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HEALTH POLICY ANALYSIS

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Independent Hospital Pricing Authority

Emergency care services costing and classification project

Costing study discussion paper

Revision history

Version	Date	Modifications
0.1	7 August 2015	Initial draft
0.2	12 August 2015	Revised draft based on comments from IHPA
0.3	13 August 2015	Revised draft based on further comments from IHPA
0.4	27 August 2015	Minor amendments following ECAWG meeting on 21 August.

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Executive summary

The Independent Hospital Pricing Authority (IHPA) engaged Health Policy Analysis, as the lead for a consortium, to develop a new classification system for emergency care departments and services for Australia, for the purposes of activity based funding (ABF). The classification will be underpinned by a targeted costing study that will investigate the impact of cost variation between emergency departments/services, and data development to modify and enhance selected data items in the emergency care data collections to support the implementation of the new emergency care classification.

This document has been prepared as the basis for discussion with key stakeholders about how the costing study component of the overall project will be operationalised. It covers issues such as the time frames for the costing study, data collection and costing processes.

1 Project overview

Introduction

As part of the continuing development of activity based funding (ABF) for Australian public hospitals, the Independent Hospital Pricing Authority (IHPA) has commissioned a project to cost emergency care and develop a new patient based classification system for Australia. The project involves three major components:

- The conduct of a targeted costing study of emergency departments and emergency services.
- The modification and enhancement of selected data items in the emergency care data collections to support the implementation of a new classification system.
- The development of a new classification system for emergency care.

The project commenced in June 2015, and is due for completion mid-2017.

The initial component of the project is the costing study, and this is the focus of this document. The costing study will be based on data collected by selected emergency departments and emergency services around Australia, starting in April 2016. The aim is to produce a dataset that includes more detailed patient characteristics than those available through current data sets submitted nationally, as well as accurate and valid costs of treating patients with specific characteristics. This information will then be used towards the development of the classification system.

Emergency departments and emergency services
In Australia, emergency care units are classified into different levels according to a system developed by IHPA in consultation with the Emergency Care Advisory Working Group (IHPA 2015, see Appendix 1). The levels reflect the nature and roles of the service and staffing of the units. Using this classification:

- **Emergency departments** are defined as emergency care services at levels 3B-6. Emergency departments are usually located in medium to large hospitals.

- **Emergency services** are defined as emergency care services at levels 1-3A. Emergency services are usually located in small hospitals in rural and remote settings.

Why is a new emergency care classification needed?
In late 2013 IHPA commissioned work – the *Investigative review of classification systems for emergency care* (the '*Investigative review')* - to review and recommend options for classifying and pricing public hospital emergency care. The report is available at: http://www.ihpa.gov.au/internet/ihpa/publishing.nsf/Content/emergency-care-classification-html.

This review examined the literature on emergency care classifications from Australia and abroad, involved extensive stakeholder consultation, and analysed a number of existing data sources. The recommendation was that IHPA support a staged five-year timeline to develop and replace the Urgency Related Groups (URGs) and Urgency Disposition Groups (UDGs) with a new classification system across all emergency departments and emergency services in Australia. Key features identified for this new classification were as follows:

- A standalone classification for emergency care (i.e. separate from ambulatory and admitted care).
- Greater prominence being given to diagnosis, complexity of treatment, assessment, investigation, patient co-morbidities and dependency, replacing triage and disposition as proxy measures for cost and resourcing.
- Classes that are clinically meaningful to facilitate clinician level data input, enabling clinically useful analyses of emergency department data, patient mix and care.

The current project will provide a solid empirical foundation for developing the new Australian emergency care classification, fulfilling the recommendation from the *Investigative review* for appropriate costing and statistical validation.

Who is undertaking the study and what are the timelines?
The project consortium is led by Health Policy Analysis, and has been assembled based on the group's expertise in the areas of emergency care services, patient costing, and classification development.

The project commenced in June 2015, and is due for completion mid-2017. However, this *Costing study discussion paper* is concerned with the costing study component of the overall project (i.e. the overall project includes the classification development). The timing of this component is from June 2015 (the study infrastructure is currently being developed), with data collection by sites occurring between April and June 2016, with data being submitted progressively during that time period, until mid-December 2016.

Consultation process
The planned consultation approaches for this component of the study are:

- Face to face or telephone consultation with selected stakeholders. This document will be used as the basis for consulting with Commonwealth, state and territories health authorities, the Australasian College of Emergency Medicine and the College of Emergency Nursing Australasia.

  Members of the Health Policy Analysis consortium will conduct face to face or telephone meetings with these stakeholders from early to mid-September 2015. In the case of consultation with state and territory health authorities, the expectation is that these meetings will involve representatives from potential study sites and/ or consult with potential sites prior to the consultation with the consortium, and bring the feedback from the sites to these meetings.

- Public consultation. This document will be published on the IHPA website in early September 2015 inviting comment from any individual or group that has an interest in this study.

- HPA Advisory Groups and Committees. IHPA has established a series of Advisory Groups and Committees that provide input to various projects and activities managed by IHPA. This document will be circulated to these groups for input during August and September 2015.
- A national workshop will be held bringing together key stakeholders to discuss the outcomes of the consultation, and make decisions on key aspects of the study. The workshop is planned for the end of September 2015

2 Study overview and project documentation

This Chapter presents an overview of the costing study and the detailed documentation that has been developed to specifically support this component of the project.

Study time frame

The project commenced in June 2015, starting with the development of the study documentation and infrastructure. States and territories are being formally invited to nominate sites for inclusion in the study in August 2015. The other key dates for the costing component of the project are shown in the Table below.

Table 1 – Broad time frames, costing study component

Description	Proposed date
Selection process for sites to participate in costing study	September 2015 – November 2015
Undertake a pilot study	October 2015 – November 2015
Appointment of study site coordinators, finalisation of study methodology and infrastructure and site training/set up	December 2015 – March 2016
Ethics approval sought for the study (may be at a jurisdictional or hospital level)	December 2015 – March 2016
Core data collection period	Emergency departments: April 2016 Emergency services: April 2016 – June 2016
Extended data collection period (emergency departments only)	May 2016 – June 2016
Submission of study activity data for core period	Emergency departments: Mid-June 2016 Emergency services: Mid-August 2016
Submission of study activity data for extended and retrospective periods	Emergency departments: Mid-August 2016 Emergency services: Mid-August 2016
Submission of cost data	Draft: End of October 2016 Final: Mid-December 2016
Assessment and finalisation of study data	September 2016 – December 2016
Site close out visits	Late January 2017

Discussion questions

1. ***Are these time frames realistic for this project? In particular:***
    a. ***Is the lead time for setting up the project within individual sites adequate?***
    b. ***Are the dates for the submission of the activity data adequate?***
    c. ***Are the dates for the submission of the cost data adequate?***

Selection process

Sites interested in participating will need to have notified their state/territory health authority of their interest during September 2015. Alternatively, state/ territory health authorities may approach and nominate sites. Written submissions will be required for each nominated site addressing specific study inclusion criteria. This is due to IHPA by 30 September 2015.

In addition to meeting study inclusion criteria, the final study sites will be selected based on a systematic sampling criteria that aims to ensure a representative spread of large, small, regional, rural and metropolitan emergency departments/ services in the study. Once final sites are selected, those sites will be contacted by their state/territory health authority and assigned a dedicated field management team (FMT) made up of members of the Health Policy Analysis consortium. The FMT will then make contact with the study site to commence the set up process, and provide guidance and support throughout the study.

Study site set up

Sites selected to participate in the study will need to initiate a process to appoint a study Site coordinator to coordinate and facilitate study activities. Site coordinators will be the primary point of contact for state/ territory health authorities and the FMT through the duration of the study. They will be responsible for coordinating site consultations, data collection and reporting, they will provide input into the costing to be undertaken by costing staff at the facility, and also provide feedback and technical/ operational advice back and forth between the FMT/external project team and hospital staff involved in the project.

The initial duties of the site coordinator will be to oversee study site set up process, including staff training. FMTs will work closely with site coordinators to assist them in working through the study site set up requirements.

IHPA will provide financial support to participating sites for project management costs e.g. employment of a site coordinator. The financial support provided by IHPA may not cover the cost of all resources required for participation in the study. As such, it is acknowledged there may be some financial input required by states/territories.

Activity data collection and costing study

Once sites are set up, they will collect data on emergency department stays (including patient characteristics) according to the study *Data request specification*. This data is requested for the period between April and June 2016. Data collected will include items that are currently reported to state/ territory health authorities and/ or used for the reporting to the relevant national collections. However the study will also include some additional data items that are not currently specified in these collection. Many sites may already collect some of the additional data that is being requested. However, sites will need to establish arrangements through which the additional items are collected. The text box below summarises the data items proposed for the study, which are additional to the current national collection.

For the study, more detailed data will be collected related to the allocation of clinician time to individual patients. For emergency departments this will be over a shorter period of time: current proposed as a period of one month (April). For emergency services the allocation of

clinician time will be required for three months (April-June). The longer period of time for emergency services reflects the lower volume expected in these services. Allocation of clinician time to individual patients represents one of the most challenging, but important, features of the study.

Additional study data items not currently included in national collections
Presenting problem
Selected diagnosis modifiers (see Appendix 3)
Investigations
Procedures
Episode end status - Additional categories
Clinician staff time allocated to patients

Throughout the entire data collection phase, site coordinators will be required to submit progress reports via an online reporting system. This will involve site's reporting their progress against milestones, and will include outputs generated by software that will be implemented to aid the study (i.e. a database that will be used to load and monitor study data). When data collection is complete, site coordinators will submit their data to IHPA (which might be through state/ territory health authorities in some instances).

Data quality will be a high priority in this study. The study site database will be set up so that site coordinators can regularly review data quality and address quality issues on a continuous basis. Upon submission of the data, further quality checks will be undertaken by the Health Policy Analysis consortium, and FMTs will feedback issues to site coordinates and liaise with them until they have been addressed.

Following the activity data collection period, site coordinators (assisted by FMTs), will be responsible for coordinating a costing study, following the study *Costing methodology*. The costing processes will use relative value units (RVUs) for staff resources based on the additional data collected during the study, in particular, clinician time allocated to individual patients. There will be a similar focus on quality of the cost data, and again, FMTs will liaise with sites to resolve any data quality issues that have not been resolved prior to submission of the data to IHPA.

Study close out

Once data collection and the costing study are complete and submitted according to the due dates specified in the *Data request specification*, all information will be processed and analysed by the Health Policy Analysis consortium.

The results of the analysis will be presented by FMTs to study site project groups. These groups will have been formed during the set up phase to guide progress, and will include clinicians and administrative, finance and IT staff. The purpose of the presentation is to test the face validity of the data; that is, whether they are a true representation of emergency department/ service activities at that site. This signifies the conclusion of a sties responsibilities in the study, and allows the classification development phase of this project to begin.

Study documentation

Sampling strategy

A *Sampling strategy* has been developed to achieve a representative sample of emergency departments and services from across Australia (i.e. reflecting metropolitan, regional and remote locations) participating in the study. In addition to providing cost differentials between patients, a representative sample of sites will also enable exploration of the cost differences for emergency departments in metropolitan, regional and remote locations, along with differences between emergency departments and emergency services.

Data request specification (DRS)

The *Investigative review of classification systems for emergency care* undertaken previously recommended the collection of a number of additional data elements by emergency departments/ services that can be tested as classification variables. As such, the data proposed for collection in the study will be an expansion on that already provided by sites towards the Non-admitted patient emergency department care (NAPEDC) national minimum data set (NMDS) and the National Hospital Cost Data Collection (NHCDC).

The *Data request specification* (DRS) details the data required from sites participating in the costing study, and includes information about the participating emergency department/ service (service information), staffing information, emergency department stay activity data, and cost data.

The methodology for deriving the patient level cost data is detailed in another document: *Costing methodology*. However, the specifications for the submissions relating to cost are in the DRS.

Costing methodology

The primary objective of the costing study is to achieve accurate patient level costs that can be used to develop a classification system for emergency care for funding purposes. This means that direct measures of resource consumption are required, rather than external references used to allocate costs (e.g. relative resource weights derived from other studies). The *Costing methodology* works through the areas for which direct measures are being sought for this study, including:

- emergency department/ service staff inputs to care
- consultation and liaison services provided by staff from outside the emergency department
- consumables used within the emergency department/ service
- imaging and pathology ordered within the emergency department/ service
- pharmacy dispensed within the emergency department/ service.

In relation to the first point, the DRS and the *Costing methodology* have been aligned so that data are collected on staff inputs to patient care during the core data collection period, and then this information is used to derive costs for that period, as well as being able to be applied to cost other periods (i.e. the extended data collection period and the retrospective period).

Each site participating in the costing study will be required to undertake their own costing using a local costing application, and submit the resulting data to IHPA. The objective of this

approach (in addition to providing site-specific costing data), is to establish improved emergency care costing in each of the participating sites. However, the data submission requirements for the study have been designed so that a costing process can be replicated by the consortium. This will create the capacity to test and address the impact of variations in costing quality.

To explore the boundary between emergency care and admitted patient care, the scope of the study includes the emergency care component of hospital episodes plus the cost of any short stay units directly managed by or integrated with the emergency department. Costs of other components of admitted patient care will also be explored through data supplied to the National Hospital Cost Data Collection (NHCDC).

Site implementation plan

A *Site implementation plan* has been developed to provide guidance to the participating site on planning and preparation for the implementation of the study.

The *Site implementation plan* has been prepared to assist co-ordinators appointed within study sites throughout the various phases of the costing study, which include:

- study setup and training phase
- data collection phase
- study close out phase.

The study has been set up in such a way as to allow a close working relationship between study sites, state/ territory health authorities and IHPA, with support from a dedicated FMT made up of members of the Health Policy Analysis consortium.

Opportunities to input into study documentation

As at mid-August 2015, the list of above documents have been developed as drafts, with the intention of refining them through consultations with key stakeholders.

IHPA would especially like to invite comment from emergency departments/ services that are interested in participating in the costing study. Therefore, state and territory health authorities are encouraged to either consult separately with local sites to obtain their comments and feed these back to the consortium, or to invite sites to the consultation sessions with members of the consortium.

3 Data collection

Data collection periods

Three data collection phases have been defined for the study. These include:

- **A 'core' data collection period**. For most emergency departments, core data collection is proposed for **one month** duration **(April 2016)**. For emergency services, the core data collection will be for **three months (April to June 2016)**. During the core data collection period, sites will need to establish mechanisms to collect additional data related to:

    A. The characteristics of patients (presenting problem, selected diagnosis modifiers), investigations and procedures.

    B. Emergency care clinician's *patient attributable time* to individual patients. This refers to medical, nursing and allied health clinicians.

    The data related to patient attributable time is the crucial component of the core data collection, and is what distinguishes this period from the extended data collection period described below. It is recognised that attributing clinician time to individual patients is challenging. However, as clinician time accounts for a large part of the cost of emergency care, this is key to achieving accurate patient level costs.

- An **extended data collection period**. This applies to emergency departments only, and relates to the period from 1 May 2016 to 30 June 2016. During the extended data collection period, sites will be invited to continue to collect additional data related to:

    A. The characteristics of patients *(*presenting problem, selected diagnosis modifiers), investigations and procedures.

    Clinician time against individual patients will not be required during this period.

- **A retrospective costing period**. This refers to the period from 1 July 2015 to 31 March 2016. Data supplied for this retrospective period will be based on data routinely collected by sites. No additional data collection will be required. Through including a retrospective costing period, the potential impact of seasonal effects can be assessed. Additionally, this will also help identify how data generated from the study can be analysed and applied in routine costings undertaken for the National Hospital Cost Data Collection (NHCDC). Data collected in the core data collection period will be used to create more accurate estimates of costs for the retrospective period.

Discussion questions

2. ***Is the 'core' data collection (i.e. one month for emergency departments, and three months for emergency services) long enough or too long for the collection of clinical staff time allocated to individual patients to inform costing? What are the issues in collecting the staff time data over the period specified and what would be the alternatives?***

3. ***What are the issues in the collection of additional patient clinical characteristics and other stay-related information for up to a 3 month period? Which aspects of the additional patient clinical characteristics and other stay-related information are already collected through routine sources and which will require additional data collection?***

4. ***Are there any issues for sites in providing NMDS data and cost data for the retrospective costing period (1 July 2015 to 31 March 2016)?***

Additional data collection for the study

As outlined previously the study will use a combination of existing information in addition to the collection of new data elements. Note however that although these data elements are additional to ones currently submitted to state/ territory and national data collections, it is our understanding that many of these data are already collected by sites (but not necessarily in a standardised format). Another point to note is that where sites have implemented their own coding systems (e.g. for presenting problem), it is not expected that they replace these local code sets with the ones set out in the Data request specification. Instead, a mapping will be required between the code sets (i.e. local and study DRS) so that the data submitted for study purposes is uniform across all sites. The best way to approach this will be discussed with states and territories during the consultation process.

The additional clinical data elements that are being collected include:

Presenting problem – is defined as the problem that the patient presents with to the emergency department/ service, as assessed by the clinician first assessing the patient. The literature is not definitive on the value of the presenting problem over diagnosis or vice versa as cost drivers for emergency care. There are several presenting problems which can require a similar set of diagnostic steps in the initial phase, but which can result in very different types of conclusion/diagnosis and treatment pathways e.g. abdominal pain. This will be explored in the classification development, using the information collected in this study.

A list of codes have been developed to capture patients' presenting problems. Appendix 2 lists the codes proposed to be used within the study. The list has been adapted from a list obtained from NSW. This has been provided for emergency departments/ services not currently capturing this information. For those that already have a system, the consortium will discuss the best way to map the local list to a standardised one to be used for the study. Where lists are standardised amongst sites within a state/territory, only one mapping will need to occur at the state/ territory level.

Diagnosis modifiers – are a set of problems/states that a patient presents with that impact on the urgency of their admission. Some are identified during triage, and used to determine the

urgency with which the patient needs to be attended to. Examples include diabetes, level of consciousness, and homelessness.

A list of codes has been developed which clinicians will be requested to record. These are in Appendix 3. This list has been adopted from WA, and edited so that only modifiers that are not inferred by procedures/ investigations are identified.

Investigations and procedures – Appendix 4 contains a list of investigations and procedures that are proposed to be used in the study. These have also been adopted from WA.

Investigations are clinical investigations performed in the emergency department/ service (e.g. blood tests, x-ray etc.). The proposed list of investigations has been subcategorised as follows:

- bedside
- laboratory
- imaging
- endoscopic
- other.

Procedures are clinical interventions performed in the emergency department/ service. The proposed list of procedures has been subcategorised as follows:

- life support/respiratory
- anaesthetics
- cardiovascular
- regional procedures
- other.

There are some issues in the use of procedures in a classification system used for funding purposes (i.e. they capture the practices of providers rather than necessarily the needs of the patient). However, the *Investigate Review* concluded that they are important cost drivers and are actually being used in many of the international emergency care classifications as well as being a key partitioning variable in DRG classifications.

Episode end status – This is a standard data element already collected by sites. However, for the purposes of this study, a greater level of specificity than that required in the *Non-admitted patient emergency department care NMDS 2015-16* is required for patients that are subsequently admitted in terms of where they are admitted to (e.g. short stay unit, operating theatre, intensive care etc.). As noted above, hospitals will not be required to replace their existing code sets for this data element, but to map to this using their local episode end status field (and potentially other information such as the 'ward' movements of the patient).

Clinical staff time allocated to individual patients - To be able to develop costs that accurately reflect the cost of treating patients within the emergency department/service and to use this information to develop a classification system to support future funding, time spent with individual patients by individual clinicians is being requested for this study. The plan is for emergency departments to collect this for one month only, and emergency services to collect this for three months.

Collection tools and methods of additional data elements

As mentioned previously, the study will use data that is already compiled for state/ territory and national data collections, as well as additional data elements that may or may not be currently routinely collected by individual sites. The additional data elements are in relation to two areas:

- allocation of staff time to individual patients
- clinical characteristics of patients and other relevant stay-related information (presenting problems, diagnosis modifiers and so on as outlined above).

Collection of time against individual patients by clinical staff
It is important to determine the best collection method for gathering this information. The consortium is keen to understand from clinicians and potential participating sites what some of the options might be. The aim is to gather these data with the least impact on clinicians. Therefore, the consortium and IHPA has explored some technologies, such as radio-frequency identification (RFID), a system using intelligent bar codes that may be used in different ways by clinicians, such as 'swiping in' and 'swiping out' (against a bar code on the patient's medical record) each time they attend to a patient. Paper-based systems may also be an option for sites where electronic systems will not be practicable/ suitable.

Clinical characteristics of patients and other relevant stay-related information
Clinical characteristics of patients and other relevant stay-related information may be collected in two ways: prospectively as the patient is progressing through the various treatments and interventions, or retrospectively through data that are recorded in existing electronic systems and/ or paper records. The latter will only work of the data are captured somewhere (e.g. as a field within the local electronic system, or recorded in patient notes). The understanding of the consortium is that all of the additional data that are being requested are data that are relevant to the management of patients in emergency settings, and thus are available in some form. Therefore, both options are potentially available to most sites.

Advice is being sought from stakeholders as to which is the most effective and efficient way to capture the clinical characteristics of patients and other relevant stay-related information, in line with the study requirements that have been developed for these data elements.

Discussion questions

5. ***What are the best tools and methods to achieve the capture of the additional data elements?***
6. ***How is mapping of local data elements/ fields against those set up for the study (e.g. presenting problem) best handled? For example, should this be done at an individual site level, or at a state/ territory level?***
7. ***How should the collection of clinical staff time with individual patients be approached?***

4 Costing process

Costing study scope

The study will include both emergency departments and emergency services, and will examine the extent to which different classifications are required for these settings.

Emergency departments in larger hospitals often have one or several short stay units that are managed as a part of the emergency department, or closely coordinated with the emergency department. Short stay unit models have a variety of names (e.g. medical assessment units, emergency management units, observation units). Patients transferred from emergency care to these units are identified as being acute admitted patients, and consequently are associated with funding from the acute admitted care streams under ABF. Costs of patients managed in short stay units are in scope for this study.

The scope of the costing study has been designed to be broader than the current scope of emergency care classifications. The reason for this is that the study will explore the implications of boundaries between emergency and acute admitted care that are specified for the current implementations of ABF.

Overview of costing process

To provide the most accurate data and classifications, there are a number of steps sites will have to carry out throughout the period of the costing study. The following are a summary of the steps that study sites need to undertake for the study:

- **Step1:** Development of final allocation statistics for clinical staff and other resource categories from the core study period results.
- **Step 2:** Assignment of cost centres in the general ledger to appropriate final cost centre types (reflecting product categories wherever possible, including the specific emergency care product categories) and indirect (overhead) cost centre types. Mapping of cost line items to National Hospital Cost Data Collection (NHCDC) line items.
- **Step 3:** Allocation of costs from indirect (overhead) cost centres to direct cost centres.
- **Step 4:** Allocation of costs accumulated in final cost centres to product categories.
- **Step 5:** Allocation of costs to patients within product categories.

Costing will be undertaken once only for the study. This means that the input files for costing need to be constructed to use the relevant relative value units (RVUs) for each period of the study as follows:

- For the core period, the RVUs will reflect actual clinician time.
- For the extended period, the RVU will be those based on the current plus additional patient characteristics.

For the retrospective period, the RVUs could be based on the RVUs generated from the core data applied to routinely available information. Alternatively they could be based on the RVUs typically used by the site (although in this case there is a need to calibrate the RVUs so that they reflect the same basis as those generated from the core period).

RVUs may be developed by the study sites themselves, or alternatively, the study consortium is offering to develop staff related RVUs from data collected during the core data collection period.

It is proposed that the costing data submitted is for a period be for 12 months, reflecting a whole financial year of data. This is important as overheads can only be allocated correctly using this approach. Incidentally, it is important that the costing of emergency care is done within the context of a whole of hospital costing study, again for correctly allocating costs across all services. The approach being proposed for costing the period prior to the study is to use data that is collected during the study to develop relative value units (RVUs), this is in addition to these data being used to directly allocate resources to patients for the period during which they are collected.

The costing data to be supplied at the end of the study is to include both costing results and the relevant data used as inputs to the costing process for emergency care. The precise specification of input files will be adapted to reflect the different costing systems used by health services across public hospitals in Australia. Provision of the input files will allow the study consortium to assess the quality of the costing processes, including the impact of the use of local RVUs.

It is recognised that some sites may not have the capacity to alter the standard ways in which emergency care costing is undertaken. In these situation, sites will be able to supply the costing results and input files, and the study consortium will process the data to reflect the study specific RVU generated from the study.

Discussion questions

8. ***What issues do costing teams and costing practitioners envisage with using study specific data (clinician time) to generate relative value units (RVUs) for the study?***
9. ***To want extent will study sites want to develop their own RVUs from study data, versus the consortium developing these on behalf of the sites?***
10. ***Will it be possible to apply RVUs developed through the study for the costing (i.e. are sites limited in any way in applying alternative RVUs)?***
11. ***What are the practicalities of running a costing study related to just the study period (1 April to 30 June 2016) compared with the whole year (1 July 2015 to 30 June 2016)?***

Appendix 1: Emergency department and service role levels

Level	Description
1	*Services:* Able to provide first aid and treatment prior to referral to a facility able to provide a higher level of service, if necessary. *Staffing:* Access to a medical practitioner – this may be by telephone. *Location:* N/a
2	*Services:* As for Level 1. Can cope with minor injuries and ailments. Resuscitation and limited stabilisation capacity prior to referral to a facility able to provide a higher level of service. *Staffing:* As for Level 1 (medical). Nursing staff from ward available to cover emergency presentations. Visiting medical officer (includes general practitioner) on call. *Location:* Emergency service in a small hospital.
3A	*Services:* As for Level 2 *Staffing:* As for Level 2. Designated ED nursing staff available 24 hours a day and nursing unit manager. *Medical staff available for recall to the hospital within 20 minutes, 24 hours a day.* Specialists appropriate to the role delineation of the hospital available for consultation, plus arrangements in place for other specialties. Access to allied health professionals. Specialist psychiatric/mental health assessment personnel available for consultation. *Location:* Purpose designed area, with full resuscitation facilities in separate area such as a cubicle.
3B	*Services:* As for Level 3A *Staffing:* As for Level 2. Designated ED nursing staff available 24 hours a day and nursing unit manager. *Medical staff available in the hospital 24 hours a day (though may have other commitments in the hospital).* Specialists appropriate to the role delineation of the hospital available for consultation, plus arrangements in place for other specialties. Access to allied health professionals. Specialist psychiatric/mental health assessment personnel available for consultation. *Location:* As for Level 3A
4	*Services:* Can manage most emergencies. Participation in regional adult retrieval system (rural base hospitals). As for Level 3B. *Staffing:* Registered nurses with emergency nursing experience or qualifications on site 24 hours a day. ED-specific medical officer(s) on site 24 hours a day. ED Medical director. *Location:* As for Level 3B

Level	Description
5	*Services:* As for Level 4. Has undergraduate and postgraduate teaching and a research program. *Staffing:* As for Level 4. Access to clinical nurse consultant or similar. Has designated ED registrars on site 24 hours a day. Sub-specialists available on rosters. *Location:* As for Level 4
6	*Services:* As for Level 5. Can manage all emergencies and provide definitive care. State-wide referral role and/or major trauma centre. *Staffing:* As for level 5 *Location:* As for level 5

Source: IHPA 2015: http://ihpa.gov.au/internet/ihpa/publishing.nsf/Content/ihpa-three-year-plan.html~appendix-A

Appendix 2: Proposed codes for presenting problem

Emergency department stay – Presenting problem

Short name:	Presenting problem	
Data element ID:		
Definition:	The problem that the patient presents with to the emergency department/ service, as assessed by the clinician first assessing the patient.	
Value domain attributes		
Data type:	Numeric	
Format:	NNN	
Maximum character length:	3	
Permissible values:	1	Abnormal results
	2	Abrasion
	3	Allergic reaction
	4	Altered level of consciousness
	5	Amputation
	6	Assault - alleged
	7	Ataxia
	8	Behavioural disturbance
	9	Bite / sting
	10	Bleed Epistaxis
	11	Bleed GI
	12	Bleed Haematemesis
	13	Bleed Haematuria
	14	Bleed Haemoptysis
	15	Bleed Other
	16	Bleed PR
	17	Bleed PV
	18	Blood disorder

	19	Breathing problem
	20	Bruising / contusion
	21	Burn / scald
	22	Cardio/ respiratory arrest
	23	Cellulitis suspected
	24	Choking episode
	25	Collapse
	26	Confusion
	27	Coryza
	28	Cough
	29	Crush injury
	30	Crying / unsettled infant
	31	Cyanosis
	32	Dental injury
	33	Dental problem
	34	Depressed
	35	Device care GI stoma
	36	Device care non GI
	37	Device care vascular / shunt
	38	Diarrhoea
	39	Dislocation
	40	Dizziness
	41	Dressing, wounds or plaster care
	42	Ear ache
	43	Ear problem
	44	Electrical injury (electrocution)
	45	Eye problem
	46	Eye red painful
	47	Febrile convulsion
	48	Feeding difficulties
	49	Fever
	50	Fever Immunosuppressed patient
	51	Fever Neonate
	52	Flu like symptoms
	53	Foreign body
	54	Fracture - suspected
	55	Gait problems / limp

	56	Gynaecological problem other
	57	Head injury
	58	Headache
	59	Hypo/hyperglycaemia
	60	Immersion / near drowning
	61	Infectious contact
	62	Infectious disease immunisation/prophylaxis
	63	Jaundice
	64	Laceration
	65	Lethargy
	66	Loss of appetite
	67	Mass / lump
	68	Medical assessment requested
	69	Medication administration / dispensing
	70	Mental health review
	71	Mouth problem
	72	Nausea
	73	Needle stick / body fluid exposure
	74	Other
	75	Overdose
	76	Pain Abdominal
	77	Pain Back
	78	Pain Chest
	79	Pain Epigastric
	80	Pain Limb
	81	Pain Limb lower / hip
	82	Pain Limb upper / shoulder
	83	Pain Neck
	84	Pain Other
	85	Pallor
	86	Palpitations
	87	Paralysis - part or full
	88	Penetrating injury
	89	Penile disorder
	90	Poisoning
	91	Post ictal
	92	Pregnancy related

	93	Rash
	94	Rash with fever
	95	Request investigation
	96	Request other
	97	Review
	98	Seizure
	99	Self harm
	100	Shortness of breath
	101	Skin infection / disorder
	102	Sore throat
	103	Speech difficulties
	104	Stridor
	105	Suicidal ideation
	106	Swelling/oedema
	107	Testicular problem
	108	Tooth ache
	109	Transplant status
	110	Trauma
	111	Unwell
	112	Urinary problems
	113	Visual disturbance
	114	Vomiting
	115	Vomiting and diarrhoea
	116	Weakness Focal
	117	Weakness General
	118	Weight loss / failure to gain weight
	119	Wheeze
	120	Wound
	121	Wound infection
	998	Other specified problem not elsewhere classified
Supplementary values:	n.a.	
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	

Guide for use:	Presenting problem is generally recorded by the first clinician who sees the patient. Recording of presenting problem is not a triage process, and does not require a triage process. Although, it may be collected as part of a triage process. Field cannot be blank.
Related METeOR data element:	Nil.

Appendix 3: Diagnosis modifiers

Emergency department stay – diagnosis modifier – diabetes requiring insulin in the emergency department/ service

Short name:	Diagnosis modifier – diabetes requiring insulin in the emergency department/ service	
Data element ID:		
Definition:	A flag to indicate whether or not a patient with a diagnosis of diabetes had insulin administered by an emergency department/ service clinician during their current emergency department stay.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Yes
	2	No
	3	Not applicable
Supplementary values:	9	Unknown
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	Patients with diabetes are defined as those having a diagnosis (principal or additional) of diabetes recorded as part of their stay in the emergency department. This includes any condition classifiable to the following ICD-10-AM 9th edition: • E10 Type 1 diabetes mellitus (includes all conditions in the range of E10.0 to E10.9 and subcategories) • E11 Type 2 diabetes mellitus (includes all conditions in the range of E11.0 to E11.9 and subcategories) • E13 Other specified diabetes mellitus (includes all conditions in the range of E13.0 to E13.9 and subcategories) • E14 Unspecified diabetes mellitus (includes all conditions in the range of E14.0 to E14.9 and subcategories). It also applies to the equivalent SNOMED CT-AU/ EDRS-SNOMED CT-AU and ICD-9-CM 2nd edition codes. **CODE 1 Yes** The patient has diabetes recorded as one of their diagnoses	

	(principal or additional) while receiving care in the emergency department/ service, **AND they have had insulin administered** by an emergency department/ service clinician. **CODE 2 No** The patient has diabetes recorded as one of their diagnoses (principal or additional) while receiving care in the emergency department/ service, AND they have **NOT required insulin** to be administered by an emergency department/ service clinician. **CODE 3 Not applicable** To be used for any one of the following circumstances: • the patient does not have diabetes • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	Nil.

Emergency department stay – diagnosis modifier – consciousness

Short name:	Diagnosis modifier – consciousness	
Data element ID:		
Definition:	Whether a patient presenting to the emergency department/ service presented in a conscious or unconscious state.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Unconscious (includes somnolence, stupor, coma)
	2	Conscious
	3	Not applicable
Supplementary values:	n.a.	
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	An unconscious state is defined as somnolence, stupor and coma. It includes states classifiable to the following ICD-10-AM 9th edition codes: • R40.0 Somnolence (includes drowsiness) • R40.1 Stupor (includes semicoma, but excludes those classifiable to mental health disorders – F series) • R40.2 Coma, unspecified (includes unconsciousness not otherwise specified). It may also include coma associated with one or more of the following conditions (ICD-10-AM 9th edition codes in brackets): • diabetic (E10–E14) • hepatic (K72.-) • hypoglycaemic (nondiabetic) (E15) • neonatal (P91.5) • that with any head injury classifiable to Chapter 19 of ICD-10-AM (S06.01–S06.05) • uraemic (N19). It also applies to the equivalent SNOMED CT-AU/ EDRS-SNOMED CT-AU and ICD-9-CM 2nd edition codes. **CODE 1 Unconscious (includes somnolence, stupor, coma)** The patient presented to the emergency department/ service in an unconscious state, as defined above. **CODE 2 Conscious** The patient presented to the emergency department/ service in a conscious state. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on	

	arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	Nil.

Emergency department stay – diagnosis modifier – Distress/confusion/agitation requiring chemical/physical restraint

Short name:	Diagnosis modifier – Distress/ confusion/ agitation requiring chemical/physical restraint	
Data element ID:		
Definition:	A flag to indicate whether or not a patient presenting with distress/ confusion/ agitation or developing any of these during their emergency department stay was chemically and/ or physically restrained.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Yes
	2	No
	3	Not applicable
Supplementary values:	9	Unknown
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	Patients with distress/ confusion/ agitation may present with any of these to the emergency department/ service, or these states may be manifestations of an underlying condition (physical or mental). Therefore, these states may be associated with a range of diagnoses. **CODE 1 Yes** The patient presented with distress/ confusion/ agitation or developed distress/ confusion/ agitation during their emergency department stay **AND was chemically and/ or physically restrained**. **CODE 2 No** The patient presented with distress/ confusion/ agitation or developed distress/ confusion/ agitation during their emergency department stay **AND was NOT chemically and/ or physically restrained**. **CODE 3 Not applicable** To be used for any one of the following circumstances: • The patient did not present with distress/ confusion/ agitation and they did not develop distress/ confusion/ agitation during their emergency department stay • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died	

	in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	Nil.

Emergency department stay – diagnosis modifier – body mass index

Short name:	Diagnosis modifier – body mass index (BMI)
Data element ID:	
Definition:	A measure of an adult's weight (body mass) relative to height, used to assess the extent of weight deficit or excess where height and weight have been measured.
Value domain attributes	
Data type:	Numeric
Format:	N
Maximum character length:	1
Permissible values:	1 BMI > = 40
	2 BMI < 40
	3 Not applicable
Supplementary values:	n.a.
Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	Formula: BMI = weight (kg) divided by height (m) squared. Applies to persons aged 2 years or older. Should be measured where there is doubt as to whether the result is clearly above or below 40. **CODE 1 Yes** The patient has a BMI of 40 or more. **CODE 2 No** The patient has a BMI of less than 40. **CODE 3 Not applicable** To be used for any one of the following circumstances: • The patient is less than 2 years old. • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	Adult—body mass index (measured) (METeOR identifier: 270084) Child—body mass index (measured) (METeOR identifier: 270474) Person—body mass index (classification) (METeOR identifier: 270474)

Emergency department stay – diagnosis modifier – homelessness

Short name:	Diagnosis modifier – homelessness	
Data element ID:		
Definition:	A flag to indicate whether or not a patient presenting to an emergency department/ service was homeless at the time of presentation.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Yes
	2	No
	3	Not applicable
Supplementary values:	9	Unknown
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	Homelessness may be defined as the person being in any one of the following circumstances: • Sleeping rough or in non-conventional circumstances. • Living in short-term or emergency accommodation, due to a lack of other options. This may include refuges; crisis shelters; couch surfing; living temporarily with friends and relatives; insecure accommodation on a short term basis; emergency accommodation arranged in hotels, motels etc. by a specialist homelessness agency. **CODE 1 Yes** The patient was known to emergency department/ service staff to be homeless at the time of presentation. **CODE 2 No** The patient was NOT identified as being homeless at the time of presentation. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.	

Related METeOR data element:	Person—previously homeless status (METeOR identifier: 400338)

Emergency department stay – diagnosis modifier – residential care resident

Short name:	Diagnosis modifier – residential care resident	
Data element ID:		
Definition:	A flag to indicate whether or not a patient presenting to an emergency department/ service was a resident of a residential care facility at the time of presentation.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Yes
	2	No
	3	Not applicable
Supplementary values:	9	Unknown
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	A residential aged care facility is defined as a facility offering care for older people who can no longer live at home due to frailty, disability, illness and a range of other reasons. It excludes independent living units or retirement villages. A resident of a residential aged care facility is a person who provides the address of such a facility as their home address upon presentation to the emergency department/ service. **CODE 1 Yes** The patient was known to emergency department/ service staff to be a resident of a residential care facility. **CODE 2 No** The patient was NOT noted as being a resident of a residential care facility. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.	
Related METeOR data element:	n.a.	

Emergency department stay – diagnosis modifier - mental health legal status/ assessment to determine

Short name:	Diagnosis modifier – mental health legal status/ assessment to determine	
Data element ID:		
Definition:	Whether a person is treated in the emergency department/ service on an involuntary basis, under the relevant state or territory mental health legislation, or being assessed under such legislation to determine their legal status.	
Value domain attributes		
Data type:	Numeric	
Format:	N	
Maximum character length:	1	
Permissible values:	1	Involuntary patient
	2	Assessment to determine mental health legal status
	3	Other/ not applicable
Supplementary values:	n.a.	
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	**CODE 1 Involuntary patient** The patient has been deemed to be involuntary under state/ territory mental health legislation. Involuntary patient should only be used by facilities which are approved for this purpose. While each state and territory mental health legislation differs in the number of categories of involuntary patient that are recognised, and the specific titles and legal conditions applying to each type, the legal status categories which provide for compulsory detention or compulsory treatment of the patient can be readily differentiated within each jurisdiction. These include special categories for forensic patients who are charged with or convicted of some form of criminal activity. Each state/territory health authority should identify which sections of their mental health legislation provide for detention or compulsory treatment of the patient and code these as involuntary status. **CODE 2 Assessment to determine mental health legal status** Assessments are being undertaken to determine the legal status of the person under state/ territory mental health legislation. **CODE 3 Other/ not applicable** To be used for any one of the following circumstances: • The patient is NOT being treated involuntarily (as described under CODE 1), or being assessed to determine their legal status under mental health legislation (as described under CODE 2)	

	• Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	Episode of care—mental health legal status (METeOR identifier 534063)

Emergency department stay – diagnosis modifier – intellectual disability

Short name:	Diagnosis modifier – intellectual disability
Data element ID:	
Definition:	Whether a person is treated in the emergency department/ service has aan intellectual disability.
Value domain attributes	
Data type:	Numeric
Format:	N
Maximum character length:	1
Permissible values:	1 Yes
	2 No
	3 Not applicable
Supplementary values:	n.a.
Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	Includes severe forms of intellectual disability requiring very substantial support from emergency department/ service staff. The intellectual disability may or may not be the reason that the patient presents to the emergency department/service. **CODE 1 Yes** The patient has an intellectual disability requiring very substantial support from emergency department/ service staff. **CODE 2 No** The patient does not have an intellectual disability requiring very substantial support from emergency department/ service staff. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	n.a.

Emergency department stay – diagnosis modifier – chronic disabling mental disorder

Short name:	Diagnosis modifier – chronic disabling mental disorder
Data element ID:	
Definition:	Whether a person is treated in the emergency department/ service has a severe form of mental and/ or personality disorder requiring very substantial support from emergency department/ service staff.
Value domain attributes	
Data type:	Numeric
Format:	N
Maximum character length:	1
Permissible values:	1 Yes
	2 No
	3 Not applicable
Supplementary values:	n.a.
Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	Excludes adequately treated depression and/ or anxiety and other mild to moderate mental disorders. The chronic disabling mental disorder may or may not be the reason that the patient presents to the emergency department/service. **CODE 1 Yes** The patient has a chronic disabling mental disorder requiring very substantial support from emergency department/ service staff. **CODE 2 No** The patient does not have a chronic disabling mental disorder requiring very substantial support from emergency department/ service staff. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did not wait to be attended by a health care professional. Field cannot be blank.

Related METeOR data element:	n.a.

Emergency department stay – diagnosis modifier – chronic substance/alcohol dependence or abuse

Short name:	Diagnosis modifier – chronic substance/alcohol dependence or abuse
Data element ID:	
Definition:	Whether a person is treated in the emergency department/ service has chronic substance/alcohol dependence or abuse.
Value domain attributes	
Data type:	Numeric
Format:	N
Maximum character length:	1
Permissible values:	1 Yes
	2 No
	3 Not applicable
Supplementary values:	n.a.
Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	Chronic substance/alcohol dependence or abuse includes behavioural, cognitive, and physiological phenomena that develop after repeated substance use, and that typically include a strong desire to take the substance/ alcohol, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to substance/ alcohol use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state. The chronic substance/alcohol dependence or abuse may or may not be the reason that the patient presents to the emergency department/service. **CODE 1 Yes** The patient has a chronic substance/alcohol dependence or abuse. **CODE 2 No** The patient does NOT have chronic substance/alcohol dependence or abuse. **CODE 3 Not applicable** To be used for any one of the following circumstances: • Type of visit (METeOR identifier: 550725) = 5 Dead on arrival • Episode end status (METeOR identifier: 551305) = 7 Dead on arrival • Episode end status (METeOR identifier: 551305) = 6 Died in emergency department • Episode end status (METeOR identifier: 551305) = 4 Did

	not wait to be attended by a health care professional. Field cannot be blank.
Related METeOR data element:	n.a.

Appendix 4: Investigations and procedures

Emergency department stay – investigations

Short name:	Investigations
Data element ID:	
Definition:	Clinical investigations performed in the emergency department/ service, represented by a code.
Value domain attributes	
Data type:	Numeric
Format:	NN
Maximum character length:	2
Permissible values:	*Bedside*
	11 Clinician ultrasound (excludes that performed by radiology department – see code 33 below)
	12 Diagnostic peritoneal lavage
	Laboratory
	21 **Basic panel**: Tests include any of: FBP, U+E, BSL, VBG, CRP, ESR, BAL, BetaHCG, Group and screen, MSU for MC&S.
	22 **Directed investigation**: Tests include any of: of D-Dimer/Coagulation profile, Troponin/Cardiac enzymes, LFTS, Lipase, Ca, PO4, Mg, ABG, lactate, Paracetamol, Anticonvulsant, Lithium, Specimen MC+S, Hepatitis serology, HIV serology, Influenza, Pap Smear, CSF (xanthochromia, cells, chemistry), Malaria, EBV/Monospot, Cross match.
	23 **Complex investigation**: If any other laboratory tests are ordered, irrespective of number or type (e.g. drug/toxin levels, autoimmune studies, iron studies etc.)
	Imaging
	31 Plain X-ray - single region (e.g. CXR or wrist XR)
	32 Plain X-ray - multiple regions (e.g. C-spine AND pelvis) or study with contrast
	33 Ultrasound - radiology department (excludes that performed at bedside – see code 11 above)

	34 CT - single region
	35 CT - multiple regions
	36 Nuclear Medicine Scan
	37 MRI
	Endoscopic
	41 Laryngoscopy (flexible or rigid)
	42 Oesophagoscopy/Gastroscopy (flexible or rigid)
	43 Sigmoidoscopy/Colonoscopy (flexible or rigid)
	Other
	90 Other specified investigations not elsewhere classified
Supplementary values:	n.a.
Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	Record all investigations ordered/undertaken during the emergency stay. Investigations are derived from and must be substantiated by clinical documentation. This data element can have multiple occurrences, so that all investigations performed are recorded. Field may be blank where no investigation has been ordered/ undertaken during the emergency department stay.
Related METeOR data element:	Nil.

Emergency department stay – procedure

Short name:	Procedure	
Data element ID:		
Definition:	Clinical interventions performed in the emergency department/ service, represented by a code.	
Value domain attributes		
Data type:	Numeric	
Format:	NN	
Maximum character length:	2	
Permissible values:	*Life support/respiratory*	
	11	Assisted ventilation (e.g. bag or mechanical via mask/LMA/ETT)
	12	Basic life support
	13	Cardioversion/defibrillation
	14	CPAP/BIPAP
	15	Endotracheal intubation
	16	Thoracotomy/internal cardiac massage
	Anaesthetic	
	21	Procedural sedation
	22	Regional block
	Cardiovascular	
	31	Arterial cannula
	32	Blood transfusion
	33	CVL insertion
	34	External cardiac pacing
	35	Ionotropic or blood pressure lowering infusion
	36	Rapid IV fluid resuscitation (>1L in one hour, 20ml/Kg in one hour in children)
	37	Pacing wire insertion
	38	Peripheral IV insertion
	39	Thrombolysis
	Regional procedures	
	41	Abscess/collection aspiration or drainage
	42	Chest tube/catheter
	43	Fracture/dislocation reduction
	44	Foreign body removal
	45	Gastric lavage
	46	Joint aspiration

	47	Lumbar puncture
	48	Nasal packing/cautery
	49	Nasogastric/PEG tube insertion
	50	Pleural aspiration
	51	Preformed splint application
	52	POP/backslab application
	53	Suprapubic catheter
	54	Urethral catheter
	55	Vaginal speculum examination
	56	Wound suture/stapling
	57	Wound gluing
	Other	
	90	Other specified procedure not elsewhere classified
Supplementary values:	n.a.	
Collection and usage attributes		
Applicability:	Emergency departments and emergency services	
Guide for use:	Record all procedures undertaken during the emergency stay. Procedures are derived from and must be substantiated by clinical documentation. This data element can have multiple occurrences, so that all procedures performed are recorded. Field may be blank where no procedure has been performed during the emergency department stay.	
Related METeOR data element:	Episode of admitted patient care—procedure, code (ACHI 9th edn) (METeOR identifier: 589101).	

Emergency department stay – Emergency care costing study episode end status

Short name:	Emergency care costing study episode end status	
Data element ID:		
Definition:	The status of the patient at the end of the non-admitted patient emergency department service episode, as represented by a code.	
Value domain attributes		
Data type:	Code	
Format:	Alphanumeric	
Maximum character length:	XX	
Permissible values:	1a	Transferred for admitted patient care in this hospital - short stay unit
	1b	Transferred for admitted patient care in this hospital - hospital-in-the-home
	1c	Transferred for admitted patient care in this hospital – operating theatre/ procedure suite
	1d	Transferred for admitted patient care in this hospital – surgical ward
	1e	Transferred for admitted patient care in this hospital – intensive care unit/ high dependency unit
	1f	Transferred for admitted patient care in this hospital – specialist mental health unit/ service (for assessment and/ or treatment)
	1g	Transferred for admitted patient care in this hospital – other admitted care
	2a	Emergency department stay completed - departed without being transferred to a short stay unit, hospital-in-the-home or other admitted patient care unit in this hospital or referred to another hospital, and did not depart under the care of a residential aged care facility
	2b	Emergency department stay completed –departed under the care of a residential aged care facility
	3	Emergency department stay completed - referred to another hospital for admission
	4	Did not wait to be attended by a health care professional
	5	Left at own risk after being attended by a health care professional but before the non-admitted patient emergency department service episode was completed
	6	Died in emergency department
	7	Dead on arrival
Supplementary values:	n.a.	

Collection and usage attributes	
Applicability:	Emergency departments and emergency services
Guide for use:	**CODES 1a to 1g** This code should only be used for patients who physically depart the emergency department/service because they are admitted to a short stay unit, hospital-in-the-home, operating theatre/ procedure suite, surgical ward, intensive care unit/ high dependency unit, specialist mental health unit/ service or other admitted patient care unit. Patients for whom the intention is to admit to any of the above admitted care units, but who die or otherwise leave the emergency department should not be recorded as Codes 1a to 1g. This code excludes patients who died in the emergency department. Such instances should be coded to Code 6. **CODE 2a** This code includes patients who either departed under their own care, under police custody, or under the care of another carer (but not under the care of a residential aged care facility). This code excludes patients who died in the emergency department. Such instances should be coded to Code 6. **CODE 2b** This code includes patients who either departed under the care of a residential aged care facility. This code excludes patients who died in the emergency department. Such instances should be coded to Code 6. **CODE 6 Died in emergency department** This code should only be used for patients who die while physically located within the emergency department. **CODE 7 Dead on arrival** This code should only be used for patients who are dead on arrival and an emergency department clinician certifies the death of the patient. This includes where the clinician certifies the death outside the emergency department (e.g. in an ambulance outside the emergency department). Exclusion: When resuscitation or any other clinical care for the patient is attempted, Code 7 should not be used. Note: Where Code 7 is recorded for a patient, a Type of visit to emergency department Code 5 (Dead on arrival) should also be recorded. Field cannot be blank.
Related METeOR data element:	Non-admitted patient emergency department service episode—episode end status (METeOR identifier: 551305)

References

Independent Hospital Pricing Authority (2015). *Three Year Data Plan 2015-16 to 2017-18*. Canberra: Sydney: IHPA. Available at: http://ihpa.gov.au/internet/ihpa/publishing.nsf/Content/ihpa-three-year-plan.html~appendix-A