), multivariable OR 1.07 (95%CI 0.93, 1.23). Comorbidity and Acute Illness Severity Scores demonstrated a curvilinear relationship with 30-day in-hospital mortality.

Conclusion: An ED final diagnosis of NSC did not predict 30-day in-hospital mortality.

Keywords

NSC, Dyspnoea, Pain, Acute Medicine, 30-day in-hospital mortality

Introduction

An Emergency Department (ED) final diagnosis of non-specific complaint (NSC) is common, representing 17.4% of acute medical admission in our institution.¹ This is consistent with another report of NSC frequency of 18.2%.² The literature on the outcomes of these NSC diagnoses is controversial. A Swedish study reported a rate of serious underlying conditions of 35.3% in NSC with associated 20.2% mortality in that subgroup.³ A Dutch study reported an NSC ED diagnosis prevalence of 4.2%, with an associated increased mortality (11.8% vs. 3.5%, OR 2.0, 95% CI 1.0-3.9, $p=0.04$).⁴ A Swiss study of NSC ED diagnosis reported no significant association with in-hospital mortality (OR 1.74, 95%CI 0.60-5.04).⁵ An NSC diagnostic label has been suggested to attract less clinical rigor and prioritization resulting in prolonged length of stay (LOS) and increased 30-day in-hospital mortality.⁶⁻⁸ Kellett and Nickel reflected, that the aetiologies and prevalence of the NSC had not been adequately investigated and represented a major deficit in current medical knowledge.⁹ We have previously evaluated outcomes of NSC in our institution over 5 years and compared these to specific diagnoses and found no difference in 30-day in-hospital mortality.¹ The reasons for the discrepancies in outcomes and conclusions in

NSCs between studies has been the source of much debate.¹⁰

A systematic review of the literature concluded that patients with NSC have a high risk of mortality and therefore should be considered a major emergency and allocated more time and resources than patients with specific complaints (SC).¹¹ This would involve reallocation of resources and therefore justify requiring a high level of confidence that this would lead to improve outcomes overall. However, it is not certain that as the BANC study suggested all NSCs are at high risk and that risk stratification tools are the answer.⁷ It may be that different authors are examining different, potentially overlapping, patient subgroups, possessing different risk characteristics that explain the different outcomes.

We have previously reported outcomes for NSC vs the overall grouping of specific complaints.¹ A limitation of that study is that certain specific complaints may not be fair comparators as they may have an inherently better prognosis and may therefore bias the results. The aim of this study was to compare NSCs with two common specific ED final diagnoses of dyspnoea and pain to determine patient characteristics, underlying diseases, and 30-day in-hospital mortality. Together these together represent total of 43.1% all the ED final diagnoses subset – the admitted emergency medical cohort.

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Methods

Background

St James's Hospital, Dublin serves as a secondary care centre for emergency admissions in a catchment area with a population of 270,000 adults. All emergency medical admissions are admitted from ED to an Acute Medical Admission Unit (AMAU), the operation and outcome of which have been described elsewhere.^{12,13}

Data collection

An anonymous patient database was employed, assembling core information from each clinical admission including details from the patient administration system, national hospital in-patient enquiry (HIPE) scheme, the patient electronic record and laboratory data. HIPE is a national database of coded discharge summaries from acute public hospitals in Ireland.¹⁴ The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) has been used for both diagnosis and procedure coding from 1990 to 2005 and ICD-10-CM since then. Data included parameters such as the unique hospital number, admitting consultant, date of birth, gender, area of residence, principal and up to nine additional secondary diagnoses, principal and up to nine additional secondary procedures, and admission and discharge dates. Additional information cross-linked and automatically uploaded to the database includes physiological, haematological and biochemical parameters. This study includes all emergency medical admissions in the 6-years between 2015 and 2020.

ED Final Diagnosis

We examined the existing ED final 'sign-off' diagnosis recorded for all emergency medical admissions. Of the 49,965 clinical admissions, 17.7% were considered NSC. The commonest NSC were, unwell (11.7%), collapse (6.5%), confusion (3.2%) weakness (2.3%) and dizziness (1.6%). The categorisation of diagnoses as NSC (or otherwise) are detailed in Appendix 1.

Risk Predictors:

Derangement of admission biochemical parameters may be utilised to predict clinical outcome. We have previously derived and applied an Acute Illness Severity Score (AISS),¹⁵ predicting 30-day in-hospital mortality from parameters recorded in the ED.¹⁶ A weighted age adjusted score was derived; six risk groups (I–VI) were identified with cut-points for 30-day in hospital mortality set at 1, 2, 4, 8 and 16%. We further adjusted for Comorbidity as described below. In addition blood culture categories of 1) no blood culture request 2) negative blood culture and 3) positive blood culture were identified and used as an adjustor in the multivariable logistic regression model.¹⁷

Comorbidity Score

Patient morbidity was assessed by a Comorbidity Score¹⁸ published in 2014, which was further adjusted by additional information collected by our information system since.¹⁹ To devise the score, we searched ICD codes that captured chronic physical or mental health disorders that limit people in activities that they generally would be expected to be able to perform were grouped according to the following ten systems: (i) cardiovascular, (ii) respiratory, (iii) neurological, (iv) gastrointestinal, (v) diabetes, (vi) renal, (vii) neoplastic disease, (viii) others (including rheumatological disabilities), (ix) ventilatory assistance required and (x) transfusion requirement. In addition, we searched our hospital's other databases for evidence of diabetes (Diamond database),²⁰ respiratory insufficiency (FEV1 <2L), troponin status (high sensitivity troponin ≥ 25 ng/L),²¹ low albumin (<35 G/dL) and anaemia (haemoglobin levels <10 G/dL) or chronic renal insufficiency - MDRD < 60 mL/min*1.73 m².²² Each component of the score was then weighted according to 30-day in-hospital mortality.

Statistical methods

Descriptive statistics were calculated for background demographic data, including means/standard deviations (SD), medians/inter-quartile ranges (IQR), or percentages. Comparisons between categorical variables and mortality were made using chi-square tests. The primary outcome was 30-day in-hospital mortality. LOS was evaluated as a secondary outcome. We adjusted the outcome computation for other known predictor variables including AISS,^{15,23} Comorbidity Score^{19,24} and Blood Culture status.¹⁷ We employed a logistic model with robust estimate to allow for clustering; the correlation matrix thereby reflected the average discrete risk attributable to each of these predictor variables.¹⁵

Logistic regression analysis identified potential mortality predictors and then tested those that proved to be significant univariate predictors ($p < 0.1$ by Wald test) to ensure that the model included all variables with predictive power. We used the margins command in Stata to estimate and interpret adjusted predictions for sub-groups, while controlling for other variables such as time, using computations of average marginal effects. Margins are statistics calculated from predictions of a previously fitted model at fixed values of some covariates and averaging or otherwise over the remaining covariates. In the multivariable logistic regression model, we adjusted univariate estimates of effect, using the previously described outcome predictor variables.

Adjusted odds ratios (OR) and 95% confidence intervals (CI) were calculated for those predictors that

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significantly entered the model ($p < 0.10$). Statistical significance at $P < 0.05$ was assumed throughout. Stata v.17.0 (Stata Corporation, College Station, Texas) statistical software was used for analysis.

This study received institutional Ethics Committee approval.

Results

Patient Demographics

There were a total of 49,965 emergency medical admissions in 29,953 patients over the 6 year study period (2015-20). This included patients admitted directly into the Intensive Care Unit or High Dependency Unit, totalling 1586 admissions (3.2%). The proportion of males was 49.9%. The median (IQR) LOS was 5.1 (2.1, 11.3) days. The median (IQR) age was 65.8 (47.6, 79.4) years, with the upper 10% boundary at 86.8 years.

Patient characteristics related to a NSC, Pain, or Dyspnoea diagnosis (Table 1)

Of the 49,965 total admissions, final ED diagnoses were NSC 8864 (17.7%), Dyspnoea 7091 (14.2%), and pain 5578 (11.2%). These were the 3 principal classes of ED final diagnosis – comprising a total of 43.1% of all emergency medical admissions.

Patients with an ED final diagnosis of pain were younger at 60.5 years (IQR 45.4, 75.3) and had a shorter hospital LOS at 4.0 days (1.4, 8.8). The NSC cohort were the older 71.6 (54.5, 82.8) compared with dyspnoea 69.6 (56.1, 80.2), but had a similar LOS (NSC 6.0 (2.6, 14.2), dyspnoea 6.4 (3.2, 12.6)). Overall 30-day in-hospital mortality was dyspnoea 7.4%, NSC 4.8% and pain 2.2%.

For dyspnoea, NSC, and pain, respectively, high AISS (Category IV / VI) was present in 84.4% vs. 77.3% vs. 63.7%, high Comorbidity Score (≥ 6 points) in 54.4% vs. 37.6% vs. 26.0%, and Charlson Comorbidity Index > 0 in 72.9%, 44.8% and 39.2%.

Logistic regression of ED final diagnosis and 30-day in-hospital mortality

We constructed a multivariable model containing the variables shown in Table 2. We constructed three models assessing each diagnosis individually and then an overall model with all three diagnoses included.

In the individual diagnosis models, an ED final diagnosis of dyspnoea was a significant predictor of 30-day in-hospital mortality both as a univariate, OR 1.93 (95%CI 1.72, 2.16), and in the multivariable model, OR 1.30 (95%CI 1.14, 1.47). An ED final diagnosis of pain was a negative predictor of 30-day in-hospital mortality, univariate OR 0.39 (95%CI

Table 1. Emergency Medical Admissions (2015-2020) by Dyspnoea, Pain or NSC Status

Variable		Dyspnoea	Pain	NSC	p-value
N		7091	5578	8864	
Age (yr.)		69.6 (56.1, 80.2)	60.5 (45.4, 75.3)	71.6 (54.5, 82.8)	<0.001
LOS (days)		6.4 (3.2, 12.6)	4.0 (1.4, 8.8)	6.0 (2.6, 14.2)	<0.001
Gender	Male	3473 (49.0%)	2837 (50.9%)	4429 (50.0%)	0.016
	Female	3618 (51.0%)	2741 (49.1%)	4435 (50.0%)	
30-day in-hospital mortality	Alive	6568 (92.6%)	5458 (97.8%)	8441 (95.2%)	<0.001
	Died	523 (7.4%)	120 (2.2%)	423 (4.8%)	
Acute Illness	1 - 3	1105 (15.6%)	2025 (36.3%)	2013 (22.7%)	<0.001
Severity Groups	4	1077 (15.2%)	1086 (19.5%)	1341 (15.1%)	
	5	1337 (18.9%)	900 (16.1%)	1801 (20.3%)	
	6	3572 (50.4%)	1567 (28.1%)	3709 (41.8%)	
Charlson Index	0	1788 (27.1%)	3148 (60.8%)	4654 (55.2%)	<0.001
	1	2664 (40.4%)	1117 (21.6%)	2195 (26.0%)	
	2	2135 (32.4%)	913 (17.6%)	1586 (18.8%)	
Comorbidity	<6	3232 (45.6%)	4125 (74.0%)	5529 (62.4%)	<0.001
Score	6 < 10	3195 (45.1%)	1227 (22.0%)	2778 (31.3%)	
	> = 10	661 (9.3%)	226 (4.1%)	557 (6.3%)	
Blood Culture Groups	0	5019 (70.8%)	4618 (82.8%)	6976 (78.7%)	<0.001
	1	1745 (24.6%)	815 (14.6%)	1546 (17.4%)	
	2	327 (4.6%)	145 (2.6%)	342 (3.9%)	

Figures represent median (IQR) or n (%)

Total numbers may not sum to 100% due to missing data

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Table 2. Multivariable Model of ED final diagnosis and 30-day in-hospital mortality

Variable	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
Dyspnoea	1.29	0.09	3.8	0.00	1.13	1.48
Pain	0.71	0.09	-2.8	0.01	0.56	0.91
NSC	1.12	0.08	1.5	0.14	0.96	1.29
AISS	2.53	0.16	14.9	0.00	2.24	2.86
Comorbidity Score	1.33	0.01	29.6	0.00	1.31	1.36
Blood Culture Result	1.82	0.07	15.2	0.00	1.68	1.96
Age > 70 years	1.23	0.08	3.3	0.00	1.09	1.40

0.31, 0.49) and multivariable OR 0.66 (95%CI 0.52, 0.83). A final ED diagnosis of NSC did not predict 30-day in-hospital mortality, univariate OR 1.05 (95%CI 0.93, 1.19) and multivariable OR 1.07 (95%CI 0.93, 1.23).

Overall in the full multivariable model, with all three diagnoses included the NSC OR for 30-day in-hospital mortality was 1.12 (95%CI 0.96, 1.29, $p=0.14$), Table 2.

The model calculated 30-day in-hospital mortality was dyspnoea 4.6% (95%CI 4.2%, 5.0%), pain 3.0% (95%CI 2.4%, 3.6%) and NSC 4.2% (95%CI 3.8%, 4.7%).

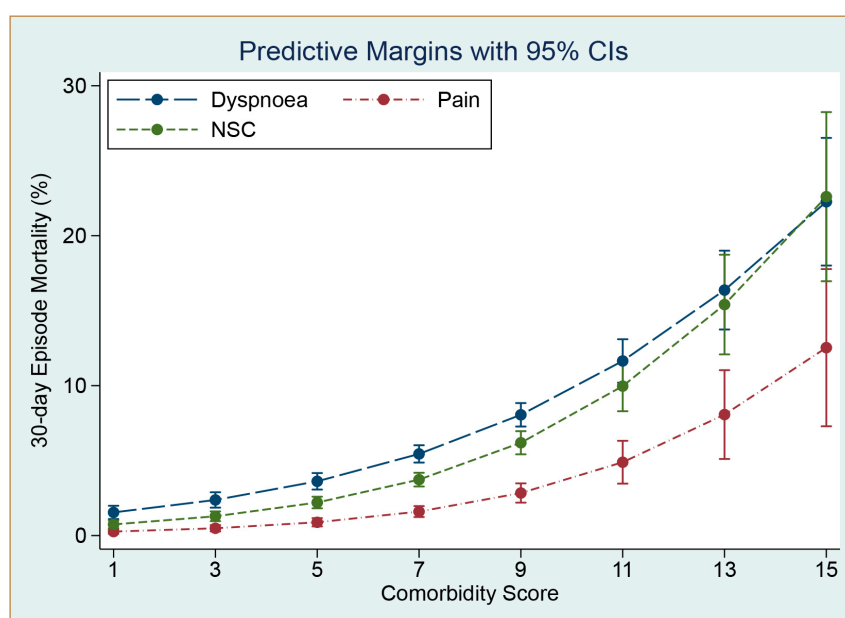
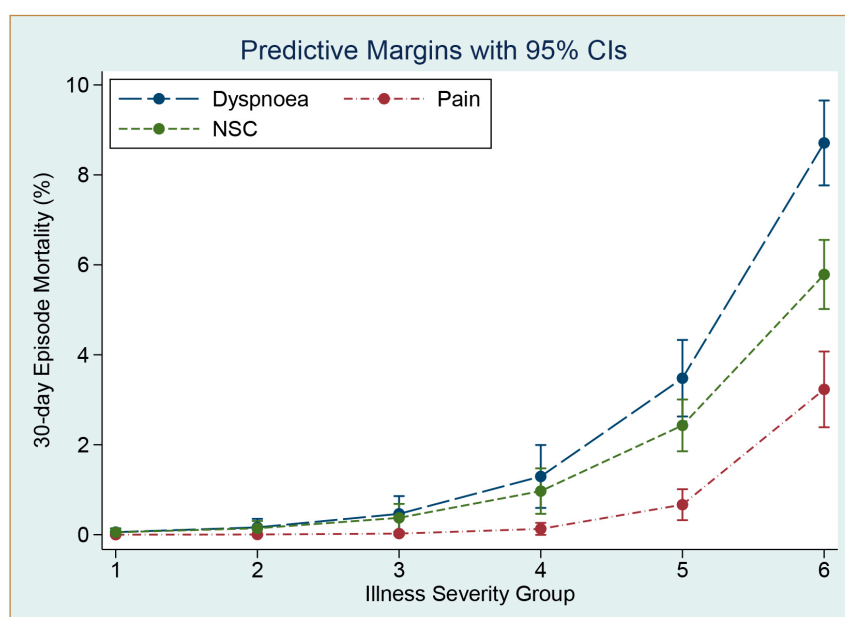
30-day in-hospital mortality by ED final diagnosis related to Comorbidity Score and AISS

There was a curvilinear relationship between both Comorbidity Score and AISS and 30-day in-hospital mortality, Figure 1, Figure 2. 30-day in-hospital mortality for NSC and dyspnoea was similar but significantly worse than for pain. There appeared to be a threshold effect with a significant increase in 30-day in-hospital mortality above a Comorbidity Score of 9 and for AISS Grade V or VI.

Discussion

NSCs are common and represented 17.7% of all ED final diagnoses between 2015 and 2020. Our rate of NSC ED final diagnoses at 17.4% is similar to a Belgian report of 18.2%.² NSC ED final diagnoses vary from 13% and 21.5% in other studies.⁸ Despite this burden of admissions, the details and outcomes NSC have been infrequently explored.⁹

Our data demonstrating that more than one-third of NSC ED final diagnoses having a serious underlying condition which then may result in increased mortality and hospitalization rates appears at variance with much of the literature.³ Potential explanations proposed for worse outcomes in NSCs include perceptions that they are less remarkable, or attract less clinical attention or prioritization.⁶ However, the problem of selection bias remains with many studies small or retrospective in nature. It is also possible that the categorisation differs systematically, leading

**Figure 1.** 30-day in-hospital mortality by Comorbidity Score for ED final diagnoses of dyspnoea, pain, and NSC.**Figure 2.** 30-day in-hospital mortality by AISS for ED final diagnoses of dyspnoea, pain, and NSC.

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to different centres having patient with different risk profiles. However, our data shows that the NSC label or categorisation per se does not determine the outcome, it lacks independent predictive capacity. The prognostic capacity of an NSC depends on the extent to which it reflects established outcome predictors such as age, AISS,^{15,23} Comorbidity Score^{19,24} and Blood culture¹⁷ results.

The previous literature on NSC has in general demonstrated association with lengthened hospitalization⁶ and increased 30-day in-hospital mortality.⁷ The BANC study, although well conducted, screened 18,261 patients but the formal report was on only 218. These authors concluded that patients with NSC presenting to the ED were at high risk of suffering from serious conditions.⁷ Ivic et al. studied³ 3780 NSCs in the calendar year 2013 in the Stockholm region; their median age was 77 years, with a serious condition present in 35.3%. The in-hospital mortality rate for the group with serious conditions was 10.1% (OR 6.8, 95%CI 4.1–11.3), and the 30-day mortality rate was 20.2% (OR 3.1, 95%CI 2.3–4.0). Wachelder and colleagues reported a prevalence of NSC in 4.2% of presentations following ED final diagnosis. An NSC diagnostic label was associated with increased hospitalisation (85.3% vs. 69.0%, $p < 0.001$) and in-hospital mortality (11.8% vs. 3.5%, adjusted OR 2.0, 95% CI 1.0–3.9, $p = 0.04$).⁴ In contrast, Birrenbach and colleagues reported Swiss data demonstrating no association of in-hospital mortality with a NSC diagnosis in the ED (OR 1.74, 95%CI 0.60–5.04).⁵ Kemp et al.¹¹, in a systematic literature review, found NSC to have increased mortality compared to specific complaints, OR 2.50 (95%CI 1.40–4.47). They consequently concluded that ED time allocation ought to be increased in patients with NSCs. They recommend that NSC should be considered as a core major emergency with an established pathway of care.¹¹ In this review, there were 5 articles reporting in-hospital mortality for patients with NSC, ranging from 7.3 to 15.6% with one report at an extreme of 36.4%. The included studies demonstrated significant heterogeneity ($p < 0.001$), likely reflecting intrinsic differences in the NSC cohort in each study.

The 30-day in-hospital mortality in our NSC cohort was strikingly different to these previous studies at 4.2% (95%CI 3.8%, 4.7%). One hypothesis for the discrepancy in outcomes in our study is that the classification of NSC may be systematically different. However, an explanation for why this may be so is not readily apparent. Our ED system has >200 categories of diagnosis, however, unwell (11.7%), collapse (6.5%), confusion (3.2%) weakness (2.3%) and dizziness (1.6%) together represent 17.7% of ED final diagnoses as NSC, similar to the

frequency reported by others.² The BANC Study considered that NSC reflected a “general condition impairment”, similar to generalized weakness – this cohort represented only 2.3% of our NSCs vs. 11.7% presenting as being simply “unwell”.⁷ In our study the underlying level of comorbidity for NSCs was not that high. (Comorbidity Score ≥ 6 points in 37.6% and Charlson Index ≥ 1 in 44.8%). This might partly explain the substantially lower mortality compared with other studies.

We caution that the lack of specificity regarding the underlying diagnosis inherent in the NSC label, is unlikely to form a reliable basis for clinical decision making compared to other predictors. We have previously illustrated the utility of other factors, in particular AISS and Comorbidity Score, in predicting 30-day in-hospital mortality.¹⁹

There are certain limitations in our current work. This study was a single-centre study in a large academic teaching hospital serving a local population with high intrinsic deprivation.²⁴ The external validity of our results will require validation in other centres and settings. Residual confounders may remain which have not been accounted for in our multivariable model. However, we have a wealth of clinical information acquired directly from the hospital systems which has allowed us to minimise this risk in so far as possible. The clinical data included in this study was collected at the time of admission from all patients, however our analysis is retrospective in nature and subject to the general limitations and cautions inherent in retrospective studies. Our primary outcome was 30-day in-hospital mortality, it is possible that results may differ if out of hospital mortality or longer term mortality were examined, and this should be a focus of future research in this area. We have compared the NSC to two exemplar specific diagnoses of dyspnoea and pain. These comparisons were planned a priori. It is feasible that alternative comparisons may yield different results. Our previous analyses in this area would suggest that this is unlikely.¹

In conclusion, we have demonstrated the lack of predictive value of an NSC diagnosis for 30-day in-hospital mortality. This is in contrast to the majority of previous literature in this area. Rather, we have illustrated that known outcome predictors, particularly illness severity and comorbidity, are the major determinants of outcomes.

Declarations

Acknowledgments

We wish to recognise the contribution of our consultant medical colleagues and the non-consultant members of the ‘on-call’ teams without which the AMAU initiative could not have been progressed. The

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dedicated contribution the Clinical Nurse Managers and the ancillary professions related to medicine (SCOPE) is gratefully acknowledged.

Authors' contributions

Made substantial contributions to conception and design of the study and performed data analysis and interpretation: Conway R, Byrne D, O'Riordan D, Silke B.

Availability of data and materials

No further data is available for sharing. All pertinent data has been published in this manuscript.

Financial support and sponsorship

None.

Conflicts of Interest

All authors declare that there are no conflicts of interest

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Final Ed Diagnosis	System & Specific or NSP
Abdominal Aortic Aneurysm	Cardiovascular
Abdominal Pain	Pain
Abdominal Pain (Adult)	Pain
Abnormal Behavior	Mood
Abnormal Blood Results	Haematology
Abscess	Infection
Abscess Follow-Up	Infection
Accidental Ingestion	Suicide
Acopia	Social
Alcohol	Alcohol
Alcohol Withdrawal	Alcohol
Allergic Reaction	Allergy
Anaemia	Haematology
Anal Pain	Pain
Animal Bite	Minor
Ankle Injury	Injury
Ankle Sprain	Rheumatology
Anorexia	NSP
Anxiety	Mood
Asthma	Respiratory
Atrial Fibrillation	Cardiovascular
Back Pain	Pain
Bite	Minor
Black Bowel Movements	Bleed
Bleed	Bleed
Blurred Vision	Eye
Bradycardia	Cardiovascular
Breast Pain	Pain
Bronchiolitis	Respiratory
Burn	Injury
Cardiac Arrest	Cardiovascular
Cardiac Failure	Cardiovascular
Cellulitis	Infection
Cerebrovascular Accident	Stroke
Chest Pain	Pain
Chest Wall Pain	Pain
Cholecystitis	Liver
Chron's Disease	GIT
Chronic Obstructive Pulmonary Disease (COPD)	Respiratory
Cold Foot	Cardiovascular
Cold Hand	Cardiovascular
Colitis	GIT
Collapse	NSP
Collapsed Adult	NSP
Confusion	NSP
Congestive Cardiac Failure	Cardiovascular
Constipation	GIT
Cough	Respiratory
Deep Vein Thrombosis	Cardiovascular
Dehydration	NSP

Final Ed Diagnosis	System & Specific or NSP
Deliberate Self Harm	Suicide
Deliberate Self Poisoning	Suicide
Dental Abscess	Infection
Dental Pain	Pain
Depression	Mood
Diabetic	Diabetes
Diabetic Ketoacidosis	Diabetes
Diarrhoea	GIT
Diarrhoea And Vomiting	GIT
Did Not Answer At Triage	DAMA
Dizziness	NSP
Dysphagia	GIT
Dyspnoea	Respiratory
Dysuria	Renal
Ear Infection	Infection
Ear Pain	Pain
Elbow Injury	Injury
Electric Burns	Injury
Epigastric Pain	Pain
Epistaxis	Bleed
Eye Infection	Eye
Eye Injury	Injury
Eye Pain	Eye
Facial Injury	Injury
Facial Problems	Minor
Facial Swelling	Minor
Fainting	NSP
Fall	NSP
Finger Fracture	Injury
Finger Injury	Injury
Flank Pain	Pain
Flu Like Illness	Respiratory
Foot Injury	Injury
Foot Sprain	Rheumatology
Forearm Fracture	Injury
Forearm Injury	Injury
Foreign Body In Airway	Respiratory
Gastritis	GIT
Gastroenteritis	GIT
GI Bleed	Bleed
Gout	Rheumatology
Groin Pain	Pain
Haematemesis	Bleed
Haematoma	Bleed
Haematuria	Bleed
Haemoptysis	Respiratory
Hand Injury	Injury
Head Injury	Injury
Headache	Neuro
High Blood Pressure	Cardiovascular

Outcomes for Emergency Department Final Diagnosis of Non-specific Complaint compared to Dyspnoea and Pain

Final Ed Diagnosis	System & Specific or NSP
Hip Dislocation	Injury
Hip Injury	Injury
Hyperglycaemia	Diabetes
Hypertension	Cardiovascular
Hyperventilation	Respiratory
Hypoglycaemia	Diabetes
Hypothermia	Infection
Infected Toenail	Minor
Infection	Infection
Intracranial Bleed	Bleed
Jaundice	Liver
Jaw Pain	Pain
Kidney Infection	Infection
Knee Injury	Injury
Knee Pain	Pain
Laceration	Injury
Left Iliac Fossa Pain	Pain
Leg Swelling	Minor
Leg Ulcer	Skin
Ligament Injury	Injury
Limb Problems	Rheumatology
Liver Disease	Liver
Local Infection	Infection
Low Haemoglobin	Haematology
Lower Leg Injury	Injury
Lower Respiratory Tract Infection (Lrti)	Respiratory
Lumbar Pain	Pain
Meningitis	Neuro
Migraine	Neuro
Multiple Trauma	Injury
Nasal Fracture	Injury
Nausea	GIT
Near Drowning	Minor
Neck Pain	Pain
Obstruction	GIT
Overdose And Poisoning	Suicide
Palpitations	Cardiovascular
Pancreatitis	GIT
Peptic Ulcer Disease	GIT
Pleuritic Pain	Pain
Pneumonia	Respiratory
Pneumothorax	Respiratory
Poisoning	Suicide
Psychosis	Mood
Pulmonary Embolism	Cardiovascular
Pyelonephritis	Renal
Pyrexia	Infection
Pyrexia Of Unknown Origin	NSP
Radial Fracture	Injury
Rash	Skin

Final Ed Diagnosis	System & Specific or NSP
Recreational Self Poisoning	Suicide
Rectal Bleeding	Bleed
Rectal Pain	Pain
Red Eye	Eye
Renal Colic	Renal
Respiratory Tract Infection	Infection
Rib Pain	Pain
Right Iliac Fossa Pain	Pain
Road Traffic Accident	Injury
Sacral Pain	Pain
Seizure	Neuro
Sepsis	Infection
Shortness Of Breath	SOB
Shortness Of Breath (Adult)	SOB
Shoulder Dislocation	Injury
Shoulder Fracture	Injury
Shoulder Injury	Injury
Shoulder Pain	Pain
Skin Infection	Infection
Smoke Inhalation	Respiratory
Social Problem	Social
Soft Tissue Injury	Injury
Sore Throat	Infection
Stroke	Stroke
Suicidal Behavior	Suicide
Swelling	Minor
Syncope	NSP
Tachycardia	Cardiovascular
Testicular Pain	Pain
Thigh Injury	Injury
Thoracic Pain	Pain
Toe Injury	Injury
Tonsillitis	Infection
Toothache	Minor
Trans Ischaemic Attack	Stroke
Tuberculosis	Infection
Unknown	NSP
Unwell	NSP
Upper Arm Injury	Injury
Urinary Frequency	Renal
Urinary Retention	Renal
Urinary Tract Infection	Infection
Urticaria	Allergy
Vaginal Discharge	Minor
Vomiting	GIT
Weakness	NSP
Wound	Injury
Wound Infection	Injury
Wrist Injury	Injury