

# Australian Emergency Care Classification Version 1.1

Final Report

July 2024



IHACPA

## Australian Emergency Care Classification Version 1.1 — July 2024

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# Abbreviations and acronyms

<b>ABF</b>	Activity based funding
<b>AECC</b>	Australian Emergency Care Classification
<b>AUG</b>	Area Under Gains ratio
<b>COVID-19</b>	Coronavirus disease 2019
<b>ECAWG</b>	Emergency Care Advisory Working Group
<b>ECDG</b>	Emergency Care Diagnosis Group
<b>ED</b>	Emergency department
<b>EPD Short List</b>	Emergency care ICD-10-AM Principal Diagnosis Short List
<b>ICD-10-AM</b>	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
<b>IHPA</b>	Independent Hospital Pricing Authority
<b>IHACPA</b>	Independent Health and Aged Care Pricing Authority
<b>MSE</b>	Mean squared error
<b>NAPEDC NMDS</b>	Non-admitted patient emergency department care National Minimum Data Set
<b>NEC</b>	National Efficient Cost
<b>NEP</b>	National Efficient Price
<b>NHCDC</b>	National Hospital Cost Data Collection
<b>NHR Act</b>	National Health Reform Act
<b>NHRA</b>	National Health Reform Agreement
<b>RID</b>	Reduction in Deviance

# Glossary of selected terms

<b>Australian Emergency Care Classification</b>	Classification system developed for Australia primarily for activity based funding of emergency care.
<b>Coefficient</b>	A numerical value that accompanies each of the Australian Emergency Care Classification (AECC) variables for an episode that is used to calculate the complexity score. Each Emergency Care Diagnostic Group (ECDG) has coefficients for age group (calculated in 5-year age increments), transport mode arrival, episode end status and triage category, as well as several coefficients to capture interactions between these variables. There are 28 coefficients for each ECDG.
<b>Complexity</b>	In clinical contexts, complexity refers to comorbidity as well as other (bio-psycho-social) characteristics of individuals indicating the level of care required during a specific clinical encounter. For the Australian Emergency Care Classification (AECC), clinical complexity is represented by cost.
<b>Complexity model</b>	Determines the intercepts, coefficients and complexity split thresholds used to assign Australian Emergency Care Classification (AECC) complexity levels.
<b>Complexity score</b>	A value calculated for each emergency care episode, which determines the Australian Emergency Care Classification (AECC) end class. The complexity score is calculated by applying a coefficient related to the reported values for an episode for the Australian Emergency Care Classification (AECC) variables.
<b>Complexity split</b>	Splitting of Emergency Care Diagnosis Group (ECDG) into end classes that represent different levels of complexity. End classes that end in 'A' represent the highest complexity within the ECDG, and each subsequent letter represents the next complexity level, up to 'D'. 'Z' indicates that the ECDG does not have a complexity split.
<b>Complexity split threshold</b>	A numerical value that separates episodes in the same Emergency Care Diagnosis Group (ECDG) into complexity levels i.e., high, moderate, and low complexity. Where the complexity score is greater than or equal to the complexity split threshold, it is assigned to the higher complexity group, otherwise it is assigned to the lower complexity group.
<b>End class</b>	Refers to each individual class of the Australian Emergency Care Classification (AECC). Applying the complexity splits to the Emergency Care Diagnosis Groups (ECDGs) derives the end classes of the classification based on diagnosis. The AECC has 181 end classes.
<b>Emergency Care Diagnosis Groups</b>	Clinically meaningful groupings of principal diagnoses, reported using the Emergency Care International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) Principal Diagnosis Short List (EPD Short List). Examples of Emergency Care Diagnosis Groups (ECDGs) include: <ul style="list-style-type: none"> <li>• E0110 <i>Dementia and other chronic brain syndromes</i>,</li> <li>• E0290 <i>Eye disorders</i></li> <li>• E0410 <i>Major respiratory conditions</i></li> </ul>
<b>Emergency Care Diagnosis Groups subcategory</b>	Clinically meaningful clusters of principal diagnoses within Emergency Care Diagnosis Groups (ECDGs). As an example, subcategories for the ECDG E0410 <i>Major respiratory conditions</i> are: <ul style="list-style-type: none"> <li>• E0411 <i>Respiratory arrest, distress and failure</i></li> <li>• E0412 <i>Pulmonary oedema</i></li> <li>• E0413 <i>Pulmonary embolism</i></li> </ul>

<b>Emergency Care International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) Principal Diagnosis Short List (EPD Short List)</b>	List of codes and medical terms based on the ICD-10-AM aiming to provide a nationally consistent approach to principal diagnosis reporting in emergency departments. A 'principal diagnosis' is the diagnosis established at the end of the patient's attendance in an emergency department to be mainly responsible for occasioning the attendance following consideration of clinical assessment, as represented by a code. Comorbidities and causes of injuries are not intended to be captured as the principal diagnosis and can be captured as secondary data items in other emergency department collections.
<b>Error end class</b>	End classes reserved for missing or invalid information for an emergency care episode. The Australian Emergency Care Classification (AECC) has 4 error end classes: <ul style="list-style-type: none"> <li>• E9901Z <i>Invalid visit type</i></li> <li>• E9902Z <i>Missing principal diagnosis short list code</i></li> <li>• E9903Z <i>Invalid principal diagnosis short list code</i></li> <li>• E9904Z <i>Other error.</i></li> </ul>
<b>Intercept</b>	A numerical value that accompanies each of the Emergency Care Diagnosis Group (ECDG) subcategories and used to calculate the complexity score. There is one intercept value for each ECDG subcategory.
<b>Linear regression</b>	A statistical method used to estimate the relationship between cost and the Australian Emergency Care Classification (AECC) variables. One linear regression is constructed for each Emergency Care Diagnosis Group (ECDG), which is assigned based on the principal diagnosis of the episode. This gives rise to a set of intercepts and coefficients specific to each ECDG.
<b>Reference value</b>	The default value that receives a coefficient of zero for each variable. An arbitrary choice of a default value for each variable must be made to calculate the coefficients in each category. For example, the reference value is '0–4 years old' for the variable 'age group' and "departed" for variable 'episode end status'.
<b>Variable</b>	Refers to the 6 Australian Emergency Care Classification (AECC) data items that are used in the complexity model to appropriately assign an AECC end class: <ul style="list-style-type: none"> <li>• visit type</li> <li>• episode end status</li> <li>• principal diagnosis</li> <li>• transport mode (arrival)</li> <li>• age</li> <li>• triage category</li> </ul>

# Executive summary

The Independent Health and Aged Care Pricing Authority is responsible for the development of the Australian Emergency Care Classification (AECC). The AECC is a clinically informed classification used for activity based funding (ABF), clinical management and other purposes.

IHACPA has developed the AECC Version 1.1 (V1.1) through detailed statistical analysis of public hospital activity and cost data, as well as consultation with jurisdictions, clinical experts, and other emergency care stakeholders. This report details AECC V1.1 and describes process and rationale for refinement changes.

The AECC V1.1 is a modest refinement of AECC Version 1.0 (V1.0) with improved statistical performance in predicting emergency presentation costs. The classification structure and variables remain the same with 6 variables being utilised to determine an end class: visit type, episode end status, principal diagnosis, transport mode (arrival), age and triage category.

The key changes for AECC V1.1 include the recalibration of the complexity model including intercepts and coefficients, and complexity split thresholds.



# 1. Introduction

## 1.1 About IHACPA

The Independent Hospital Pricing Authority (IHPA) was established under the *National Health Reform Act 2011* (Cwlth) (the NHR Act) as part of the National Health Reform Agreement (NHRA) to improve health outcomes for all Australians.

Under the NHRA, the Council of Australian Governments unanimously agreed on the establishment of activity based funding (ABF) as the primary funding methodology for public hospitals to improve transparency in the delivery of national funding.

On 12 August 2022 amendments to the NHR Act came into effect changing IHPA's name to the Independent Health and Aged Care Pricing Authority (IHACPA) and expanding its role to include the provision of aged care costing and pricing advice to the Commonwealth Government.

Whilst IHACPA has several determinative functions as specified by the NHRA, the primary role is to determine the National Efficient Price (NEP) and National Efficient Cost (NEC) for public hospital services. IHACPA undertakes reviews and updates of existing classifications and is responsible for introducing new classifications for those service categories without an existing classification to allow funding of public hospitals based on the ABF mechanism.

# 2. Background

## 2.1 The AECC

IHACPA developed the classification system for emergency care known as the Australian Emergency Care Classification (AECC). The AECC aims to improve the clinical meaningfulness of the way that emergency department (ED) patient presentations are classified. The Pricing Authority approved the AECC Version 1.0 (V1.0) in July 2019. The AECC V1.0 was used to first price emergency department presentations from 1 July 2021.

The AECC V1.0 was developed in consultation with stakeholders following a 2016 emergency care costing study and the emergency care clinician time consensus study, which was undertaken as part of the costing study. The emergency care costing study involved intensive data collection from 10 hospitals across 4 jurisdictions over a 2-week period. The costing study was used to identify individual variables contributing to the complexity of patients in emergency care, as reflected in costs, and then to determine how these would be used in combination to define end classes for the classification. The time consensus study enabled IHACPA to obtain a better understanding of time estimation for emergency care activities and procedures collected in the emergency care costing study.

Due to annual improvements in data volume, quality, and coverage, IHACPA identified the need to update the AECC. In April 2021, IHACPA engaged Taylor Fry Ltd (Taylor Fry) to undertake exploratory analysis of national emergency care episode activity and cost data collections to provide recommendations on future classification refinement.

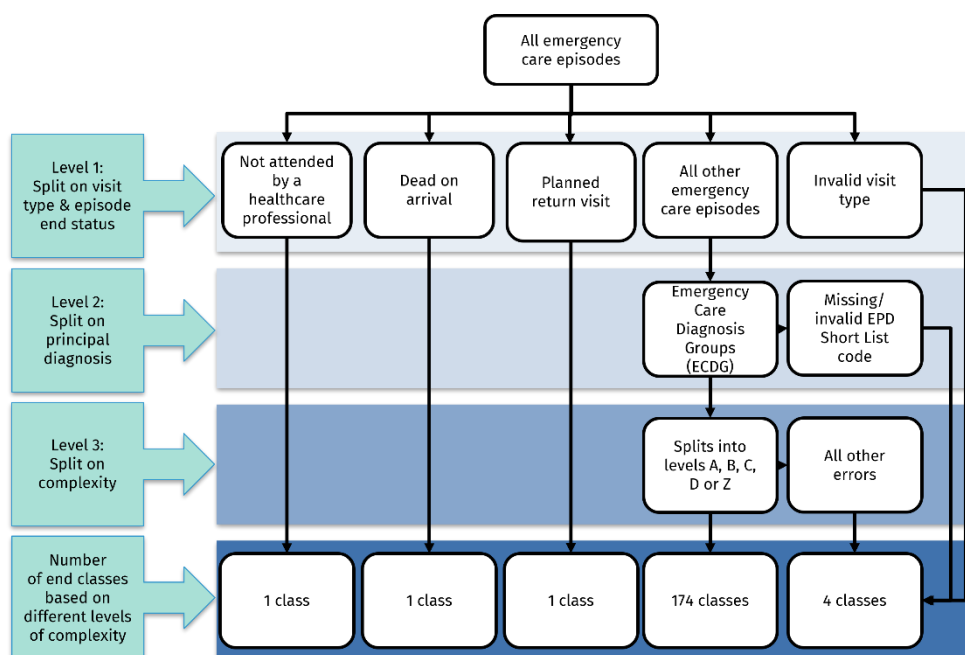
## 2.2 The AECC structure

The AECC V1.0 uses 6 variables to determine an end class: type of visit, episode end status, triage category, ED principal diagnosis, transport mode arrival and age. The ED principal diagnosis is reported using a code from the Emergency Care International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) Principal Diagnosis Short List (EPD Short List), which is subsequently grouped into Emergency Care Diagnosis Groups (ECDGs). The function of ECDGs is to group episodes into clinically meaningful conditions prior to partitioning them according to complexity. Examples of ECDGs are E0110 *Dementia and other chronic brain syndromes*, E0290 *Eye disorders* and E0410 *Major respiratory conditions*.

Clinically meaningful clusters of ED principal diagnoses within each ECDG, known as ECDG subcategories, further differentiate clinical conditions within ECDGs and differentiate costs between sets of diagnoses. An episode's ECDG subcategory contributes to that episode's complexity score. Examples of subcategories of ECDG E0410 *Major respiratory conditions* are E0411 *Respiratory arrest, distress and failure*, E0412 *Pulmonary oedema* and E0413 *Pulmonary embolism*.

Figure 1 provides an overview of the AECC V1.0 classification structure. There are a total of 181 end classes including 3 pre-ECDG end classes, which are assigned at Level 1 in the AECC classification hierarchy when a diagnosis is either not available or relevant, and 4 error end classes, which are assigned where there are missing or invalid data.

Figure 1. AECC V1.0 structure



## 2.3 The AECC complexity variables

The AECC V1.0 accounts for patient complexity, determined by a complexity score at Level 3 of the AECC classification hierarchy. The complexity score is calculated using the following explanatory variables: ED principal diagnosis, episode end status, triage category, transport mode arrival and age, specific to each ECDG. The description of each AECC complexity variable is outlined in Table 1.

Table 1. Description of AECC complexity variables

Complexity variables	Description
Episode end status	The status of the patient at the end of the non-admitted patient ED service episode.
Triage category	The urgency of a non-admitted patient's need for medical and/or nursing care in an ED, as assessed at triage.
Transport mode arrival	The mode of transport by which the person arrives at the ED. For the purposes of the AECC complexity model, it only considers whether the patient arrived in an ambulance (including air ambulance or helicopter rescue service) or not.
Age	The difference between the patient's birth date and their presentation date, that is the date on which the patient/client presents to an ED for delivery of a service.

## 2.4 The AECC complexity model

The AECC V1.0 complexity model determines the intercepts, coefficients and complexity split thresholds used to assign AECC complexity levels.

The first component of the AECC complexity model constructs linear regression models of episode cost, using the episode end status, triage category, transport mode arrival and age as explanatory variables. One linear regression model is constructed for each ECDG, which is assigned based on the ED principal diagnosis of the episode. This gives rise to a set of intercepts and coefficients specific to each ECDG.

The second component of the AECC complexity model determines the value of the complexity split threshold for each ECDG using the entire distribution of complexity scores for that ECDG. This complexity split threshold separates episodes in the same ECDG into complexity levels i.e., high, moderate, and low complexity. Where the complexity score is greater than or equal to the complexity split threshold, it is assigned to the higher complexity group, otherwise it is assigned to the lower complexity group.

Using the coefficient and intercept values of the complexity variables from the AECC V1.0, the example scenario below demonstrates how the complexity score is calculated.

Scenario: A 71-year-old, brought to ED via ambulance, assigned triage category 2 and diagnosed with I30.9 *Pericarditis, acute*. The ED presentation was completed, and the patient was admitted to the hospital.

The principal diagnosis I30.9 *Pericarditis, acute* groups to ECDG E0590 *Circulatory disorders, other* and ECDG subcategory E0599 *Circulatory disorders, other*. Using the complexity score reference tables, the values related to each variable, specific for ECDG E0590 *Circulatory disorders, other* and ECDG subcategory E0599 *Circulatory disorders, other* are identified to calculate the complexity score. In this example the calculated score is 6.632. This score is then compared to the complexity score threshold reference table (Table 2) to determine that this episode is grouped to E0590A *Circulatory disorders, other* (high complexity).

Table 2. Example complexity score threshold reference table for ECDG E0590 *Circulatory disorders, other*

ECDG	AECC end class	Complexity score threshold	
		Minimum score	Maximum score
<b>E0590 <i>Circulatory disorders, other</i></b>	<b>E0590A (high complexity)</b>	<b>6.145</b>	<b>Infinity</b>
E0590 <i>Circulatory disorders, other</i>	E0590B (moderate complexity)	3.144	6.145
E0590 <i>Circulatory disorders, other</i>	E0590C (low complexity)	0.000	3.144

As the complexity score is greater than 6.145, the final AECC end class is E0590A *Circulatory disorders, other* (high complexity).

# 3. AECC refinement

## 3.1 Overview

In 2021, IHACPA identified the need to update the AECC V1.0 due to annual improvements in data volume, quality and coverage as the existing complexity model was derived from the 2016 costing study, which made use of data collected from 10 hospitals across 4 jurisdictions over a 2-week period.

IHACPA engaged Taylor Fry in April 2021 to provide recommendations for updating the AECC using national ED activity and cost data collections. The objectives of the exploratory analysis included improving the AECC complexity model by recalibrating the model using more recently available national activity and cost data, and facilitating the implementation of future changes to better account for patient complexity and reflect patient cost drivers without modifying the classification structure. The outcomes resulted in an updated AECC complexity model, with improved classification performance, flexibility, transparency and stability.

In 2022, IHACPA, in consultation with specialist stakeholders and jurisdictions, developed a new methodology for the AECC complexity model, based on the Taylor Fry methodology developed the year prior.

## 3.2 Objectives and scope

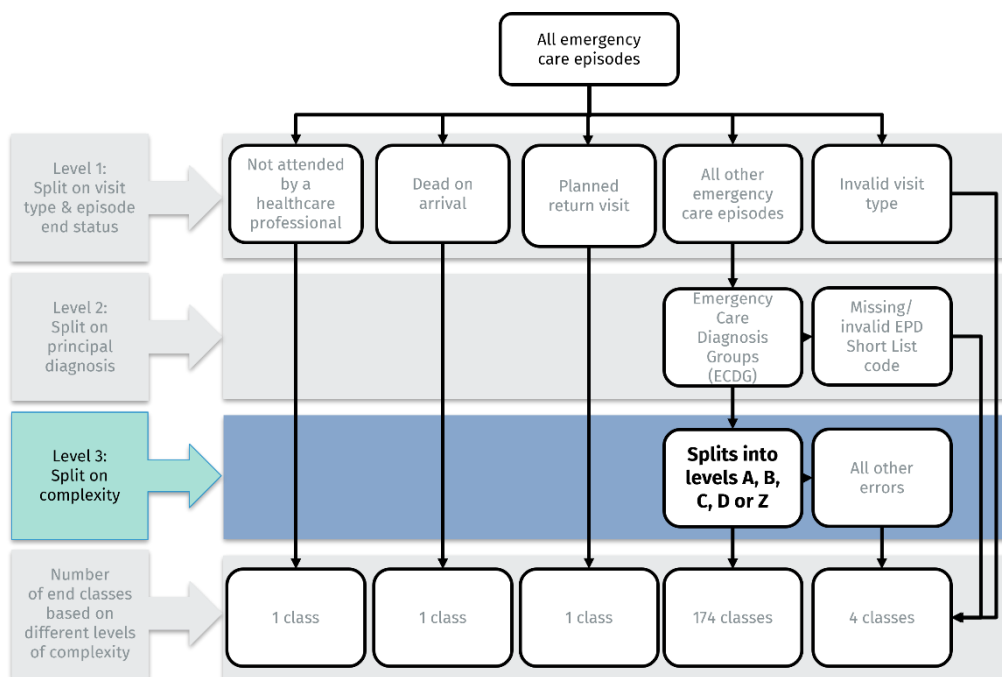
The AECC V1.1 refinement objectives were based on the recommendations from the 2021 exploratory analysis and consultation with IHACPA's working groups and advisory committees.

The objectives of the AECC V1.1 refinement include:

- Using national ED activity and cost data to recalibrate intercepts, coefficients, and complexity split thresholds for each ECDG.
- Updating the complexity model in a way that is sensitive to variations in clinical complexity while reducing the risk of instability when assessing the complexity of low-volume groups.

The scope of the AECC V1.1 refinement included only Level 3 of the AECC classification hierarchy to adhere to refinement objectives and therefore there are no other classification hierarchy changes between V1.0 and V1.1 as shown in Figure 2.

Figure 2. Impacted areas of the classification hierarchy under AECC V1.1



### 3.3 Governance and consultation

IHACPA relies on a comprehensive committee framework to provide expert advice during classification development and refinement. The main advisory group for emergency care classification work is IHACPA’s Emergency Care Advisory Working Group (ECAWG), a group of expert representatives from each Australian jurisdiction and emergency care clinicians and clinical bodies. The list of Members is provided at Appendix A.

Throughout the AECC V1.1 refinement, consultation with the following IHACPA committees has also occurred:

- Clinical Advisory Committee
- Technical Advisory Committee
- Jurisdictional Advisory Committee.

### 3.4 Data

#### 3.4.1 Data sets

To develop the AECC V1.1, IHACPA has used activity and cost data from the following collections:

- Non-admitted patient emergency department care National Minimum Data Set (NAPEDC NMDS)
- National Hospital Cost National Hospital Cost Data Collection (NHCDC)

The NAPEDC NMDS captures ED activity at the patient level. The NHCDC captures the costs associated with the activity conducted during the year. Activity and cost data collections were merged at the episode level for the 2018–19, 2019–20 and 2020–21 data years.

### 3.4.2 Data preparation

IHACPA applied several steps to prepare a quality data set for the AECC V1.1 refinement. This involved excluding or ‘trimming’ data from the refinement data set based on one of the following criteria:

1. The record has unusable data
2. The record contains data likely to skew the complexity model
3. The record did not take place in the specified reference year
4. The record is trimmed based on jurisdictional advice.

Table 3 details the trimming stages and criteria applied to create the data set for the AECC V1.1 refinement.

Table 3. AECC V1.1 data preparation trimming criteria and stages

Trimming criterion	Trimming stage	Description
1. The record has unusable data.	Missing or invalid data	Filters out ED activity records for which no cost data could be identified. Filters out records with missing or invalid principal diagnosis, missing establishment identifier, missing triage category, missing episode end status or missing transport mode arrival.
1. The record has unusable data.	Age years	Filters out records with missing presentation date or birth date, presentation date before birth date, or age greater than 110 years. Age is calculated as the difference between the patient’s birth date and their presentation date.
2. The record contains data likely to skew the complexity model.	In-scope cost	Filters out records with in-scope cost (sum of relevant cost buckets) of less than \$5.
3. The record did not take place in the specified reference year.	Episodes not wholly within the reference year	Filters out records where the episode admission date is prior to the start of the reference data year (e.g., admission date is prior to 1 July 2020 for an episode occurring in the 2020–21 data year). Filters out records where the episode physical departure date is after the end of the reference data year (e.g., physical departure date is after 30 June 2021 for an episode occurring in the 2020–21 data year).
2. The record contains data likely to skew the complexity model.	Records for establishments which opened or closed during reference year	Filters out records for establishments that opened or closed in a reference data year (e.g., all 2020–21 records for a hospital that opened in December 2020 would be trimmed).
4. The record is trimmed based on jurisdictional advice.	Jurisdictional advice	Filters out records with erroneous establishment identifiers or episode identifiers based on jurisdictional advice.

Table 4 summarises the trimming stages and the number of episodes trimmed at each stage. The trimming stages are applied sequentially according to the order in Table 4. Therefore, where an episode meets multiple trimming criteria, it will be reflected in the figure of the earliest row of Table 4 which is impacted. For example, a record with a missing principal diagnosis and an in-scope cost of \$4.20 satisfies the trimming criteria 1 and 2. Such a record would be included in the ‘Number of trimmed records’ figure for trim stage ‘Missing or invalid principal diagnosis’ but not for trimming

stage 'In-scope cost less than \$5' because 'Missing or invalid principal diagnosis' is the earlier row in Table 4.

**Table 4 . Summary of AECC V1.1 trimmed records by data year**

Trimming criterion	Trimming stage	Number of trimmed records			
		2018-19	2019-20	2020-21	Total
<b>Initial number of records with ED activity and costs</b>		<b>8,184,682</b>	<b>8,172,976</b>	<b>8,429,214</b>	<b>24,786,872</b>
<b>LESS: Records trimmed due to unusable data</b>		<b>1,024,770</b>	<b>1,153,163</b>	<b>877,499</b>	<b>3,055,432</b>
1	Missing or invalid principal diagnosis	694,161	802,406	594,345	2,090,912
1	Missing establishment identifier	-	-	-	-
1	Missing triage category	-	-	-	-
1	Missing episode end status	-	-	-	-
1	Missing transport mode arrival	-	-	-	-
1	Age less than zero or greater than 110 years	22	4	47	73
2	In-scope cost less than \$5	5,005	279	361	5,645
3	Episodes not wholly within the reference data year	1,972	2,154	1,806	5,932
2	Records for establishments newly opened/closed within a reference data year	255,186	279,116	203,263	737,565
4	Jurisdictional advice	68,424	69,204	77,677	215,305
<b>Records retained for AECC V1.1 development</b>		<b>7,159,912</b>	<b>7,019,813</b>	<b>7,551,715</b>	<b>21,731,440</b>

Additionally, IHACPA considered the potential impact of coronavirus disease 2019 (COVID-19) by comparing average episode cost by ECDG subcategory and analysing the distribution of key classification variables across data years. After consulting with ECAWG Members, IHACPA retained data impacted by COVID-19 for the AECC V1.1 refinement on the basis that this data reflects the true state of the health system at the time of development. Appendix B provides detailed cost per presentation and variable distribution analysis.

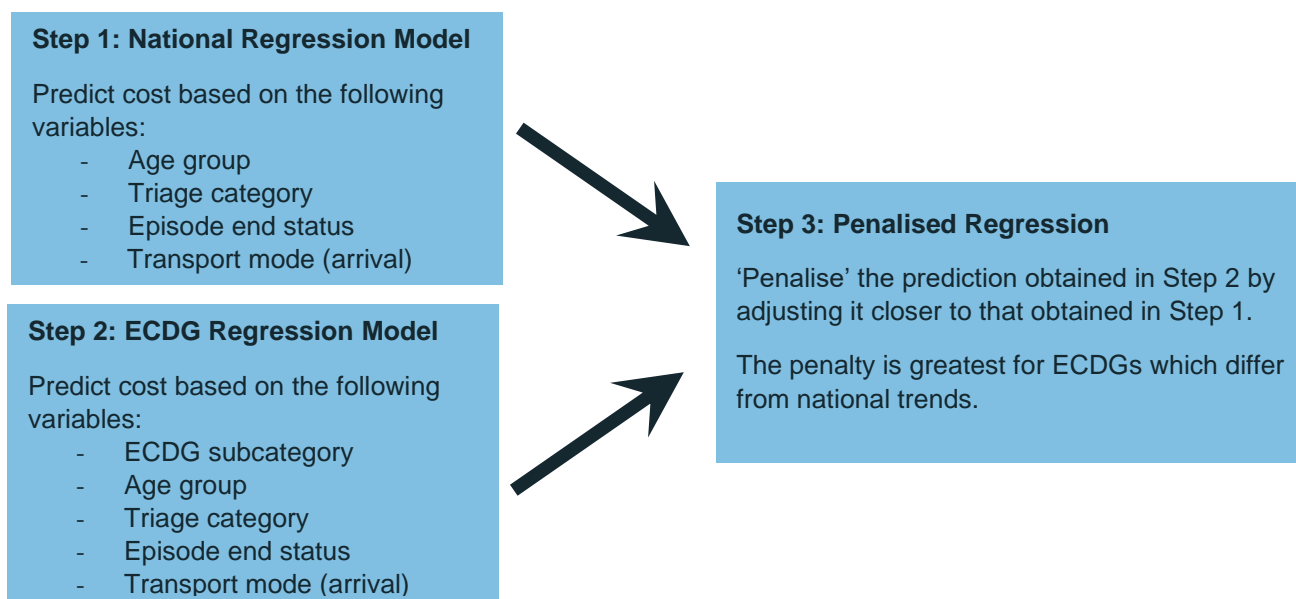
### 3.5 Methodology

In constructing the AECC V1.1 complexity model, IHACPA has sought to minimise the volatility of intercept and coefficient values by applying a 3-step process depicted in Figure 3. The first step involves calculating an initial set of intercepts and coefficients using the entire data set. This is referred to as 'pooling data' across all ECDGs. The second step is to calculate a set of intercepts and coefficients specific to each ECDG. The third step compares the predictions obtained in the first 2 steps and imposes a 'penalty' on the ECDG-specific output obtained in step 2 if it differs substantially from the 'pooled model' obtained in step 1. The result is a set of ECDG-specific intercepts and coefficients that have been updated considering national trends.

Comparatively, the methodology for the regression model in AECC V1.0 calculates intercepts and coefficients directly at the ECDG level in the manner of step 2 alone.



Figure 3. A flow diagram depicting the penalised regression model used in AECC V1.1



The change in regression model methodology was implemented to reduce the likelihood of volatility in ECDGs with small sample sizes. While there were changes to how the intercept and coefficient values are determined under the AECC V1.1, the way in which these values are applied in calculating the AECC complexity score remains the same.

### 3.5.1 Determining intercepts and coefficients

In the AECC V1.1, an intercept is calculated for each ECDG subcategory and a series of coefficient values are calculated for each ECDG. Each ECDG has coefficients for age group (calculated in 5-year age increments), transport mode arrival, episode end status and triage category, as well as several coefficients to capture interactions between these variables. Age group, episode end status and triage category are all categorical variables. Transport mode arrival is a binary variable that classifies whether the patient arrived in an ambulance (including air ambulance or helicopter rescue service).

Since the linear regression is being performed on several categorical variables (as opposed to numeric variables), an arbitrary choice of a default value for each variable must be made to calculate the coefficients in each category. This default value receives a coefficient of zero and is referred to as the “reference value” for each variable. The choice of reference values does not impact any presentation’s complexity score. A different choice of reference value for any or all variables would result in the same complexity score being obtained through a different sum of intercepts and coefficients.

For example, consider a patient presenting at ED via ambulance who is assigned the ECDG E0110 *Dementia and other chronic brain syndromes*. In AECC V1.1, the only ECDG subcategory in E0110 *Dementia and other chronic brain syndromes* is E0111 *Dementia and other chronic brain syndromes* and it has an intercept value of 5.8880 (see Table 11). The patient arrives via ambulance, which contributes an additional complexity in the form of the coefficient 0.0765. Therefore, the intercept and coefficient value corresponding to transport mode (arrival) contribute the following to the episode’s complexity score:

$$5.8880 + 0.0765 = 5.9645$$

If the AECC V1.1 had been constructed using arrival by ambulance as the “reference value” for transport mode (arrival) then the contribution of arrival by ambulance to the complexity score would be 0.000. However, the intercept would increase by 0.0765 to compensate for this because the choice of reference values does not impact the final complexity score. Therefore, ECDG subcategory E0111 *Dementia and other chronic brain syndromes* would have an intercept of 5.9645 and the combined contribution of the intercept and coefficient value determined by transport mode (arrival) for the same patient described above would now be:

$$5.9645 + 0.0000 = 5.9645.$$

Table 5 lists the reference value for each categorical variable for AECC V1.1.

Table 5. Reference values for AECC V1.1 categorical variables

Reference values for AECC V1.1 categorical variables	
Age group	0–4 years
ED episode end status	Departed
ED triage category	Triage category 5 – Non-urgent: within 120 minutes

### 3.5.2 Selecting complexity split thresholds

The AECC V1.1 utilises a set of principles to improve the cost differentiation between complexity groupings and seeks to produce a classification that is less vulnerable to fluctuations in cost and volume of activities. The principles were largely based on those currently used in other classification development processes such as that of the Australian Refined Diagnosis Related Groups classification.

The AECC V1.1 complexity split thresholds are selected based on the following principles:

- the average cost of complexity groups increases as the complexity level increases
- the number of episodes within each complexity group decreases as the complexity level increases
- the number of episodes in each complexity group is at least 10% of the total episodes in the ECDG.

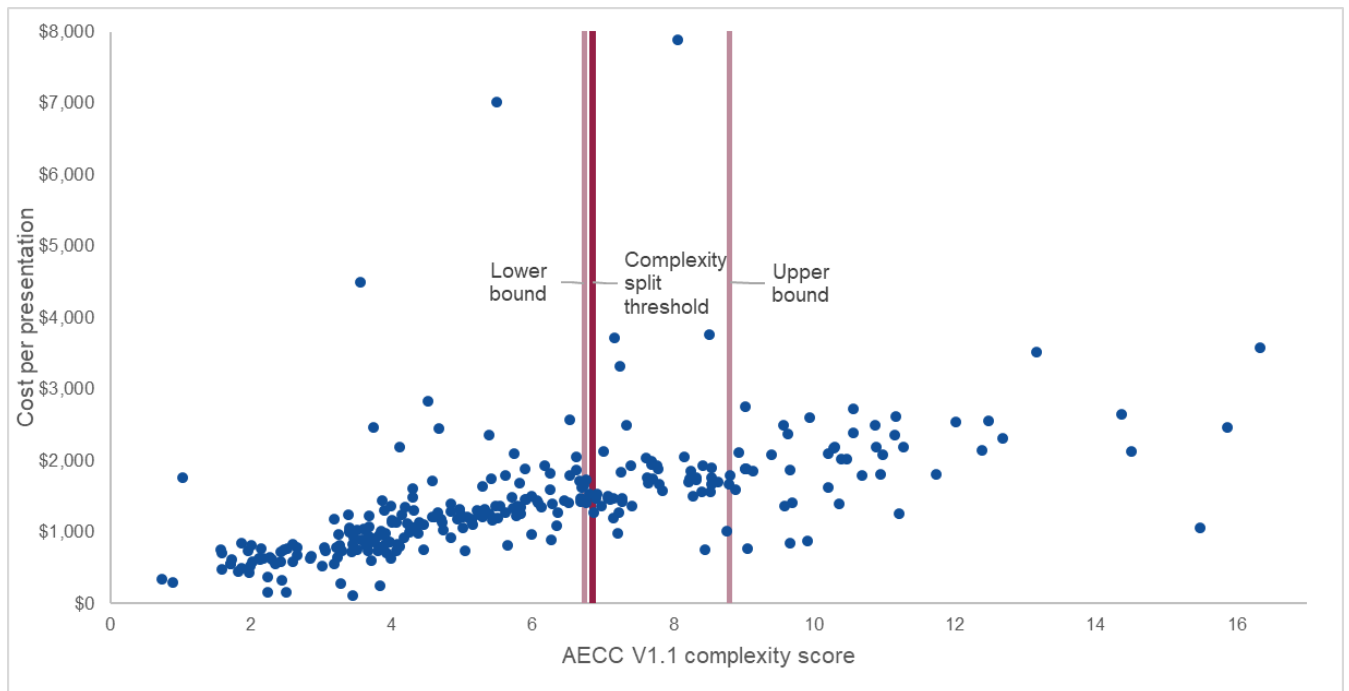
If there is more than one value that satisfies the above principles, then the one that produces the greatest reduction in mean squared error (MSE) is selected as the complexity split threshold value for that ECDG.

To demonstrate the selection process, Figure 4 shows the range of complexity scores for presentations in ECDG E0120 *Delirium*, and the cost per presentation for each score. It was determined that 2 complexity splits were not possible as no 2 thresholds satisfied the 3 criteria above. Therefore, a single complexity split thresholds that satisfies the 3 principles is attempted to be found.

Any complexity value between 6.7 (labelled ‘Lower bound’ in Figure 4) and 8.8 (labelled ‘Upper bound’ in Figure 4) would satisfy the 3 splitting principles and would therefore be a valid complexity split threshold for ECDG E0120 *Delirium*. Each such choice splits ECDG E0120 *Delirium* into 2 end classes: ECDG E0120A *Delirium, Complexity level A* containing presentations with a complexity score above the threshold and ECDG E0120B *Delirium, Complexity level B* containing presentations with a complexity score equal to or less than the threshold. Using these 2 groups, we calculate the

MSE of ECDG E0120 *Delirium* as the weighted average of the MSE of E0120A *Delirium*, Complexity level A and E0120B *Delirium*, Complexity level B. The choice of threshold which results in the lowest MSE for ECDG E0120 *Delirium* is the threshold used in AECC V1.1. This value is 6.8526, labelled 'Complexity split threshold' in Figure 4.

Figure 4: AECC V1.1 complexity score and cost per presentation for ECDG E0120 *Delirium*



# 4. AECC V1.1

## 4.1 Overview

The AECC V1.1 is a modest refinement to AECC V1.0. The full list of AECC V1.1 end classes can be found at Appendix C.

Table 6 summarises the key similarities and differences between AECC V1.0 and AECC V1.1.

Table 6. Comparing AECC V1.0 and AECC V1.1

Feature	Summary of AECC V1.1 changes from AECC V1.0
Number of classification variables	No change
Number of AECC end classes	No change
Level 1 of the AECC classification hierarchy Split on visit type and episode end status	No change
Level 2 of the AECC classification hierarchy Split on principal diagnosis	No change
Level 3 of the AECC classification hierarchy Split on complexity	Some changes as outlined below
Number of complexity levels within each ECDG (e.g. ECDG E0110 has 2 complexity levels – A and B)	No change
Number of complexity split thresholds for each ECDG (e.g. ECDG E0110 has one complexity split threshold to separate complexity levels A and B)	No change
Complexity split threshold values	The complexity split threshold values are different under AECC V1.1 than under AECC V1.0. Split threshold values have been recalibrated using national ED care data for AECC V1.1.
Intercepts and coefficient values used to calculate the AECC complexity score	The intercept and coefficient values are different under AECC V1.1 than under AECC V1.0. The values have been recalibrated using national ED care data for AECC V1.1.
Calculation of AECC complexity score	No change
Methodology to assign AECC complexity level	No change

## 4.2 Intercepts, coefficients, and threshold refinement

### 4.2.1 Intercepts and coefficients

In AECC V1.1, there is one intercept value for each ECDG subcategory and 28 coefficients for each ECDG. Table 7 lists the different types of coefficients for each ECDG.

The number of intercept and coefficient values has not changed between AECC V1.0 and AECC V1.1. The AECC V1.1 intercept and coefficient values are provided in Appendix D.

Table 7. Summary of coefficients for each ECDG under AECC V1.1

Variables to which coefficients are assigned for each ECDG	
Category	Valid grouping(s) or value(s)
Age group	<ul style="list-style-type: none"> <li>• 0–4 years</li> <li>• 5–9 years</li> <li>• 10–14 years</li> <li>• 15–69 years</li> <li>• 70–74 years</li> <li>• 75–79 years</li> <li>• 80–84 years</li> <li>• 85+ years</li> </ul>
ED episode end status	<ul style="list-style-type: none"> <li>• Admitted</li> <li>• Died in ED</li> <li>• Left at own risk after being attended</li> <li>• Referred to another hospital</li> <li>• Not admitted, not referred to another hospital</li> </ul>
ED transport mode arrival	<ul style="list-style-type: none"> <li>• Arrival by ambulance</li> <li>• All other arrival types, including police/correctional services vehicle and not stated/unknown.</li> </ul>
ED triage category	<ul style="list-style-type: none"> <li>• 1 – Resuscitation</li> <li>• 2 – Emergency</li> <li>• 3 – Urgent</li> <li>• 4 – Semi-urgent</li> <li>• 5 – Non-urgent</li> </ul>
Interactions between episode end status and other variables	<ul style="list-style-type: none"> <li>• Age: 0–14 years</li> <li>• Age: 15–79 years</li> <li>• Age: 80+ years</li> <li>• Triage category 1 – Resuscitation</li> <li>• Triage category 2 – Emergency</li> <li>• Triage category 3 – Urgent</li> <li>• Triage category 4 – Semi-urgent</li> <li>• Triage category 5 – Non-urgent</li> </ul>

### 4.2.2 Complexity split thresholds

There were no changes to the number of complexity split thresholds between AECC V1.0 and AECC V1.1. In the AECC V1.1, the complexity split threshold values have been recalibrated using national ED activity and cost data.

In most cases, the use of national ED activity and cost data has resulted in a reduction in thresholds for complexity splits which is associated with an increase in the number of episodes being assigned to a 'high' complexity.

For example, Figure 5 shows the change in complexity threshold for ECDG E0160 *Convulsions* from AECC V1.0 (threshold in red) to AECC V1.1 (threshold in blue). Records with a complexity score higher than the complexity split threshold are assigned to AECC end class E0160A *Convulsions, Complexity level A*. Therefore, the decrease in the threshold has resulted in an increase in the number of records in E0160A *Convulsions* by 27%, among the records used in AECC V1.1 development.

Figure 5. Change in complexity split threshold for ECDG E0160 *Convulsions* from AECC V1.0 (threshold in red) to AECC V1.1 (threshold in blue)



# 5. AECC V1.1 model performance

IHACPA has evaluated the overall performance of the AECC V1.1 model by considering the change in end class distribution, changes in AECC complexity grouping and statistical performance.

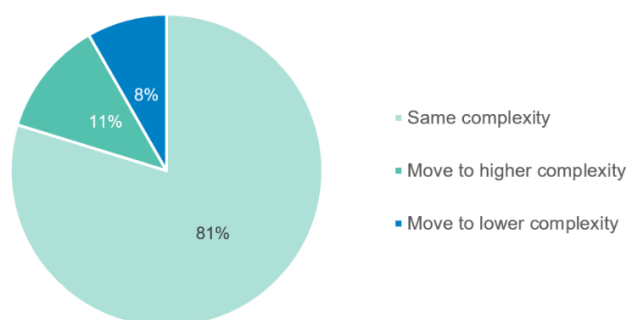
## 5.1 Changes in end class distribution

The AECC V1.1 improves the cost differentiation between higher and lower complexity groups across most ECDGs. The distribution of records by end class and the average cost per episode under AECC V1.0 and AECC V1.1 are provided in Appendix E.

## 5.2 Changes in complexity grouping

The AECC V1.1 had a modest impact on the assignment of AECC complexity level compared to AECC V1.0, with 19% of records showing a change in AECC complexity grouping. Figure 6 summarises the movement of records across AECC complexity levels between AECC V1.0 and V1.1. Among all presentations in the 3-year national data set, 81% stayed in the same complexity level between AECC V1.0 and AECC V1.1, 11% moved to a higher complexity level and 8% moved to a lower complexity level.

Figure 6. Changes in AECC complexity level between AECC V1.0 and V1.1



## 5.3 Complexity model statistical performance

The AECC V1.1 complexity model was developed using the latest 3 full years of ED activity and cost data (2018–19 to 2020–21) available at the time of AECC refinement commencement. Testing of the complexity model performance has been conducted using more recently available activity and cost data (2021–22).

The intercepts, coefficients, and thresholds from the AECC V1.0 and AECC V1.1 were applied to the Round 26 NHCDC data set (2021–22) to compare the performance of the 2 AECC versions. For testing purposes, it is necessary to use a data set not used in AECC V1.1 development. This is done to verify that AECC V1.1 has not been unduly impacted by short term, idiosyncratic features of the 2018–19 to 2020–21 data, a phenomenon known as ‘overfitting’. The Round 26 NHCDC data

set (2021–22) is suitable for testing in that it is a national data collection governed by the Australian Hospital Patient Costing Standards, reflecting geographical diversity and recent healthcare trends.

Complexity model statistical performance was assessed at the complexity score level and the end class level. When applied at the complexity score level, the performance metrics evaluate the degree to which the complexity score in each AECC version predicts phase costs. When applied at the end class level, the performance metrics evaluate the predictive power of performing the split of each segment into its constituent AECC end classes.

The statistical performance is calculated using Area Under Gains ratio (AUG), R-squared and Reduction in Deviance (RID). Results presented in this section have been conducted on the Round 26 NHCDC data set (2021–22), prepared in the manner described in Section 3.4.

AUG tests how well a model ranks phases from lowest to highest cost. It does not measure the accuracy of the model’s exact cost predictions and is therefore not overly influenced by outliers. An AUG of 100% represents a perfect prediction of the ranking of cost and an AUG of 0% represents a random cost prediction.

R-squared provides an indication of the explanatory power of a model. A higher R-squared means that the model can better predict variation in phase costs. This measure is distinct from AUG in that it does evaluate the degree to which a model predicts the exact cost of a phase.

RID provides an indication of the explanatory power of a model. A higher RID means that a higher percentage of the cost variation is explained by the classification. Like the AUG, it does not test the exact cost prediction of the complexity model, rather it tests the degree to which the end class splits create groups that are more homogenous than the original cohort.

Table 8 summarises the model performance metrics on the Round 26 NHCDC data set (2021–22).

**Table 8. Model performance comparison between AECC V1.0 and AECC V1.1**

Metric	AUG				R-squared		RID	
	Complexity score		End class		End class		End class	
AECC version	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1
Overall	58.0%	60.4%	56.6%	57.9%	29.2%	30.5%	32.7%	34.0%

The AECC V1.1 performs better than the AECC V1.0 at predicting the complexity of the 2021–22 episodes despite this data not being used in the AECC V1.1 classification development. The modest improvement in performance is likely to be a result of the classification structure and input variables remaining unchanged between the 2 versions.

While the improvement in overall performance is moderate, the trend remains consistent across ECDG and different measures of performance (AUG, R-squared and RID). As the Round 26 NHCDC data set (2021–22) was not used in AECC V1.1 development, these results provide a preliminary indication that the proposed AECC V1.1 will more accurately assign higher cost presentations to higher complexity end classes when it is implemented on new data.

A breakdown of model performance metrics for both AECC versions for each ECDG are provided in Appendix F.



# 6. Conclusion

The AECC V1.1 produces recalibrated weights and complexity split thresholds that better capture national ED activity and cost data trends using the latest 3 years of ED data. The AECC V1.1 performs better than AECC V1.0 in the sense that it more reliably assigns high-cost presentations to high-complexity end classes.

IHACPA will undertake additional analysis and consultation to determine the appropriate time at which to use AECC V1.1 to inform pricing. Requirements for pricing new versions of classifications and shadow pricing considerations are outlined in the [National Pricing Model Consultation Policy](#) and the [Shadow Pricing Guidelines](#).

Supporting materials, including updated Definitions Manual and groupers, will be developed, and released on the IHACPA website in 2024.

# Appendix A: Emergency Care Advisory Working Group

Table 9. Independent Health and Aged Care Pricing Authority – ECAWG

Organisation / Jurisdiction
A representative of each state and territory and the Commonwealth
A representative of the Australasian College for Emergency Medicine
A representative of the College of Emergency Nursing Australasia
A representative of IHACPA's Clinical Advisory Committee.

# Appendix B: Data Preparation in Response to COVID-19

Due to the potential impact of COVID-19 on cost and activity data, IHACPA undertook additional analysis to assess what combination of data collection years could be used in the AECC V1.1 refinement.

The potential impact of COVID-19 was considered by analysing:

1. the distribution of key classification variables to assess whether there was a shift in the nature and type of ED care activity being reported across the 3 data years
2. the average episode cost to assess if there was a change in cost per episode across the 3 data years.

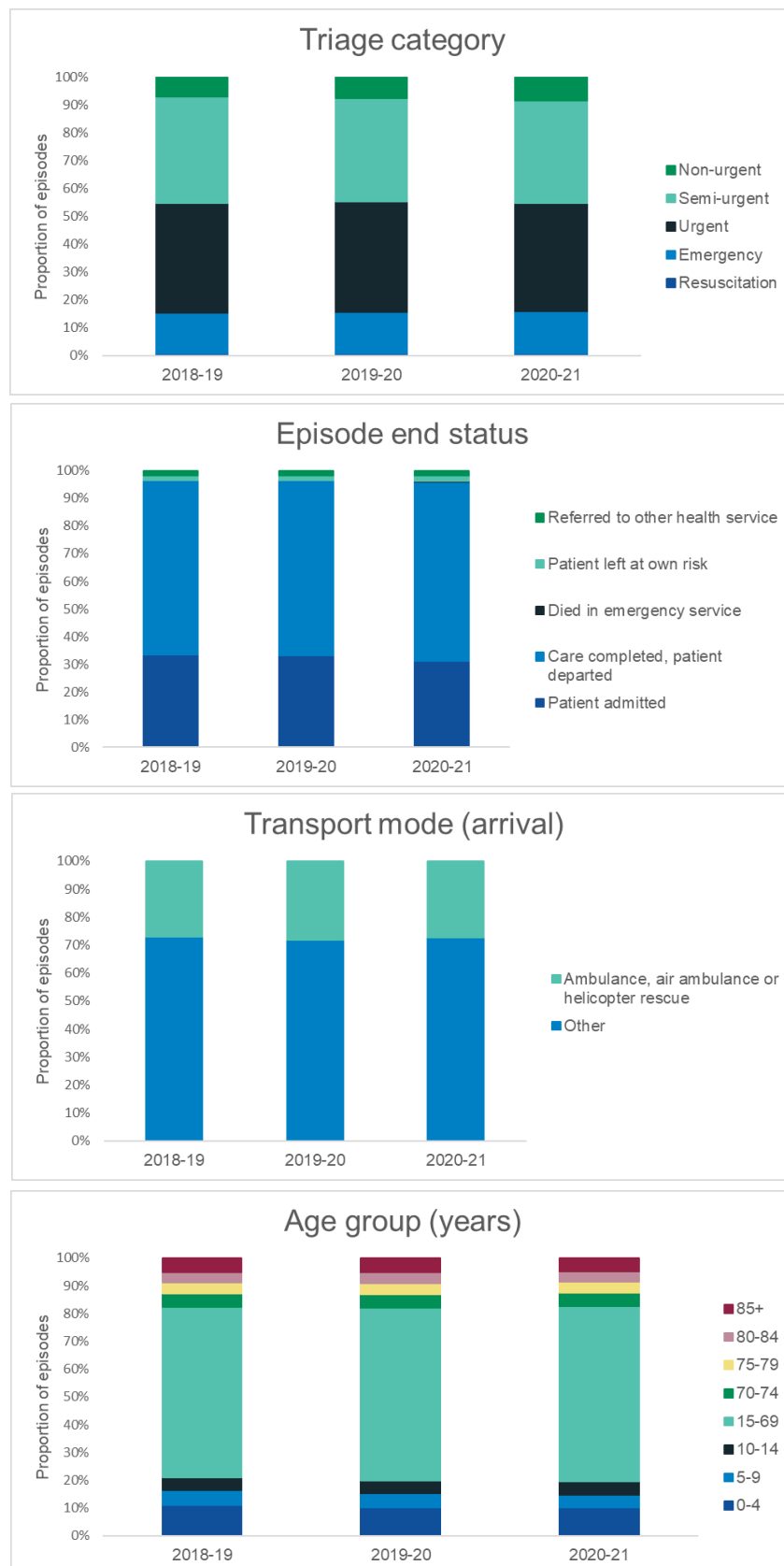
The following results were calculated using 3 years of data (2018–19, 2019–20 and 2020–21), prepared as outlined in Section 3.4.

## **Distribution of key classification variables across data years**

The distribution of ED records by different triage category, episode end status, transport mode arrival and age group were generally consistent across 2018–19, 2019–20 and 2020–21 nationally. This suggests that there were no substantial shifts in ED care activity reporting over the 3 years, as depicted in Figure 7.

Figure 7 includes only the records used for classification development. In particular, records that are grouped to end class E0001Z *Not attended by a healthcare professional* are not included.

Figure 7. Prevalence of triage category, episode end status, transport arrival and age group by year from 2018–19 to 2020–21, from ED activity data and the NHCDC data collection



## Analysis of average episode cost across data years

### ECDG E1821 Viral illnesses

There are 2 EPD Short List codes relating to the principal diagnosis of COVID-19, which map to ECDG E1821 *Viral illnesses*:

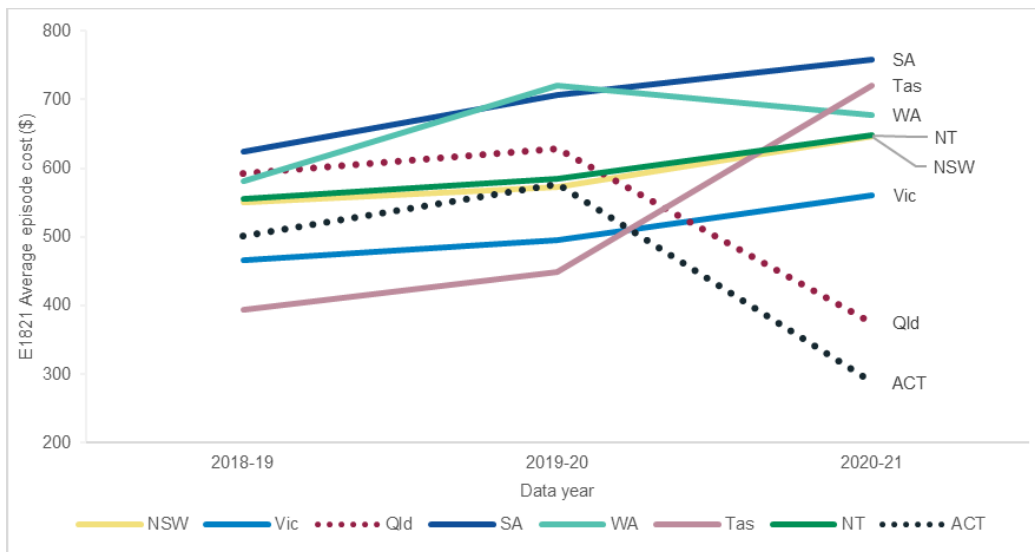
- U07.1 *COVID-19, virus laboratory identified* (activated January 2020, amended July 2022 to specify laboratory identification)
- U07.2 *COVID-19, virus not laboratory identified* (activated July 2022)

Only episodes with a principal diagnosis of U07.1 *COVID-19, virus laboratory identified* were found in the national cost data collection between 2018–19 and 2020–21.

In the 3-year dataset, the average cost of U07.1 *COVID-19, virus laboratory identified* episodes was 28% lower than the average cost for other episodes reported in the ECDG E1821 *Viral illnesses* (\$575). This suggests that U07.1 *COVID-19, virus laboratory identified* episodes may have a different cost profile to the rest of the episodes in ECDG E1821 *Viral illnesses*.

Both Queensland (Qld) and the Australian Capital Territory (ACT) reported unusually large decreases in their E1821 *Viral illnesses* average cost between 2019–20 and 2020–21. This was driven by increased reporting of U07.1 *COVID-19, virus laboratory identified* activity in 2020–21 but lower increase in corresponding in-scope costs. Figure 8 shows that this trend was not seen in other jurisdictions.

Figure 8. Average cost for ECDG E1821 *Viral illnesses* by jurisdiction



### ECDG E2089 Complications of surgical and medical care, other

The EPD Short List code U07.7 *COVID-19 vaccines causing adverse effects in therapeutic use*, which groups to ECDG E2089 *Complications of surgical and medical care, other*, was introduced in January 2021 to align with the national COVID-19 vaccination rollout. U07.7 *COVID-19 vaccines causing adverse effects in therapeutic use* episodes constitute less than 1% of all ECDG E2089 *Complications of surgical and medical care, other* episodes across the 3-year dataset and have 4% higher average cost compared to all other E2089 *Complications of surgical and medical care, other* episodes (\$667).

*ECDG E6099 Other factors influencing health status*

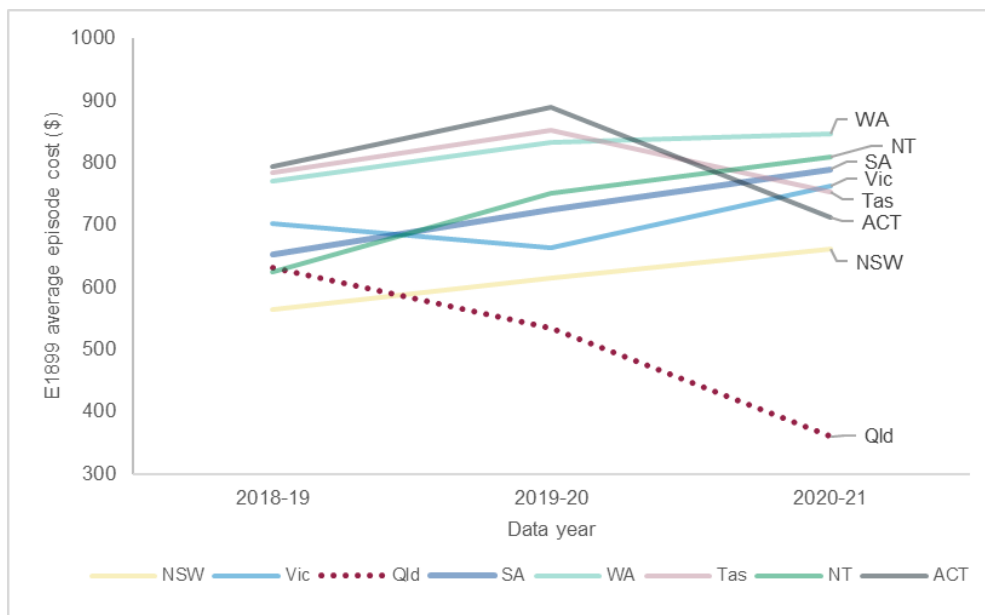
U06.0 *Special screening examination for COVID-19*, which groups to ECDG E6099 *Other factors influencing health status* was introduced in the EPD Short List in April 2020, inactivated and replaced with Z11.5 *Special screening examination for coronavirus disease 2019 [COVID19]* from 1 July 2022 to reflect changes made to ICD-10-AM. The average cost of U06.0 *Special screening examination for COVID-19* episodes is 68% higher than the average cost of other episodes reported in the ECDG E6099 *Special screening examination for COVID-19* (\$446) in the 3-year dataset.

*ECDG E1899 Infectious and parasitic diseases, other*

Z20.9 *Contact or exposure to communicable disease (includes suspected exposure)* has existed in the EPD Short List since inception and maps to ECDG E1899 *Infectious and parasitic diseases, other*. While Z20.9 *Contact or exposure to communicable disease (includes suspected exposure)* was not specific to only capture COVID-19 activity, some unusual growth trends were identified.

There was a 16% drop in the average cost of E1899 *Infectious and parasitic diseases, other* between 2019–20 and 2020–21 due to substantial decrease in Qld's average cost as seen in Figure 9. Qld's reporting of Z20.9 *Contact or exposure to communicable disease (includes suspected exposure)* episodes increased exponentially over the 3-year period (65 episodes in 2018–19, 4,982 episodes in 2019–20, 12,591 episodes in 2020–21). However, Qld's costs did not increase as much as activity over the same period, leading to a decrease in their average cost. In addition, Qld's Z20.9 *Contact or exposure to communicable disease (includes suspected exposure)* reporting was declining from 2021–22, which suggests that Qld's activity growth seen between 2018–19 to 2020–21 may not persist into the future.

Figure 9. Average cost for ECDG E1899 *Infectious and parasitic diseases, other* by jurisdiction



# Appendix C: AECC V1.1 end classes

Table 10. AECC V1.1 end classes.

Emergency care category code and label	AECC code	AECC end class description
Pre-ECDG	E0001Z	Not attended by a healthcare professional
	E0002Z	Planned return visit
	E0003Z	Dead on arrival
E01 Nervous system and neurological	E0110A	Dementia and other chronic brain syndromes Complexity level A
	E0110B	Dementia and other chronic brain syndromes Complexity level B
	E0120A	Delirium Complexity level A
	E0120B	Delirium Complexity level B
	E0130A	Stroke and other cerebrovascular disorders Complexity level A
	E0130B	Stroke and other cerebrovascular disorders Complexity level B
	E0140Z	TIA and precerebral occlusion
	E0150A	Seizures Complexity level A
	E0150B	Seizures Complexity level B
	E0150C	Seizures Complexity level C
	E0160A	Convulsions Complexity level A
	E0160B	Convulsions Complexity level B
	E0170A	Headaches Complexity level A
	E0170B	Headaches Complexity level B
	E0190A	Nervous system and neurological disorders Complexity level A
E0190B	Nervous system and neurological disorders Complexity level B	
E0190C	Nervous system and neurological disorders Complexity level C	
E02 Eye	E0290A	Eye disorders Complexity level A
	E0290B	Eye disorders Complexity level B
	E0290C	Eye disorders Complexity level C
E03 Ear, nose, mouth and throat	E0310A	Ear, nose, mouth and throat disorders Complexity level A
	E0310B	Ear, nose, mouth and throat disorders Complexity level B
	E0310C	Ear, nose, mouth and throat disorders Complexity level C
	E0320A	Disorders of the teeth and supporting structures Complexity level A
	E0320B	Disorders of the teeth and supporting structures Complexity level B
	E0320C	Disorders of the teeth and supporting structures Complexity level C
E04 Respiratory	E0410A	Major respiratory conditions Complexity level A
	E0410B	Major respiratory conditions Complexity level B
	E0410C	Major respiratory conditions Complexity level C
	E0420A	Chronic obstructive airways disease Complexity level A
	E0420B	Chronic obstructive airways disease Complexity level B
	E0420C	Chronic obstructive airways disease Complexity level C

Emergency care category code and label	AECC code	AECC end class description
	E0430A	Asthma Complexity level A
	E0430B	Asthma Complexity level B
	E0430C	Asthma Complexity level C
	E0440A	Upper respiratory tract infections Complexity level A
	E0440B	Upper respiratory tract infections Complexity level B
	E0450A	Lower respiratory tract infections Complexity level A
	E0450B	Lower respiratory tract infections Complexity level B
	E0450C	Lower respiratory tract infections Complexity level C
	E0490A	Respiratory disorders, other Complexity level A
	E0490B	Respiratory disorders, other Complexity level B
	E0490C	Respiratory disorders, other Complexity level C
	E0490D	Respiratory disorders, other Complexity level D
E05 Circulatory	E0510Z	Acute coronary syndromes
	E0520A	Arrhythmia and cardiac arrest Complexity level A
	E0520B	Arrhythmia and cardiac arrest Complexity level B
	E0530A	Heart failure and shock Complexity level A
	E0530B	Heart failure and shock Complexity level B
	E0540A	Chest pain Complexity level A
	E0540B	Chest pain Complexity level B
	E0540C	Chest pain Complexity level C
	E0590A	Circulatory disorders, other Complexity level A
	E0590B	Circulatory disorders, other Complexity level B
	E0590C	Circulatory disorders, other Complexity level C
E06 Digestive	E0610A	Gastrointestinal haemorrhage Complexity level A
	E0610B	Gastrointestinal haemorrhage Complexity level B
	E0620Z	Gastrointestinal obstruction
	E0630A	Peritonitis and gastrointestinal perforation Complexity level A
	E0630B	Peritonitis and gastrointestinal perforation Complexity level B
	E0640A	Oesophagitis and gastroenteritis Complexity level A
	E0640B	Oesophagitis and gastroenteritis Complexity level B
	E0640C	Oesophagitis and gastroenteritis Complexity level C
	E0650A	Abdominal pain Complexity level A
	E0650B	Abdominal pain Complexity level B
	E0650C	Abdominal pain Complexity level C
	E0690A	Digestive system disorders, other Complexity level A
	E0690B	Digestive system disorders, other Complexity level B
	E0690C	Digestive system disorders, other Complexity level C
	E0690D	Digestive system disorders, other Complexity level D
E07 Liver, gall bladder, bile duct and pancreas	E0710A	Liver disorders Complexity level A
	E0710B	Liver disorders Complexity level B
	E0720A	Gall bladder, bile duct and pancreas disorders Complexity level A
	E0720B	Gall bladder, bile duct and pancreas disorders Complexity level B
	E0720C	Gall bladder, bile duct and pancreas disorders Complexity level C
	E0890A	Musculoskeletal and musculotendinous disorders Complexity level A



Emergency care category code and label	AECC code	AECC end class description
E08 Musculoskeletal	E0890B	Musculoskeletal and musculetendinous disorders Complexity level B
	E0890C	Musculoskeletal and musculetendinous disorders Complexity level C
	E0890D	Musculoskeletal and musculetendinous disorders Complexity level D
E09 Skin, subcutaneous and breast tissue	E0910A	Skin and subcutaneous tissue infections Complexity level A
	E0910B	Skin and subcutaneous tissue infections Complexity level B
	E0910C	Skin and subcutaneous tissue infections Complexity level C
	E0990A	Skin disorders, other Complexity level A
	E0990B	Skin disorders, other Complexity level B
	E0990C	Skin disorders, other Complexity level C
E10 Endocrine, nutritional and metabolic	E1010A	Diabetes Complexity level A
	E1010B	Diabetes Complexity level B
	E1010C	Diabetes Complexity level C
	E1090A	Metabolic and nutritional disorders, other Complexity level A
	E1090B	Metabolic and nutritional disorders, other Complexity level B
	E1090C	Metabolic and nutritional disorders, other Complexity level C
E11 Kidney and urinary tract	E1110A	Kidney failure Complexity level A
	E1110B	Kidney failure Complexity level B
	E1110C	Kidney failure Complexity level C
	E1120A	Urinary stones and obstruction Complexity level A
	E1120B	Urinary stones and obstruction Complexity level B
	E1130A	Kidney and urinary tract infections Complexity level A
	E1130B	Kidney and urinary tract infections Complexity level B
	E1130C	Kidney and urinary tract infections Complexity level C
	E1190A	Kidney and urinary tract disorders, other Complexity level A
	E1190B	Kidney and urinary tract disorders, other Complexity level B
E12 Male genitourinary	E1290A	Male genitourinary disorders Complexity level A
	E1290B	Male genitourinary disorders Complexity level B
E13 Gynaecology	E1390A	Gynaecological disorders Complexity level A
	E1390B	Gynaecological disorders Complexity level B
E14 Obstetrics	E1410A	Postpartum and post abortion conditions Complexity level A
	E1410B	Postpartum and post abortion conditions Complexity level B
	E1420A	Antenatal and other obstetric conditions Complexity level A
	E1420B	Antenatal and other obstetric conditions Complexity level B
E15 Perinatal	E1590Z	Perinatal disorder
E16 Blood and immunology	E1610A	Immune system disorders Complexity level A
	E1610B	Immune system disorders Complexity level B
	E1620Z	Red blood cell disorders
	E1630A	Haemostasis disorders Complexity level A
	E1630B	Haemostasis disorders Complexity level B
E17 Neoplasms	E1790A	Neoplasms Complexity level A
	E1790B	Neoplasms Complexity level B
	E1790C	Neoplasms Complexity level C
E18 Infectious diseases	E1810Z	Septicaemia
	E1820A	Viral illnesses Complexity level A
	E1820B	Viral illnesses Complexity level B
	E1820C	Viral illnesses Complexity level C

Emergency care category code and label	AECC code	AECC end class description
	E1830A	Fever of unknown origin Complexity level A
	E1830B	Fever of unknown origin Complexity level B
	E1830C	Fever of unknown origin Complexity level C
	E1890A	Infectious and parasitic diseases, other Complexity level A
	E1890B	Infectious and parasitic diseases, other Complexity level B
E19 Mental, behavioural and neurodevelopment	E1910A	Alcohol and drug related mental and behavioural disorders Complexity level A
	E1910B	Alcohol and drug related mental and behavioural disorders Complexity level B
	E1910C	Alcohol and drug related mental and behavioural disorders Complexity level C
	E1920A	Psychoses Complexity level A
	E1920B	Psychoses Complexity level B
	E1920C	Psychoses Complexity level C
	E1990A	Mental, behavioural and neurodevelopment disorders, other Complexity level A
	E1990B	Mental, behavioural and neurodevelopment disorders, other Complexity level B
	E1990C	Mental, behavioural and neurodevelopment disorders, other Complexity level C
E20 Injuries and other externally-caused morbidity	E2010A	Head, intracranial, spine, internal organ and other complex injuries Complexity level A
	E2010B	Head, intracranial, spine, internal organ and other complex injuries Complexity level B
	E2010C	Head, intracranial, spine, internal organ and other complex injuries Complexity level C
	E2010D	Head, intracranial, spine, internal organ and other complex injuries Complexity level D
	E2020A	Pelvic and femoral fractures Complexity level A
	E2020B	Pelvic and femoral fractures Complexity level B
	E2025A	Fractures, dislocations and ligament injuries Complexity level A
	E2025B	Fractures, dislocations and ligament injuries Complexity level B
	E2025C	Fractures, dislocations and ligament injuries Complexity level C
	E2030A	Injuries, other Complexity level A
	E2030B	Injuries, other Complexity level B
	E2030C	Injuries, other Complexity level C
	E2030D	Injuries, other Complexity level D
	E2040A	Finger, toe and superficial injuries Complexity level A
	E2040B	Finger, toe and superficial injuries Complexity level B
	E2040C	Finger, toe and superficial injuries Complexity level C
	E2050A	Burns Complexity level A
	E2050B	Burns Complexity level B
	E2050C	Burns Complexity level C
	E2060A	Poisoning Complexity level A
	E2060B	Poisoning Complexity level B
	E2060C	Poisoning Complexity level C
	E2070A	Allergic reactions Complexity level A
	E2070B	Allergic reactions Complexity level B
	E2080A	Complications of surgical and medical care Complexity level A
	E2080B	Complications of surgical and medical care Complexity level B
E50 General symptoms without diagnosis	E5010A	Pain syndrome Complexity level A
	E5010B	Pain syndrome Complexity level B
	E5090A	Symptoms, other Complexity level A
	E5090B	Symptoms, other Complexity level B

Emergency care category code and label	AECC code	AECC end class description
	E5090C	Symptoms, other Complexity level C
E60 Other factors influencing health status	E6010A	Forensic examination Complexity level A
	E6010B	Forensic examination Complexity level B
	E6010C	Forensic examination Complexity level C
	E6020A	Abuse and neglect Complexity level A
	E6020B	Abuse and neglect Complexity level B
	E6090A	Other factors influencing health status Complexity level A
	E6090B	Other factors influencing health status Complexity level B
Error ECDG	E9901Z	Invalid visit type
	E9902Z	Missing principal ED diagnosis short list code
	E9903Z	Invalid principal ED diagnosis short list code
	E9904Z	Other error

# Appendix D: AECC V1.1 intercepts, coefficients, and complexity split thresholds

In the AECC V1.0 Definitions Manual, there were 2 columns for these intercept values:

- (1) Coefficient for the intercept
- (2) Coefficient for the intercept ECDG subcategory

The intercept values in Table 11 are equivalent to the sum of (1) and (2) in the AECC V1.0 Definitions Manual.

Table 11. AECC V1.1 intercepts by ECDG subcategory

ECDG code	ECDG subcategory	Intercept for ECDG subcategory
E0110	E0111 Dementia and other chronic brain syndromes	5.8880
E0120	E0121 Delirium	5.7746
E0130	E0131 Stroke and other cerebrovascular disorders	6.0848
E0140	E0141 TIA and precerebral occlusion	6.0844
E0150	E0151 Seizures	5.7367
E0160	E0161 Convulsions	5.7058
E0170	E0171 Headaches	5.4703
E0190	E0191 CNS infection and inflammation	5.8913
E0190	E0192 Cranial and peripheral nerve disorders	5.5997
E0190	E0193 Degenerative and demyelinating nervous system disorders	5.7011
E0190	E0194 Stupor and coma	5.8149
E0190	E0195 Nervous system disorders, other	5.8099
E0190	E0196 Nervous system signs and symptoms	5.7993
E0290	E0291 Acute and major eye conditions	5.4928
E0290	E0299 Eye disorders, other	5.5345
E0310	E0311 Disequilibrium	5.6413
E0310	E0312 Epistaxis	5.4222
E0310	E0319 Ear, nose, mouth and throat disorders, other	5.5165
E0320	E0329 Disorders of the teeth and supporting structures	5.6178
E0410	E0411 Respiratory arrest, distress and failure	5.6769
E0410	E0412 Pulmonary oedema	5.6872
E0410	E0413 Pulmonary embolism	5.8353
E0420	E0421 Chronic obstructive airways disease	5.8468
E0430	E0431 Asthma	5.7580
E0440	E0441 Upper respiratory tract infections	5.6896

ECDG code	ECDG subcategory	Intercept for ECDG subcategory
E0450	E0451 Pneumonia	5.8559
E0450	E0452 Acute bronchitis and bronchiolitis	5.6674
E0450	E0459 Lower respiratory tract infections, other	5.8256
E0490	E0491 Pleural conditions	5.8714
E0490	E0492 Respiratory disorders, other	5.7646
E0490	E0493 Respiratory signs and symptoms	5.7225
E0510	E0511 Acute myocardial infarction	5.7407
E0510	E0512 Unstable angina	5.8125
E0510	E0513 Coronary atherosclerosis	5.8136
E0520	E0521 Arrhythmia and cardiac arrest	5.7218
E0530	E0531 Heart failure and shock	5.8878
E0540	E0541 Chest pain	5.7259
E0590	E0591 Venous thrombosis	5.7011
E0590	E0592 Palpitations	5.6032
E0590	E0593 Syncope and collapse	5.6936
E0590	E0594 Hypertension	5.5994
E0590	E0595 Heart disease, other	5.6904
E0590	E0599 Circulatory disorders, other	5.7726
E0610	E0611 Gastrointestinal haemorrhage	5.6302
E0620	E0621 Gastrointestinal obstruction	6.0201
E0630	E0631 Peritonitis and gastrointestinal perforation	5.9628
E0640	E0641 Oesophagitis and gastroenteritis	5.6460
E0650	E0651 Abdominal pain with known underlying cause	5.5686
E0650	E0652 Abdominal pain underlying cause unknown	5.6428
E0690	E0691 Hernia	5.6256
E0690	E0699 Digestive system disorders, other	5.6306
E0710	E0711 Jaundice	5.7759
E0710	E0719 Liver disorders, other	5.9381
E0720	E0721 Gall bladder, bile duct and pancreas disorders	5.8725
E0890	E0891 Spinal disorders	5.7767
E0890	E0892 Osteomyelitis	6.0100
E0890	E0893 Septic arthritis	5.9891
E0890	E0894 Bone diseases and arthropathies	5.8561
E0890	E0895 Musculotendinous disorders	5.8243
E0890	E0899 Musculoskeletal disorders, other	5.8637
E0910	E0911 Skin and subcutaneous tissue infections	5.7677
E0990	E0991 Breast tissue disorders	5.6658
E0990	E0992 Skin ulcers	5.7781
E0990	E0993 Skin, subcutaneous and breast tissue disorders, other	5.5518
E0990	E0994 Skin and subcutaneous signs and symptoms	5.6586
E1010	E1011 Diabetes	5.8300
E1090	E1091 Hypoglycaemia	5.6488
E1090	E1092 Hyperosmolality	5.9122
E1090	E1093 Dehydration	5.7148

ECDG code	ECDG subcategory	Intercept for ECDG subcategory
E1090	E1099 Metabolic and nutritional disorders, other	5.8129
E1110	E1111 Kidney failure	5.9184
E1120	E1121 Urinary stones and obstruction	5.9543
E1130	E1131 Kidney and urinary tract infections	5.7729
E1190	E1193 Kidney and urinary tract disorders, other	5.7854
E1190	E1194 Kidney and urinary tract signs and symptoms	5.7140
E1290	E1291 Male genitourinary disorders	5.5904
E1390	E1391 Gynaecological disorders	5.5928
E1410	E1411 Postpartum and post abortion conditions	5.3327
E1420	E1421 Abortion, threatened	5.9684
E1420	E1422 Vomiting during pregnancy	5.8685
E1420	E1429 Antenatal and obstetric conditions, other	5.3535
E1590	E1591 Perinatal disorder	5.4170
E1610	E1611 Immune system disorders	5.6620
E1620	E1621 Red blood cell disorders	5.7778
E1630	E1631 Haemostasis disorders	5.6824
E1790	E1791 Neoplasm, malignant	5.5999
E1790	E1799 Neoplasm, other	5.5156
E1810	E1811 Septicaemia	5.9811
E1820	E1821 Viral illnesses	5.6752
E1830	E1831 Fever of unknown origin	5.7941
E1890	E1899 Infectious and parasitic diseases, other	5.5528
E1910	E1911 Alcohol and drug related mental and behavioural disorders	5.4220
E1920	E1921 Schizophrenia	5.7605
E1920	E1929 Psychosis, other	5.8298
E1990	E1991 Suicidal ideation and attempted self-injury	5.6458
E1990	E1992 Acute reactions	5.7096
E1990	E1993 Affective disorders	5.5575
E1990	E1999 Mental, behavioural and neurodevelopment disorders, other	5.6419
E2010	E2011 Cranial injuries	5.6314
E2010	E2012 Intracranial injuries	5.4511
E2010	E2013 Spinal injuries	5.7734
E2010	E2014 Internal organ injuries	5.6908
E2010	E2019 Other complex injuries	5.5750
E2020	E2021 Pelvic and femoral fractures	5.9107
E2025	E2026 Fractures	5.7990
E2025	E2027 Dislocations	5.6159
E2025	E2028 Sprains	5.6366
E2030	E2031 Concussion, with loss of consciousness	5.7408
E2030	E2032 Concussion, without loss of consciousness	5.6088
E2030	E2033 Open wounds	5.4998
E2030	E2039 Injuries, other	5.5933
E2040	E2041 Open wounds	5.6184
E2040	E2042 Fractures, dislocations and sprains	5.7262

<b>ECDG code</b>	<b>ECDG subcategory</b>	<b>Intercept for ECDG subcategory</b>
E2040	E2049 Superficial injuries	5.6396
E2050	E2051 Severe burns	5.6878
E2050	E2059 Burns, other	5.6919
E2060	E2061 Poisoning	5.6250
E2070	E2071 Anaphylactic shock	5.5403
E2070	E2079 Allergic reactions, other	5.5289
E2080	E2081 Postoperative infections	5.5793
E2080	E2089 Complications of surgical and medical care, other	5.4969
E5010	E5011 Pain syndrome	5.4836
E5090	E5091 Dizziness	5.6693
E5090	E5092 Fatigue and weakness	5.7189
E5090	E5093 Abnormal test result	5.7039
E5090	E5099 Symptoms, other	5.4909
E6010	E6011 Forensic examination or observation	5.4130
E6020	E6021 Abuse and neglect	5.9447
E6090	E6099 Other factors influencing health status	5.5287

Table 12. AECC V1.1 coefficients for transport mode (arrival), episode end status and triage category

ECDG code	Episode end status (reference = Departed)				Transport mode (arrival)	Triage category (reference = Category 5 Non-urgent)			
	Admitted	Died in ED	Left at own risk after being attended	Referred to another hospital	Arrival by ambulance	1 Resuscitation	2 Emergency	3 Urgent	4 Semi-urgent
E0110	0.2983	0.3561	0.0193	0.4067	0.0765	0.4914	0.7128	0.5668	0.3246
E0120	0.3932	0.0650	-0.0855	0.4326	0.0449	1.2037	0.8749	0.5964	0.3657
E0130	0.1669	0.0743	0.0250	0.3327	0.0623	1.1243	0.9792	0.7428	0.6157
E0140	0.2687	0.4891	0.0478	0.1062	0.0470	1.2214	0.8514	0.6181	0.4437
E0150	0.3409	0.4228	-0.1336	0.4632	0.0161	1.4772	1.0061	0.6620	0.3543
E0160	0.3065	0.5499	-0.1038	0.6083	0.0216	1.2685	0.9505	0.6483	0.3592
E0170	0.2915	0.4672	-0.2500	0.4559	0.1222	1.4150	1.0238	0.6444	0.3241
E0190	0.3745	-0.0388	-0.1430	0.5348	0.1367	1.2319	0.9289	0.6204	0.3377
E0290	0.4928	0.0849	-0.1921	0.4673	0.2608	1.1335	0.7118	0.5234	0.2633
E0310	0.3881	0.0849	-0.0954	0.6584	0.1493	1.4925	0.9980	0.6687	0.3215
E0320	0.4695	0.0849	-0.1065	0.7382	0.1817	1.2398	0.7753	0.5009	0.2101
E0410	0.3839	0.0834	0.0672	0.5390	0.0913	1.1248	0.9100	0.7020	0.4612
E0420	0.3670	0.2974	0.1559	0.4926	0.0719	1.1972	0.8884	0.6131	0.3198
E0430	0.3862	0.5261	-0.1767	0.7336	0.0505	1.1566	0.8984	0.5911	0.3036
E0440	0.3095	0.7559	-0.1320	0.6970	0.0825	1.1461	0.8403	0.5219	0.2467
E0450	0.3954	0.3443	0.1137	0.6201	0.0767	1.1064	0.8697	0.5982	0.3075
E0490	0.3350	0.2593	-0.2272	0.6147	0.0962	1.0093	0.7954	0.5160	0.2039
E0510	0.2475	0.3326	0.0186	0.4771	-0.0252	0.9233	0.8558	0.7154	0.5507
E0520	0.3298	0.0800	-0.0780	0.5533	0.0425	1.1501	0.9350	0.6768	0.3459
E0530	0.3323	0.2911	0.0966	0.4321	0.0448	0.9872	0.8349	0.6559	0.3805
E0540	0.2638	0.5881	-0.2945	0.3595	0.0855	1.2676	0.8428	0.6193	0.3664
E0590	0.3534	0.3854	-0.1160	0.5842	0.0838	1.2104	0.8668	0.6120	0.3082
E0610	0.4640	0.3186	-0.0044	0.6735	0.0944	1.1101	0.8948	0.6798	0.3790
E0620	0.3085	0.3724	0.1853	0.5456	0.0102	1.0258	0.8333	0.6363	0.3913
E0630	0.2695	0.0740	0.0209	0.3660	0.0301	0.9845	0.7546	0.5842	0.3822



ECDG code	Episode end status (reference = Departed)				Transport mode (arrival)	Triage category (reference = Category 5 Non-urgent)			
	Admitted	Died in ED	Left at own risk after being attended	Referred to another hospital	Arrival by ambulance	1 Resuscitation	2 Emergency	3 Urgent	4 Semi-urgent
E0640	0.3280	0.7174	-0.1728	0.6852	0.1040	1.2653	0.9245	0.6426	0.3814
E0650	0.3155	0.5447	-0.2674	0.4557	0.1037	1.1916	0.8938	0.6623	0.4109
E0690	0.4098	0.4654	-0.2075	0.6416	0.1034	1.0573	0.8810	0.6508	0.3639
E0710	0.3825	0.5275	0.0993	0.6052	0.0445	1.1952	0.8759	0.6793	0.3526
E0720	0.3766	0.4408	0.1821	0.7045	0.0437	1.2185	0.8578	0.5913	0.3404
E0890	0.2964	0.8313	-0.1424	0.6239	0.1541	1.3638	0.7812	0.4832	0.2154
E0910	0.4107	1.0847	0.1301	0.6109	0.2023	1.3010	0.7825	0.4880	0.2206
E0990	0.4321	0.2783	-0.0913	0.6872	0.1180	1.4403	0.8122	0.5061	0.2542
E1010	0.4025	0.4520	-0.0014	0.6475	0.0590	1.0424	0.8948	0.5877	0.2986
E1090	0.3984	0.1505	-0.0319	0.6261	0.1183	1.2709	0.8635	0.6344	0.4024
E1110	0.2968	0.3485	0.1166	0.6028	0.1211	1.1233	0.8081	0.6243	0.4079
E1120	0.1677	0.5336	-0.2275	0.4974	0.0801	0.8883	0.8754	0.6317	0.3973
E1130	0.3879	0.4031	-0.0757	0.6418	0.2024	1.1366	0.9169	0.6250	0.2934
E1190	0.2959	0.8299	-0.1841	0.6372	0.1373	0.9619	0.7944	0.6050	0.3738
E1290	0.3207	0.0849	-0.0848	0.1413	0.1381	0.9502	0.7833	0.5711	0.3264
E1390	0.3144	0.0849	-0.1487	0.3742	0.1289	1.0889	0.9717	0.7107	0.4247
E1410	0.4029	-1.0728	-0.0097	0.3365	0.0970	1.3884	1.2799	0.9655	0.6252
E1420	0.1111	0.5228	-0.0193	0.4879	0.3655	1.3397	1.0945	0.6343	0.4631
E1590	0.3285	-1.9592	-0.1113	0.4871	0.0092	1.8062	1.0776	0.8383	0.4400
E1610	0.5041	0.6168	0.0638	0.7224	0.0520	1.2986	1.0284	0.6960	0.3513
E1620	0.3120	0.8283	0.0986	0.5984	0.1739	1.3779	1.0322	0.7146	0.3880
E1630	0.5922	1.2515	0.1252	0.7387	0.0995	1.5819	1.0764	0.8140	0.4824
E1790	0.4050	0.2792	0.1753	0.6771	0.0104	1.1743	1.0687	0.8204	0.4541
E1810	0.3293	0.2608	-0.0015	0.3703	0.0627	0.9991	0.8982	0.7567	0.4860
E1820	0.3263	-0.6364	0.0602	0.4763	0.1635	1.1562	0.8912	0.5708	0.2213
E1830	0.3808	0.3938	-0.2106	0.5096	0.0729	1.1331	0.8901	0.6114	0.4004
E1890	0.4927	0.8354	0.0484	0.7601	0.2105	1.4692	0.7053	0.7593	0.4358

ECDG code	Episode end status (reference = Departed)				Transport mode (arrival)	Triage category (reference = Category 5 Non-urgent)			
	Admitted	Died in ED	Left at own risk after being attended	Referred to another hospital	Arrival by ambulance	1 Resuscitation	2 Emergency	3 Urgent	4 Semi-urgent
E1910	0.4388	0.2890	-0.1442	0.6065	0.1159	1.5478	1.1196	0.7435	0.4252
E1920	0.4412	0.5793	-0.0273	0.5936	0.1509	1.3494	0.9750	0.6373	0.3513
E1990	0.3861	0.1856	-0.1616	0.5617	0.1010	1.4805	0.9006	0.6436	0.3573
E2010	0.3947	0.2210	0.0930	0.5324	0.2932	1.2306	1.0143	0.6265	0.2511
E2020	0.2525	0.6492	0.0486	0.4536	0.1320	1.2321	0.8077	0.6483	0.4517
E2025	0.3613	0.4937	0.0342	0.4558	0.1624	1.3175	0.8507	0.5520	0.2594
E2030	0.4306	0.3135	-0.0221	0.4771	0.2394	1.4588	0.8820	0.5462	0.2576
E2040	0.4014	-0.0684	-0.0562	0.3923	0.2175	1.4796	0.8519	0.4898	0.1950
E2050	0.3821	0.8070	-0.0397	0.7071	0.1343	1.1135	0.7570	0.4433	0.1940
E2060	0.3032	-0.1460	-0.1302	0.3078	0.1420	1.3102	0.9990	0.6012	0.1600
E2070	0.2528	0.0906	-0.1582	0.5251	0.0558	1.3925	0.9354	0.5272	0.2516
E2080	0.3913	1.4932	-0.0440	0.6066	0.1361	1.3554	0.9367	0.5920	0.2606
E5010	0.3182	0.5855	-0.1975	0.5880	0.1968	1.3194	0.9415	0.6451	0.2829
E5090	0.2481	0.3764	-0.3269	0.6120	0.1228	1.2950	0.9084	0.6127	0.3309
E6010	0.4610	0.0747	-0.1931	0.6258	0.2084	1.6042	1.0671	0.6538	0.2568
E6020	0.2712	0.0849	-0.0343	0.2098	0.3653	1.3102	0.8322	0.4516	0.1983
E6090	0.2516	0.2645	-0.1705	0.7500	0.2145	1.2415	0.9000	0.6372	0.2668

Table 13. AECC V1.1 coefficients for age group

ECDG code	Age group (reference = 0 to 4 years)						
	05 to 09	10 to 14	15 to 69	70 to 74	75 to 79	80 to 84	85+
E0110	-0.1245	0.0499	0.1481	0.2004	0.2483	0.3454	0.3203
E0120	-0.1375	0.0503	0.3522	0.4405	0.4390	0.5820	0.5690
E0130	-0.0421	0.1963	0.2240	0.2414	0.2406	0.2326	0.2233
E0140	0.1978	0.3901	0.2338	0.2345	0.2378	0.2211	0.2142
E0150	-0.0264	0.0073	0.1617	0.3232	0.3731	0.3985	0.3809
E0160	0.0438	0.0818	0.2991	0.4242	0.4556	0.5283	0.4905
E0170	0.1639	0.2069	0.3485	0.5049	0.5347	0.5265	0.5518
E0190	0.0151	0.0411	0.1827	0.2729	0.2716	0.4418	0.4568
E0290	0.0304	0.0477	0.0300	0.0460	0.0628	0.0851	0.0870
E0310	0.0032	0.0135	0.0423	0.0569	0.0730	0.1027	0.1132
E0320	0.0354	0.0482	0.0720	0.0928	0.0988	0.1743	0.1689
E0410	-0.0878	0.3419	0.3053	0.3056	0.3401	0.3577	0.3400
E0420	-0.0423	-0.1000	0.2063	0.2126	0.2076	0.2446	0.2438
E0430	-0.0167	-0.0389	0.0770	0.2205	0.2293	0.2322	0.2573
E0440	-0.0060	0.0320	0.1280	0.2433	0.2679	0.2629	0.3145
E0450	0.0215	0.0235	0.1825	0.2091	0.2021	0.2890	0.2827
E0490	0.0251	0.0587	0.2604	0.3354	0.3405	0.4101	0.3930
E0510	-0.0518	-0.2218	0.1818	0.2239	0.2434	0.2288	0.2800
E0520	-0.1413	-0.0479	0.0851	0.1485	0.1731	0.2098	0.2434
E0530	0.2935	0.1719	0.2530	0.2217	0.2268	0.2534	0.2321
E0540	-0.1117	-0.0291	0.1691	0.2414	0.2433	0.2907	0.2911
E0590	-0.0030	0.0334	0.1767	0.2370	0.2453	0.2861	0.3023
E0610	0.1340	0.1612	0.2680	0.3011	0.3145	0.3973	0.3982
E0620	-0.0563	-0.0467	0.1958	0.2245	0.2050	0.2751	0.3084
E0630	-0.0758	-0.0887	0.1418	0.2943	0.3315	0.3395	0.3755
E0640	0.0255	0.0560	0.1904	0.3527	0.3430	0.3460	0.3651
E0650	0.0543	0.1347	0.2792	0.3848	0.4002	0.4323	0.4404
E0690	0.0259	0.0782	0.1806	0.2923	0.3004	0.3396	0.3469
E0710	0.3121	0.2834	0.1872	0.2231	0.2426	0.3297	0.3701
E0720	0.1910	0.0390	0.1042	0.2315	0.2427	0.2945	0.3193
E0890	0.0387	0.0396	0.0568	0.1286	0.1514	0.2090	0.2450
E0910	0.0103	0.0244	0.0707	0.1023	0.1133	0.1394	0.1439
E0990	0.0253	0.0548	0.1165	0.1485	0.1624	0.1762	0.1623
E1010	0.0154	0.0191	0.1767	0.2257	0.2331	0.1754	0.2581
E1090	0.0139	-0.0248	0.1130	0.1577	0.1605	0.2208	0.2263
E1110	0.2002	0.1070	0.1310	0.2823	0.2826	0.2433	0.2506
E1120	0.1075	0.0695	0.1396	0.2369	0.2841	0.2995	0.3921
E1130	-0.0282	-0.0126	0.0229	0.0777	0.0758	0.1462	0.1574
E1190	0.0751	0.1083	0.1462	0.1459	0.1504	0.1654	0.1629
E1290	0.0100	0.0604	0.2518	0.2798	0.2807	0.2927	0.2964
E1390	0.0183	0.1447	0.2002	0.1526	0.1742	0.1939	0.1998
E1410	-0.2281	0.2240	0.1824	0.0096	0.2882	-0.7258	0.1033
E1420	-0.0812	0.1291	-0.1389	0.5513	0.5464	0.9184	0.6348

ECDG code	Age group (reference = 0 to 4 years)						
	05 to 09	10 to 14	15 to 69	70 to 74	75 to 79	80 to 84	85+
E1590	0.0976	0.1774	0.1441	0.1991	0.0824	0.4916	0.5291
E1610	0.0248	0.0289	0.0785	0.1263	0.1241	0.1684	0.1928
E1620	0.0583	0.0957	0.1846	0.2313	0.2395	0.3188	0.3004
E1630	0.0162	0.0814	0.0310	-0.0433	-0.0130	-0.0509	-0.0365
E1790	0.1342	0.0529	0.2674	0.2963	0.2788	0.3022	0.2865
E1810	0.1055	0.0834	0.2243	0.2219	0.1872	0.1763	0.1765
E1820	0.0259	0.0665	0.0952	0.1066	0.1216	0.2478	0.2903
E1830	0.0454	0.1199	0.3067	0.3439	0.3457	0.4148	0.3998
E1890	0.0123	0.0192	0.0694	0.0433	0.0879	0.0962	0.1611
E1910	0.1127	0.2885	0.3836	0.4883	0.4688	0.5086	0.4122
E1920	0.0178	0.0566	0.1967	0.2412	0.2133	0.2483	0.2238
E1990	0.0960	0.1446	0.2087	0.2510	0.2477	0.2918	0.3128
E2010	0.0561	0.1401	0.2887	0.3527	0.3593	0.4715	0.4828
E2020	-0.0011	-0.0010	0.1984	0.1807	0.2070	0.2554	0.2676
E2025	0.0715	0.0991	0.1469	0.2146	0.2222	0.2810	0.3256
E2030	0.0757	0.1513	0.1629	0.2142	0.2269	0.2967	0.3327
E2040	0.0957	0.1645	0.2041	0.2612	0.2679	0.3468	0.3768
E2050	0.0078	-0.0016	0.0129	0.0486	0.0198	0.0952	0.0526
E2060	0.0925	0.2663	0.2728	0.2405	0.2538	0.2644	0.2494
E2070	0.0269	0.0454	0.0733	0.1219	0.1904	0.1670	0.2062
E2080	0.1089	0.1297	0.2213	0.2249	0.2107	0.2321	0.2173
E5010	0.0809	0.1437	0.2387	0.2868	0.3268	0.3530	0.4164
E5090	0.0244	0.1089	0.1936	0.2732	0.2767	0.3402	0.3465
E6010	0.0210	0.1428	0.2362	0.3359	0.3333	0.3906	0.4431
E6020	-0.0197	-0.0313	0.0827	0.1303	0.0939	0.3182	0.2838
E6090	-0.0166	0.0124	0.0722	0.0556	0.0407	0.0099	0.0518

Table 14. AECC V1.1 coefficients for interactions between episode end status and age group, triage category

ECDG code	Episode end status = admitted					
	Age 0 to 14	Age 80+	Triage category			
			1 Resuscitation	2 Emergency	3 Urgent	4 Semi-urgent
E0110	0.0221	-0.1189	0.5134	0.0233	0.0196	0.0865
E0120	0.1143	-0.1531	-0.2479	-0.0966	-0.0441	0.0055
E0130	-0.1266	0.0108	-0.1318	-0.1137	-0.0941	-0.1866
E0140	-0.0144	-0.0015	-0.1926	-0.2065	-0.1920	-0.2429
E0150	0.0495	-0.0258	-0.2808	-0.1737	-0.1041	0.0122
E0160	0.0715	-0.0699	-0.2046	-0.1374	-0.1533	-0.0754
E0170	0.2467	0.0523	-0.1652	-0.2144	-0.1596	-0.1145
E0190	0.1193	-0.2475	-0.2050	-0.2009	-0.0959	-0.0081
E0290	0.0967	-0.0619	0.0747	0.0816	0.0139	0.0612
E0310	0.1053	-0.0610	-0.1793	-0.2080	-0.1111	-0.0062
E0320	0.0190	-0.1531	-0.1909	-0.0825	-0.0067	0.0997
E0410	-0.0987	-0.0006	-0.2155	-0.1999	-0.1692	-0.0526
E0420	-0.0357	-0.0400	-0.2762	-0.1993	-0.0988	0.0010
E0430	-0.0660	-0.0059	-0.1478	-0.1726	-0.1178	-0.0454
E0440	0.0833	0.0911	-0.2298	-0.1952	-0.0927	-0.0341
E0450	0.0329	-0.1028	-0.2000	-0.1819	-0.0742	0.0118
E0490	0.0820	-0.1077	-0.1129	-0.1253	-0.0327	0.0251
E0510	0.1462	0.0373	-0.3613	-0.2102	-0.1230	-0.0858
E0520	0.0722	-0.0035	-0.1645	-0.1920	-0.1572	-0.0130
E0530	0.1203	-0.0243	-0.0317	-0.1851	-0.1363	-0.0429
E0540	0.2954	-0.0469	-0.4516	-0.2449	-0.2191	-0.1469
E0590	0.0498	-0.0281	-0.1730	-0.1482	-0.1019	-0.0440
E0610	0.0711	-0.0854	-0.0815	-0.1078	-0.1178	-0.0647
E0620	0.1766	-0.0208	-0.0365	-0.1347	-0.1062	-0.0202
E0630	0.1407	-0.0139	0.0461	-0.0723	-0.1456	-0.0741
E0640	0.1068	0.0384	-0.0402	-0.1491	-0.1303	-0.1351
E0650	0.1399	-0.0128	-0.0665	-0.1338	-0.1188	-0.0872
E0690	0.0321	-0.0505	0.0257	-0.1037	-0.1001	-0.0635
E0710	-0.1650	-0.0776	-0.2277	-0.1161	-0.0995	0.0239
E0720	0.1780	-0.0154	-0.1409	-0.1248	-0.0881	-0.0453
E0890	0.1927	-0.0496	-0.1775	-0.0649	-0.0391	-0.0072
E0910	0.1129	-0.0312	-0.3535	-0.1034	-0.0600	-0.0254
E0990	0.0534	-0.0333	-0.4180	-0.1892	-0.0407	0.0216
E1010	0.0595	0.0224	-0.1163	-0.2119	-0.1046	-0.0279
E1090	0.0472	-0.0565	-0.2715	-0.1855	-0.1356	-0.0740
E1110	0.2211	0.0596	-0.1958	-0.1916	-0.1388	-0.0567
E1120	0.2457	0.0109	-0.2150	-0.3064	-0.2059	-0.1770
E1130	0.0470	-0.0858	-0.0358	-0.1507	-0.0715	0.0077
E1190	0.1597	0.0047	0.2558	-0.0794	-0.0873	-0.0608
E1290	0.0243	-0.0054	0.1648	-0.2963	-0.0981	-0.0285

ECDG code	Episode end status = admitted					
	Age 0 to 14	Age 80+	Triage category			
			1 Resuscitation	2 Emergency	3 Urgent	4 Semi-urgent
E1390	0.1823	0.0645	-0.1845	-0.1714	-0.1435	-0.1349
E1410	-0.2818	0.4057	-0.3463	-0.3645	-0.2293	-0.1462
E1420	0.2858	-0.0895	-0.3470	-0.0990	-0.3383	-0.2821
E1590	0.1504	-0.0218	-0.8515	-0.1899	-0.1193	-0.0524
E1610	0.0861	-0.0825	-0.1474	-0.1658	-0.0184	0.0977
E1620	0.2418	-0.1034	-0.2072	-0.1347	-0.0747	-0.0113
E1630	-0.1271	-0.0188	-0.2611	-0.1967	-0.1768	-0.1345
E1790	0.3419	-0.0074	-0.0996	-0.1672	-0.1448	-0.0151
E1810	0.1090	0.0034	-0.1134	-0.2013	-0.1880	-0.0894
E1820	0.1311	-0.2174	-0.8338	-0.2444	-0.1602	0.0152
E1830	0.0971	-0.0665	-0.1999	-0.2099	-0.1006	-0.0655
E1890	-0.0392	-0.0817	-0.2470	0.2287	-0.0686	0.0214
E1910	-0.1653	-0.0021	-0.4330	-0.3361	-0.2624	-0.2130
E1920	-0.1280	-0.0689	-0.2899	-0.2457	-0.1155	0.0307
E1990	-0.0168	-0.0302	-0.3036	-0.1463	-0.1187	-0.0238
E2010	-0.1185	-0.1143	-0.0081	-0.0763	-0.0350	-0.0320
E2020	-0.0738	-0.0407	0.1587	0.0321	0.0161	0.0056
E2025	-0.1426	-0.0501	0.0109	-0.0602	-0.0205	-0.0016
E2030	-0.1561	-0.1130	-0.2243	-0.0789	-0.0704	-0.0257
E2040	-0.0450	-0.1403	-0.3957	-0.1375	-0.0636	-0.0113
E2050	-0.0087	0.0628	-0.1145	-0.1569	-0.0629	-0.0440
E2060	-0.0366	-0.0152	-0.3086	-0.2813	-0.1552	-0.0233
E2070	-0.0792	0.1517	-0.2604	-0.2783	-0.2316	-0.1295
E2080	0.0928	-0.0777	-0.4401	-0.2344	-0.0513	0.0376
E5010	0.2159	-0.1974	0.1993	-0.1191	-0.0491	0.0283
E5090	0.1150	-0.0927	-0.1094	-0.0002	0.0640	0.0917
E6010	-0.1553	-0.0047	-0.3200	-0.1496	-0.0246	0.1509
E6020	-0.1606	-0.2888	-0.4087	-0.2471	-0.1565	-0.0896
E6090	-0.0220	0.1257	-0.5337	0.0268	0.0948	0.1791

Table 15. AECC V1.1 complexity score thresholds for allocating episodes to final end classes

ECDG Full name	AECC class	Complexity score threshold	
		Minimum score	Maximum score
E0110 Dementia and other chronic brain syndromes	E0110A	4.9448	Infinity
E0110 Dementia and other chronic brain syndromes	E0110B	0.0000	4.9448
E0120 Delirium	E0120A	6.8526	Infinity
E0120 Delirium	E0120B	0.0000	6.8526
E0130 Stroke and other cerebrovascular disorders	E0130A	9.0202	Infinity
E0130 Stroke and other cerebrovascular disorders	E0130B	0.0000	9.0202
E0140 TIA and precerebral occlusion	E0140Z	0.0000	Infinity
E0150 Seizures	E0150A	6.1363	Infinity
E0150 Seizures	E0150B	3.7366	6.1363
E0150 Seizures	E0150C	0.0000	3.7366
E0160 Convulsions	E0160A	4.1739	Infinity
E0160 Convulsions	E0160B	0.0000	4.1739
E0170 Headaches	E0170A	3.3289	Infinity
E0170 Headaches	E0170B	0.0000	3.3289
E0190 Nervous system and neurological disorders	E0190A	5.7641	Infinity
E0190 Nervous system and neurological disorders	E0190B	4.0524	5.7641
E0190 Nervous system and neurological disorders	E0190C	0.0000	4.0524
E0290 Eye disorders	E0290A	2.1532	Infinity
E0290 Eye disorders	E0290B	1.1307	2.1532
E0290 Eye disorders	E0290C	0.0000	1.1307
E0310 Ear, nose, mouth and throat disorders	E0310A	2.4067	Infinity
E0310 Ear, nose, mouth and throat disorders	E0310B	1.4075	2.4067
E0310 Ear, nose, mouth and throat disorders	E0310C	0.0000	1.4075
E0320 Disorders of the teeth and supporting structures	E0320A	2.6375	Infinity
E0320 Disorders of the teeth and supporting structures	E0320B	1.5907	2.6375
E0320 Disorders of the teeth and supporting structures	E0320C	0.0000	1.5907
E0410 Major respiratory conditions	E0410A	8.1089	Infinity
E0410 Major respiratory conditions	E0410B	6.1679	8.1089
E0410 Major respiratory conditions	E0410C	0.0000	6.1679
E0420 Chronic obstructive airways disease	E0420A	6.3333	Infinity
E0420 Chronic obstructive airways disease	E0420B	5.5783	6.3333
E0420 Chronic obstructive airways disease	E0420C	0.0000	5.5783
E0430 Asthma	E0430A	4.1589	Infinity
E0430 Asthma	E0430B	2.8262	4.1589
E0430 Asthma	E0430C	0.0000	2.8262
E0440 Upper respiratory tract infections	E0440A	2.3775	Infinity
E0440 Upper respiratory tract infections	E0440B	0.0000	2.3775
E0450 Lower respiratory tract infections	E0450A	5.6208	Infinity
E0450 Lower respiratory tract infections	E0450B	3.5577	5.6208
E0450 Lower respiratory tract infections	E0450C	0.0000	3.5577
E0490 Respiratory disorders, other	E0490A	5.4857	Infinity
E0490 Respiratory disorders, other	E0490B	4.2543	5.4857

ECDG Full name	AECC class	Complexity score threshold	
		Minimum score	Maximum score
E0490 Respiratory disorders, other	E0490C	2.6268	4.2543
E0490 Respiratory disorders, other	E0490D	0.0000	2.6268
E0510 Acute coronary syndromes	E0510Z	0.0000	Infinity
E0520 Arrhythmia and cardiac arrest	E0520A	4.4767	Infinity
E0520 Arrhythmia and cardiac arrest	E0520B	0.0000	4.4767
E0530 Heart failure and shock	E0530A	5.6615	Infinity
E0530 Heart failure and shock	E0530B	0.0000	5.6615
E0540 Chest pain	E0540A	4.2696	Infinity
E0540 Chest pain	E0540B	3.9417	4.2696
E0540 Chest pain	E0540C	0.0000	3.9417
E0590 Circulatory disorders, other	E0590A	4.4878	Infinity
E0590 Circulatory disorders, other	E0590B	3.2212	4.4878
E0590 Circulatory disorders, other	E0590C	0.0000	3.2212
E0610 Gastrointestinal haemorrhage	E0610A	5.3636	Infinity
E0610 Gastrointestinal haemorrhage	E0610B	0.0000	5.3636
E0620 Gastrointestinal obstruction	E0620Z	0.0000	Infinity
E0630 Peritonitis and gastrointestinal perforation	E0630A	4.8246	Infinity
E0630 Peritonitis and gastrointestinal perforation	E0630B	0.0000	4.8246
E0640 Oesophagitis and gastroenteritis	E0640A	4.1257	Infinity
E0640 Oesophagitis and gastroenteritis	E0640B	2.6276	4.1257
E0640 Oesophagitis and gastroenteritis	E0640C	0.0000	2.6276
E0650 Abdominal pain	E0650A	4.2474	Infinity
E0650 Abdominal pain	E0650B	3.1419	4.2474
E0650 Abdominal pain	E0650C	0.0000	3.1419
E0690 Digestive system disorders, other	E0690A	4.8146	Infinity
E0690 Digestive system disorders, other	E0690B	3.5928	4.8146
E0690 Digestive system disorders, other	E0690C	2.4409	3.5928
E0690 Digestive system disorders, other	E0690D	0.0000	2.4409
E0710 Liver disorders	E0710A	5.0962	Infinity
E0710 Liver disorders	E0710B	0.0000	5.0962
E0720 Gall bladder, bile duct and pancreas disorders	E0720A	6.2171	Infinity
E0720 Gall bladder, bile duct and pancreas disorders	E0720B	4.8936	6.2171
E0720 Gall bladder, bile duct and pancreas disorders	E0720C	0.0000	4.8936
E0890 Musculoskeletal and musculotendinous disorders	E0890A	3.8257	Infinity
E0890 Musculoskeletal and musculotendinous disorders	E0890B	2.7267	3.8257
E0890 Musculoskeletal and musculotendinous disorders	E0890C	2.0832	2.7267
E0890 Musculoskeletal and musculotendinous disorders	E0890D	0.0000	2.0832
E0910 Skin and subcutaneous tissue infections	E0910A	3.0740	Infinity
E0910 Skin and subcutaneous tissue infections	E0910B	2.0288	3.0740
E0910 Skin and subcutaneous tissue infections	E0910C	0.0000	2.0288
E0990 Skin disorders, other	E0990A	2.3291	Infinity
E0990 Skin disorders, other	E0990B	1.4477	2.3291
E0990 Skin disorders, other	E0990C	0.0000	1.4477
E1010 Diabetes	E1010A	6.5889	Infinity



ECDG Full name	AECC class	Complexity score threshold	
		Minimum score	Maximum score
E1010 Diabetes	E1010B	4.9436	6.5889
E1010 Diabetes	E1010C	0.0000	4.9436
E1090 Metabolic and nutritional disorders, other	E1090A	5.1671	Infinity
E1090 Metabolic and nutritional disorders, other	E1090B	3.7313	5.1671
E1090 Metabolic and nutritional disorders, other	E1090C	0.0000	3.7313
E1110 Kidney failure	E1110A	6.5032	Infinity
E1110 Kidney failure	E1110B	5.4312	6.5032
E1110 Kidney failure	E1110C	0.0000	5.4312
E1120 Urinary stones and obstruction	E1120A	4.2432	Infinity
E1120 Urinary stones and obstruction	E1120B	0.0000	4.2432
E1130 Kidney and urinary tract infections	E1130A	4.0235	Infinity
E1130 Kidney and urinary tract infections	E1130B	2.1506	4.0235
E1130 Kidney and urinary tract infections	E1130C	0.0000	2.1506
E1190 Kidney and urinary tract disorders, other	E1190A	3.4677	Infinity
E1190 Kidney and urinary tract disorders, other	E1190B	0.0000	3.4677
E1290 Male genitourinary disorders	E1290A	2.7098	Infinity
E1290 Male genitourinary disorders	E1290B	0.0000	2.7098
E1390 Gynaecological disorders	E1390A	3.3298	Infinity
E1390 Gynaecological disorders	E1390B	0.0000	3.3298
E1410 Postpartum and post abortion conditions	E1410A	3.2786	Infinity
E1410 Postpartum and post abortion conditions	E1410B	0.0000	3.2786
E1420 Antenatal and other obstetric conditions	E1420A	1.4539	Infinity
E1420 Antenatal and other obstetric conditions	E1420B	0.0000	1.4539
E1590 Perinatal disorder	E1590Z	0.0000	Infinity
E1610 Immune system disorders	E1610A	5.1220	Infinity
E1610 Immune system disorders	E1610B	0.0000	5.1220
E1620 Red blood cell disorders	E1620Z	0.0000	Infinity
E1630 Haemostasis disorders	E1630A	3.6323	Infinity
E1630 Haemostasis disorders	E1630B	0.0000	3.6323
E1790 Neoplasms	E1790A	5.4099	Infinity
E1790 Neoplasms	E1790B	4.6457	5.4099
E1790 Neoplasms	E1790C	0.0000	4.6457
E1810 Septicaemia	E1810Z	0.0000	Infinity
E1820 Viral illnesses	E1820A	2.7210	Infinity
E1820 Viral illnesses	E1820B	1.7927	2.7210
E1820 Viral illnesses	E1820C	0.0000	1.7927
E1830 Fever of unknown origin	E1830A	5.7593	Infinity
E1830 Fever of unknown origin	E1830B	3.7778	5.7593
E1830 Fever of unknown origin	E1830C	0.0000	3.7778
E1890 Infectious and parasitic diseases, other	E1890A	1.7876	Infinity
E1890 Infectious and parasitic diseases, other	E1890B	0.0000	1.7876
E1910 Alcohol and drug related mental and behavioural disorders	E1910A	5.2238	Infinity
E1910 Alcohol and drug related mental and behavioural disorders	E1910B	3.6561	5.2238
E1910 Alcohol and drug related mental and behavioural disorders	E1910C	0.0000	3.6561

ECDG Full name	AECC class	Complexity score threshold	
		Minimum score	Maximum score
E1920 Psychoses	E1920A	6.6356	Infinity
E1920 Psychoses	E1920B	5.1324	6.6356
E1920 Psychoses	E1920C	0.0000	5.1324
E1990 Mental, behavioural and neurodevelopment disorders, other	E1990A	4.1154	Infinity
E1990 Mental, behavioural and neurodevelopment disorders, other	E1990B	2.9629	4.1154
E1990 Mental, behavioural and neurodevelopment disorders, other	E1990C	0.0000	2.9629
E2010 Head, intracranial, spine, internal organ and other complex injuries	E2010A	9.6902	Infinity
E2010 Head, intracranial, spine, internal organ and other complex injuries	E2010B	5.7716	9.6902
E2010 Head, intracranial, spine, internal organ and other complex injuries	E2010C	2.8572	5.7716
E2010 Head, intracranial, spine, internal organ and other complex injuries	E2010D	0.0000	2.8572
E2020 Pelvic and femoral fractures	E2020A	6.9032	Infinity
E2020 Pelvic and femoral fractures	E2020B	0.0000	6.9032
E2025 Fractures, dislocations and ligament injuries	E2025A	4.3552	Infinity
E2025 Fractures, dislocations and ligament injuries	E2025B	2.2691	4.3552
E2025 Fractures, dislocations and ligament injuries	E2025C	0.0000	2.2691
E2030 Injuries, other	E2030A	3.6702	Infinity
E2030 Injuries, other	E2030B	2.3023	3.6702
E2030 Injuries, other	E2030C	1.3939	2.3023
E2030 Injuries, other	E2030D	0.0000	1.3939
E2040 Finger, toe and superficial injuries	E2040A	3.6030	Infinity
E2040 Finger, toe and superficial injuries	E2040B	2.1045	3.6030
E2040 Finger, toe and superficial injuries	E2040C	0.0000	2.1045
E2050 Burns	E2050A	2.8323	Infinity
E2050 Burns	E2050B	1.4666	2.8323
E2050 Burns	E2050C	0.0000	1.4666
E2060 Poisoning	E2060A	5.2007	Infinity
E2060 Poisoning	E2060B	3.5120	5.2007
E2060 Poisoning	E2060C	0.0000	3.5120
E2070 Allergic reactions	E2070A	2.3053	Infinity
E2070 Allergic reactions	E2070B	0.0000	2.3053
E2080 Complications of surgical and medical care	E2080A	2.5257	Infinity
E2080 Complications of surgical and medical care	E2080B	0.0000	2.5257
E5010 Pain syndrome	E5010A	2.4878	Infinity
E5010 Pain syndrome	E5010B	0.0000	2.4878
E5090 Symptoms, other	E5090A	3.7519	Infinity
E5090 Symptoms, other	E5090B	2.0549	3.7519
E5090 Symptoms, other	E5090C	0.0000	2.0549
E6010 Forensic examination	E6010A	3.9258	Infinity
E6010 Forensic examination	E6010B	1.5570	3.9258
E6010 Forensic examination	E6010C	0.0000	1.5570
E6020 Abuse and neglect	E6020A	4.1698	Infinity
E6020 Abuse and neglect	E6020B	0.0000	4.1698
E6090 Other factors influencing health status	E6090A	1.1531	Infinity
E6090 Other factors influencing health status	E6090B	0.0000	1.1531

# Appendix E: Record breakdown by end class for AECC V1.0 and AECC V1.1

Table 16 provides a breakdown of the 3-year data set (2018–19 to 2020–21), showing the movement of records across end classes between AECC V1.0 and AECC V1.1. It additionally provides the average episode cost by end class for the 2 AECC versions.

Positive values for “Raw Change” and “% Change” indicate that more records have moved into than out of that end class in the transition from AECC V1.0 to AECC V1.1. Negative values for “Raw Change” and “% Change” indicate that more records have moved out of than into that end class in the transition from AECC V1.0 to AECC V1.1.

Table 16 excludes the pre-ECDG end classes (E0001Z *Not attended by a healthcare professional*, E0002Z *Planned return visit*, E0003Z *Dead on arrival*) and error end classes (E9901Z *Invalid visit type*, E9902Z *Missing principal diagnosis short list code*, E9903Z *Invalid principal diagnosis short list code*, E9904Z *Other error*) as no episodes will move into or out of these end classes in the transition between AECC V1.0 and AECC V1.1.

Table 16. Record breakdown by end class for AECC V1.0 and AECC V1.1

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E0110A	Dementia and other chronic brain syndromes Complexity level A	11,189	9,454	-1,735	-16%	1,373	1,435
E0110B	Dementia and other chronic brain syndromes Complexity level B	9,111	10,846	1,735	19%	1,022	1,024
E0120A	Delirium Complexity level A	46,501	46,979	478	1%	1,719	1,722
E0120B	Delirium Complexity level B	49,988	49,510	-478	-1%	1,285	1,278
E0130A	Stroke and other cerebrovascular disorders Complexity level A	97,275	40,305	-56,970	-59%	2,087	2,366
E0130B	Stroke and other cerebrovascular disorders Complexity level B	24,702	81,672	56,970	231%	1,556	1,789
E0140Z	TIA and precerebral occlusion	54,502	54,502	0	0%	1,427	1,427

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E0150A	Seizures Complexity level A	11,213	10,053	-1,160	-10%	1,775	1,840
E0150B	Seizures Complexity level B	34,007	22,114	-11,893	-35%	1,020	1,141
E0150C	Seizures Complexity level C	11,873	24,926	13,053	110%	722	780
E0160A	Convulsions Complexity level A	47,312	60,140	12,828	27%	1,377	1,342
E0160B	Convulsions Complexity level B	83,483	70,655	-12,828	-15%	858	793
E0170A	Headaches Complexity level A	159,581	161,668	2,087	1%	1,012	1,018
E0170B	Headaches Complexity level B	203,016	200,929	-2,087	-1%	651	642
E0190A	Nervous system and neurological disorders Complexity level A	83,443	107,933	24,490	29%	1,454	1,492
E0190B	Nervous system and neurological disorders Complexity level B	199,314	117,533	-81,781	-41%	1,164	1,181
E0190C	Nervous system and neurological disorders Complexity level C	63,278	120,569	57,291	91%	614	766
E0290A	Eye disorders Complexity level A	38,878	47,583	8,705	22%	896	865
E0290B	Eye disorders Complexity level B	136,544	111,066	-25,478	-19%	505	513
E0290C	Eye disorders Complexity level C	265,423	282,196	16,773	6%	375	372
E0310A	Ear, nose, mouth and throat disorders Complexity level A	71,177	67,985	-3,192	-4%	830	857
E0310B	Ear, nose, mouth and throat disorders Complexity level B	74,445	85,219	10,774	14%	560	569
E0310C	Ear, nose, mouth and throat disorders Complexity level C	276,785	269,203	-7,582	-3%	396	385
E0320A	Disorders of the teeth and supporting structures Complexity level A	22,907	28,578	5,671	25%	934	921
E0320B	Disorders of the teeth and supporting structures Complexity level B	47,196	43,143	-4,053	-9%	609	576
E0320C	Disorders of the teeth and supporting structures Complexity level C	133,603	131,985	-1,618	-1%	419	416
E0410A	Major respiratory conditions Complexity level A	22,839	10,997	-11,842	-52%	1,768	1,978
E0410B	Major respiratory conditions Complexity level B	21,642	23,290	1,648	8%	1,474	1,569
E0410C	Major respiratory conditions Complexity level C	14,285	24,479	10,194	71%	1,225	1,286
E0420A	Chronic obstructive airways disease Complexity level A	38,141	43,443	5,302	14%	1,576	1,578
E0420B	Chronic obstructive airways disease Complexity level B	84,738	48,560	-36,178	-43%	1,248	1,289
E0420C	Chronic obstructive airways disease Complexity level C	20,304	51,180	30,876	152%	805	997
E0430A	Asthma Complexity level A	13,138	57,129	43,991	335%	1,429	1,188

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E0430B	Asthma Complexity level B	155,434	78,880	-76,554	-49%	889	853
E0430C	Asthma Complexity level C	68,422	100,985	32,563	48%	577	607
E0440A	Upper respiratory tract infections Complexity level A	166,893	227,800	60,907	36%	872	836
E0440B	Upper respiratory tract infections Complexity level B	622,778	561,871	-60,907	-10%	522	499
E0450A	Lower respiratory tract infections Complexity level A	172,272	139,916	-32,356	-19%	1,427	1,495
E0450B	Lower respiratory tract infections Complexity level B	171,241	157,690	-13,551	-8%	1,031	1,106
E0450C	Lower respiratory tract infections Complexity level C	119,931	165,838	45,907	38%	611	676
E0490A	Respiratory disorders, other Complexity level A	64,821	82,559	17,738	27%	1,470	1,506
E0490B	Respiratory disorders, other Complexity level B	129,949	115,978	-13,971	-11%	1,211	1,158
E0490C	Respiratory disorders, other Complexity level C	135,573	118,305	-17,268	-13%	867	868
E0490D	Respiratory disorders, other Complexity level D	134,466	147,967	13,501	10%	531	542
E0510Z	Acute coronary syndromes	239,658	239,658	0	0%	1,212	1,212
E0520A	Arrhythmia and cardiac arrest Complexity level A	126,033	119,543	-6,490	-5%	1,275	1,324
E0520B	Arrhythmia and cardiac arrest Complexity level B	117,692	124,182	6,490	6%	912	884
E0530A	Heart failure and shock Complexity level A	32,918	35,667	2,749	8%	1,430	1,493
E0530B	Heart failure and shock Complexity level B	64,977	62,228	-2,749	-4%	1,205	1,159
E0540A	Chest pain Complexity level A	205,454	304,466	99,012	48%	1,104	1,094
E0540B	Chest pain Complexity level B	592,857	325,066	-267,791	-45%	951	961
E0540C	Chest pain Complexity level C	182,078	350,857	168,779	93%	684	769
E0590A	Circulatory disorders, other Complexity level A	47,337	158,001	110,664	234%	1,556	1,324
E0590B	Circulatory disorders, other Complexity level B	355,831	208,168	-147,663	-41%	1,005	937
E0590C	Circulatory disorders, other Complexity level C	186,460	223,459	36,999	20%	634	650
E0610A	Gastrointestinal haemorrhage Complexity level A	39,697	42,223	2,526	6%	1,527	1,545
E0610B	Gastrointestinal haemorrhage Complexity level B	45,277	42,751	-2,526	-6%	987	938
E0620Z	Gastrointestinal obstruction	66,697	66,697	0	0%	1,430	1,430
E0630A	Peritonitis and gastrointestinal perforation Complexity level A	18,529	15,657	-2,872	-16%	1,311	1,445

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E0630B	Peritonitis and gastrointestinal perforation Complexity level B	93,503	96,375	2,872	3%	1,018	1,005
E0640A	Oesophagitis and gastroenteritis Complexity level A	98,625	45,673	-52,952	-54%	1,042	1,210
E0640B	Oesophagitis and gastroenteritis Complexity level B	100,540	134,493	33,953	34%	748	819
E0640C	Oesophagitis and gastroenteritis Complexity level C	179,726	198,725	18,999	11%	542	553
E0650A	Abdominal pain Complexity level A	453,494	449,358	-4,136	-1%	1,134	1,144
E0650B	Abdominal pain Complexity level B	576,976	468,490	-108,486	-19%	847	867
E0650C	Abdominal pain Complexity level C	402,895	515,517	112,622	28%	607	634
E0690A	Digestive system disorders, other Complexity level A	78,972	81,145	2,173	3%	1,271	1,355
E0690B	Digestive system disorders, other Complexity level B	154,240	134,367	-19,873	-13%	1,043	1,048
E0690C	Digestive system disorders, other Complexity level C	189,673	203,202	13,529	7%	798	793
E0690D	Digestive system disorders, other Complexity level D	245,490	249,661	4,171	2%	547	541
E0710A	Liver disorders Complexity level A	20,302	20,727	425	2%	1,494	1,513
E0710B	Liver disorders Complexity level B	23,272	22,847	-425	-2%	943	917
E0720A	Gall bladder, bile duct and pancreas disorders Complexity level A	66,217	19,092	-47,125	-71%	1,331	1,706
E0720B	Gall bladder, bile duct and pancreas disorders Complexity level B	65,132	45,606	-19,526	-30%	1,083	1,249
E0720C	Gall bladder, bile duct and pancreas disorders Complexity level C	28,131	94,782	66,651	237%	760	954
E0890A	Musculoskeletal and musculotendinous disorders Complexity level A	130,065	144,370	14,305	11%	1,097	1,143
E0890B	Musculoskeletal and musculotendinous disorders Complexity level B	159,910	214,268	54,358	34%	890	861
E0890C	Musculoskeletal and musculotendinous disorders Complexity level C	340,556	270,365	-70,191	-21%	717	666
E0890D	Musculoskeletal and musculotendinous disorders Complexity level D	563,341	564,869	1,528	0%	500	498
E0910A	Skin and subcutaneous tissue infections Complexity level A	132,925	141,214	8,289	6%	1,034	1,035
E0910B	Skin and subcutaneous tissue infections Complexity level B	184,622	176,920	-7,702	-4%	716	704
E0910C	Skin and subcutaneous tissue infections Complexity level C	311,782	311,195	-587	0%	480	478
E0990A	Skin disorders, other Complexity level A	63,271	84,877	21,606	34%	908	898
E0990B	Skin disorders, other Complexity level B	103,492	145,632	42,140	41%	618	530
E0990C	Skin disorders, other Complexity level C	255,776	192,030	-63,746	-25%	434	411

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E1010A	Diabetes Complexity level A	18,928	11,917	-7,011	-37%	1,480	1,661
E1010B	Diabetes Complexity level B	21,627	17,445	-4,182	-19%	1,257	1,331
E1010C	Diabetes Complexity level C	13,451	24,644	11,193	83%	791	927
E1090A	Metabolic and nutritional disorders, other Complexity level A	52,910	40,691	-12,219	-23%	1,300	1,417
E1090B	Metabolic and nutritional disorders, other Complexity level B	60,154	57,602	-2,552	-4%	1,025	1,076
E1090C	Metabolic and nutritional disorders, other Complexity level C	45,186	59,957	14,771	33%	763	755
E1110A	Kidney failure Complexity level A	25,879	8,398	-17,481	-68%	1,476	1,843
E1110B	Kidney failure Complexity level B	25,745	24,413	-1,332	-5%	1,301	1,375
E1110C	Kidney failure Complexity level C	16,488	35,301	18,813	114%	1,065	1,139
E1120A	Urinary stones and obstruction Complexity level A	64,846	47,083	-17,763	-27%	1,107	1,173
E1120B	Urinary stones and obstruction Complexity level B	97,628	115,391	17,763	18%	900	904
E1130A	Kidney and urinary tract infections Complexity level A	86,967	94,688	7,721	9%	1,199	1,204
E1130B	Kidney and urinary tract infections Complexity level B	94,020	100,733	6,713	7%	812	753
E1130C	Kidney and urinary tract infections Complexity level C	126,998	112,564	-14,434	-11%	514	498
E1190A	Kidney and urinary tract disorders, other Complexity level A	104,510	101,002	-3,508	-3%	1,055	1,074
E1190B	Kidney and urinary tract disorders, other Complexity level B	111,778	115,286	3,508	3%	705	699
E1290A	Male genitourinary disorders Complexity level A	40,538	47,127	6,589	16%	883	862
E1290B	Male genitourinary disorders Complexity level B	57,149	50,560	-6,589	-12%	608	591
E1390A	Gynaecological disorders Complexity level A	63,555	59,791	-3,764	-6%	966	981
E1390B	Gynaecological disorders Complexity level B	165,047	168,811	3,764	2%	634	637
E1410A	Postpartum and post abortion conditions Complexity level A	18,533	17,970	-563	-3%	949	954
E1410B	Postpartum and post abortion conditions Complexity level B	47,593	48,156	563	1%	582	585
E1420A	Antenatal and other obstetric conditions Complexity level A	80,509	111,001	30,492	38%	733	673
E1420B	Antenatal and other obstetric conditions Complexity level B	149,281	118,789	-30,492	-20%	455	441
E1590Z	Perinatal disorder	20,396	20,396	0	0%	735	735
E1610A	Immune system disorders Complexity level A	21,526	19,813	-1,713	-8%	1,442	1,472

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E1610B	Immune system disorders Complexity level B	23,296	25,009	1,713	7%	734	758
E1620Z	Red blood cell disorders	73,478	73,478	0	0%	1,199	1,199
E1630A	Haemostasis disorders Complexity level A	8,192	9,336	1,144	14%	1,448	1,414
E1630B	Haemostasis disorders Complexity level B	10,893	9,749	-1,144	-11%	757	709
E1790A	Neoplasms Complexity level A	12,824	18,313	5,489	43%	1,532	1,608
E1790B	Neoplasms Complexity level B	50,405	27,221	-23,184	-46%	1,219	1,245
E1790C	Neoplasms Complexity level C	10,053	27,748	17,695	176%	628	867
E1810Z	Septicaemia	86,777	86,777	0	0%	1,642	1,642
E1820A	Viral illnesses Complexity level A	34,887	92,902	58,015	166%	1,046	952
E1820B	Viral illnesses Complexity level B	120,922	189,279	68,357	57%	798	621
E1820C	Viral illnesses Complexity level C	619,562	493,190	-126,372	-20%	451	419
E1830A	Fever of unknown origin Complexity level A	51,210	55,783	4,573	9%	1,522	1,517
E1830B	Fever of unknown origin Complexity level B	81,396	72,150	-9,246	-11%	1,121	1,122
E1830C	Fever of unknown origin Complexity level C	76,963	81,636	4,673	6%	653	660
E1890A	Infectious and parasitic diseases, other Complexity level A	13,856	27,403	13,547	98%	1,154	949
E1890B	Infectious and parasitic diseases, other Complexity level B	58,019	44,472	-13,547	-23%	477	397
E1910A	Alcohol and drug related mental and behavioural disorders Complexity level A	82,169	47,211	-34,958	-43%	1,389	1,630
E1910B	Alcohol and drug related mental and behavioural disorders Complexity level B	95,401	90,268	-5,133	-5%	978	1,087
E1910C	Alcohol and drug related mental and behavioural disorders Complexity level C	53,790	93,881	40,091	75%	722	759
E1920A	Psychoses Complexity level A	47,545	29,029	-18,516	-39%	1,897	2,162
E1920B	Psychoses Complexity level B	48,386	42,304	-6,082	-13%	1,483	1,600
E1920C	Psychoses Complexity level C	25,753	50,351	24,598	96%	903	1,088
E1990A	Mental, behavioural and neurodevelopment disorders, other Complexity level A	267,264	211,376	-55,888	-21%	1,241	1,343
E1990B	Mental, behavioural and neurodevelopment disorders, other Complexity level B	235,609	229,858	-5,751	-2%	894	930



Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E1990C	Mental, behavioural and neurodevelopment disorders, other Complexity level C	192,404	254,043	61,639	32%	636	658
E2010A	Head, intracranial, spine, internal organ and other complex injuries Complexity level A	26,700	31,399	4,699	18%	2,329	2,641
E2010B	Head, intracranial, spine, internal organ and other complex injuries Complexity level B	65,671	51,423	-14,248	-22%	1,874	1,805
E2010C	Head, intracranial, spine, internal organ and other complex injuries Complexity level C	46,866	57,913	11,047	24%	1,089	1,070
E2010D	Head, intracranial, spine, internal organ and other complex injuries Complexity level D	67,531	66,033	-1,498	-2%	538	529
E2020A	Pelvic and femoral fractures Complexity level A	48,040	34,514	-13,526	-28%	1,628	1,720
E2020B	Pelvic and femoral fractures Complexity level B	33,922	47,448	13,526	40%	1,258	1,297
E2025A	Fractures, dislocations and ligament injuries Complexity level A	108,816	189,189	80,373	74%	1,473	1,351
E2025B	Fractures, dislocations and ligament injuries Complexity level B	572,074	435,424	-136,650	-24%	808	772
E2025C	Fractures, dislocations and ligament injuries Complexity level C	1,045,241	1,101,518	56,277	5%	487	490
E2030A	Injuries, other Complexity level A	108,433	155,935	47,502	44%	1,391	1,320
E2030B	Injuries, other Complexity level B	149,959	208,390	58,431	39%	932	798
E2030C	Injuries, other Complexity level C	315,795	543,531	227,736	72%	645	526
E2030D	Injuries, other Complexity level D	929,542	595,873	-333,669	-36%	439	410
E2040A	Finger, toe and superficial injuries Complexity level A	90,685	182,550	91,865	101%	1,390	1,208
E2040B	Finger, toe and superficial injuries Complexity level B	366,231	263,004	-103,227	-28%	773	702
E2040C	Finger, toe and superficial injuries Complexity level C	808,611	819,973	11,362	1%	459	457
E2050A	Burns Complexity level A	3,679	12,698	9,019	245%	1,572	1,184
E2050B	Burns Complexity level B	11,312	50,425	39,113	346%	898	579
E2050C	Burns Complexity level C	105,130	56,998	-48,132	-46%	493	414
E2060A	Poisoning Complexity level A	59,993	61,989	1,996	3%	1,496	1,515
E2060B	Poisoning Complexity level B	92,536	79,417	-13,119	-14%	1,052	1,060
E2060C	Poisoning Complexity level C	68,299	79,422	11,123	16%	599	628
E2070A	Allergic reactions Complexity level A	48,098	51,120	3,022	6%	825	851

Class	Description	Number of records				Average cost (\$)	
		AECC V1.0	AECC V1.1	1	2	AECC V1.0	AECC V1.1
				Raw Change	% Change		
E2070B	Allergic reactions Complexity level B	101,792	98,770	-3,022	-3%	510	487
E2080A	Complications of surgical and medical care Complexity level A	85,578	103,678	18,100	21%	970	953
E2080B	Complications of surgical and medical care Complexity level B	160,719	142,619	-18,100	-11%	542	500
E5010A	Pain syndrome Complexity level A	18,494	18,691	197	1%	986	990
E5010B	Pain syndrome Complexity level B	32,394	32,197	-197	-1%	544	539
E5090A	Symptoms, other Complexity level A	74,912	187,601	112,689	150%	1,292	1,161
E5090B	Symptoms, other Complexity level B	198,150	215,541	17,391	9%	990	790
E5090C	Symptoms, other Complexity level C	352,082	222,002	-130,080	-37%	557	455
E6010A	Forensic examination Complexity level A	74,573	65,036	-9,537	-13%	1,239	1,383
E6010B	Forensic examination Complexity level B	58,107	68,485	10,378	18%	776	702
E6010C	Forensic examination Complexity level C	79,605	78,764	-841	-1%	411	408
E6020A	Abuse and neglect Complexity level A	9,372	8,456	-916	-10%	1,201	1,278
E6020B	Abuse and neglect Complexity level B	12,826	13,742	916	7%	784	765
E6090A	Other factors influencing health status Complexity level A	45,303	133,026	87,723	194%	868	713
E6090B	Other factors influencing health status Complexity level B	449,310	361,587	-87,723	-20%	426	376

# Appendix F: Comparison of model performance between AECC V1.0 and AECC V1.1

Table 17 compares the model performance of AECC V1.0 and AECC V1.1 using the Round 26 NHDC data set (2021–22). The green-highlighted columns show where AECC V1.1 performance is the same or improved in comparison to AECC V1.0.

Model performance was assessed at the complexity score level and the end class level. When applied at the complexity score level, the performance metrics evaluate the degree to which the complexity score in each AECC version predicts phase costs. When applied at the end class level, the performance metrics evaluate the predictive power of performing the split of each segment into its constituent AECC end classes. If no complexity split is performed on a given segment, then there is no 'End class' to be assessed; these cells have been highlighted in grey.

Table 17 excludes the pre-ECDG end classes (E0001Z *Not attended by a healthcare professional*, E0002Z *Planned return visit*, E0003Z *Dead on arrival*) and error end classes (E9901Z *Invalid visit type*, E9902Z *Missing principal diagnosis short list code*, E9903Z *Invalid principal diagnosis short list code*, E9904Z *Other error*) as no episodes will move into or out of these end classes in the transition between AECC V1.0 and AECC V1.1.

Table 17. Model performance comparison between AECC V1.0 and AECC V1.1 using NHDC 2021–22 data

Metric	AUG				R-squared		RID	
	Complexity score		End class		End class		End class	
AECC version	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1
Overall	58%	60%	57%	58%	29%	30%	33%	34%
<b>By ECDG</b>								
E0110 Dementia and other chronic brain syndromes	30%	30%	21%	21%	5%	5%	5%	5%
E0120 Delirium	36%	37%	25%	25%	7%	7%	6%	6%
E0130 Stroke and other cerebrovascular disorders	21%	22%	12%	12%	3%	2%	3%	5%
E0140 TIA and precerebral occlusion	25%	27%						
E0150 Seizures	40%	43%	35%	37%	14%	15%	16%	17%
E0160 Convulsions	45%	48%	31%	35%	12%	14%	14%	17%
E0170 Headaches	38%	40%	27%	28%	9%	10%	10%	11%
E0190 Nervous system and neurological disorders	46%	49%	38%	42%	18%	19%	17%	17%
E0290 Eye disorders	37%	39%	34%	35%	16%	16%	22%	24%
E0310 Ear, nose, mouth and throat disorders	42%	46%	35%	38%	16%	19%	21%	23%

Metric	AUG				R-squared		RID	
Grouping	Complexity score		End class		End class		End class	
AECC version	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1
E0320 Disorders of the teeth and supporting structures	38%	39%	34%	35%	15%	16%	20%	22%
E0410 Major respiratory conditions	27%	28%	24%	23%	6%	5%	5%	6%
E0420 Chronic obstructive airways disease	36%	38%	31%	32%	12%	10%	10%	9%
E0430 Asthma	42%	46%	32%	39%	13%	15%	14%	17%
E0440 Upper respiratory tract infections	38%	39%	21%	27%	8%	11%	12%	14%
E0450 Lower respiratory tract infections	54%	56%	49%	49%	24%	24%	26%	26%
E0490 Respiratory disorders, other	57%	58%	53%	54%	28%	28%	30%	30%
E0510 Acute coronary syndromes	10%	19%						
E0520 Arrhythmia and cardiac arrest	35%	39%	25%	28%	7%	9%	9%	11%
E0530 Heart failure and shock	23%	28%	13%	18%	2%	4%	2%	4%
E0540 Chest pain	31%	35%	28%	30%	9%	9%	9%	8%
E0590 Circulatory disorders, other	45%	48%	36%	41%	15%	17%	18%	21%
E0610 Gastrointestinal haemorrhage	45%	48%	30%	34%	11%	14%	11%	14%
E0620 Gastrointestinal obstruction	13%	21%						
E0630 Peritonitis and gastrointestinal perforation	19%	21%	10%	11%	2%	3%	3%	4%
E0640 Oesophagitis and gastroenteritis	44%	46%	40%	39%	16%	17%	20%	21%
E0650 Abdominal pain	41%	42%	37%	37%	14%	14%	15%	15%
E0690 Digestive system disorders, other	48%	50%	45%	46%	19%	21%	22%	24%
E0710 Liver disorders	47%	51%	34%	37%	14%	17%	13%	16%
E0720 Gall bladder, bile duct and pancreas disorders	33%	38%	29%	27%	9%	9%	10%	10%
E0890 Musculoskeletal and musculotendinous disorders	44%	46%	40%	43%	17%	19%	21%	23%
E0910 Skin and subcutaneous tissue infections	47%	49%	44%	44%	20%	21%	24%	25%
E0990 Skin disorders, other	43%	46%	36%	40%	15%	18%	19%	22%
E1010 Diabetes	41%	47%	35%	38%	14%	15%	13%	14%
E1090 Metabolic and nutritional disorders, other	40%	46%	35%	40%	12%	16%	13%	16%
E1110 Kidney failure	24%	30%	22%	26%	5%	7%	2%	4%
E1120 Urinary stones and obstruction	19%	25%	14%	16%	2%	3%	3%	4%
E1130 Kidney and urinary tract infections	54%	56%	51%	52%	27%	28%	29%	30%
E1190 Kidney and urinary tract disorders, other	38%	40%	29%	29%	10%	10%	11%	12%
E1290 Male genitourinary disorders	40%	41%	29%	29%	10%	10%	12%	11%
E1390 Gynaecological disorders	41%	42%	26%	26%	10%	10%	12%	12%
E1410 Postpartum and post abortion conditions	52%	53%	32%	31%	14%	14%	15%	15%
E1420 Antenatal and other obstetric conditions	33%	39%	30%	31%	11%	11%	10%	6%
E1590 Perinatal disorder	44%	45%						
E1610 Immune system disorders	59%	62%	45%	44%	26%	25%	24%	22%
E1620 Red blood cell disorders	39%	41%						
E1630 Haemostasis disorders	44%	49%	33%	36%	13%	15%	11%	18%
E1790 Neoplasms	34%	43%	29%	36%	14%	14%	11%	12%
E1810 Septicaemia	18%	20%						
E1820 Viral illnesses	46%	46%	41%	42%	18%	17%	23%	21%
E1830 Fever of unknown origin	55%	55%	48%	49%	24%	25%	26%	27%
E1890 Infectious and parasitic diseases, other	51%	55%	31%	44%	22%	26%	30%	32%
E1910 Alcohol and drug related mental and behavioural disorders	36%	41%	30%	34%	9%	12%	9%	12%

Metric	AUG				R-squared		RID	
Grouping	Complexity score		End class		End class		End class	
AECC version	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1	V1.0	V1.1
E1920 Psychoses	32%	38%	28%	32%	9%	10%	9%	11%
E1990 Mental, behavioural and neurodevelopment disorders, other	33%	38%	29%	33%	8%	10%	10%	13%
E2010 Head, intracranial, spine, internal organ and other complex injuries	64%	66%	59%	62%	37%	40%	40%	43%
E2020 Pelvic and femoral fractures	30%	33%	22%	21%	6%	5%	4%	6%
E2025 Fractures, dislocations and ligament injuries	52%	54%	43%	45%	24%	25%	31%	33%
E2030 Injuries, other	46%	50%	42%	46%	23%	24%	31%	32%
E2040 Finger, toe and superficial injuries	54%	55%	46%	48%	27%	28%	34%	36%
E2050 Burns	43%	44%	20%	39%	12%	17%	18%	24%
E2060 Poisoning	49%	52%	44%	45%	20%	20%	21%	21%
E2070 Allergic reactions	38%	45%	24%	32%	7%	13%	11%	15%
E2080 Complications of surgical and medical care	47%	50%	31%	37%	14%	17%	15%	19%
E5010 Pain syndrome	48%	49%	35%	36%	16%	16%	17%	17%
E5090 Symptoms, other	58%	60%	44%	53%	23%	28%	24%	29%
E6010 Forensic examination	62%	65%	55%	59%	32%	37%	33%	37%
E6020 Abuse and neglect	31%	34%	20%	24%	5%	8%	3%	7%
E6090 Other factors influencing health status	36%	38%	13%	27%	7%	12%	11%	18%



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