



Towards a classification system for emergency care for Australia

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Acknowledgements

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- Dr Sharon Willcox Dr Tim Smyth
- Dr Ralph Hanson Dr Peter Sprivulis

Report is on the IHPA web site at:

<http://www.iHPA.gov.au/internet/iHPA/publishing.nsf/Content/emergency-care-classification-html>



Australian context

Around 200 larger emergency department across Australia. In these:

- Patient level data collection
- Triage assigned using the Australasian Triage Scale (ATS)
- Disposition recorded (admitted/discharge) – (but some key differences with other systems as to what is considered ‘admitted’)
- Principal emergency department diagnosis assigned (by clinician) using various coding/terminology systems
- Low level of reporting of second and third diagnosis
- No national reporting of procedures

A larger number of small emergency departments/services

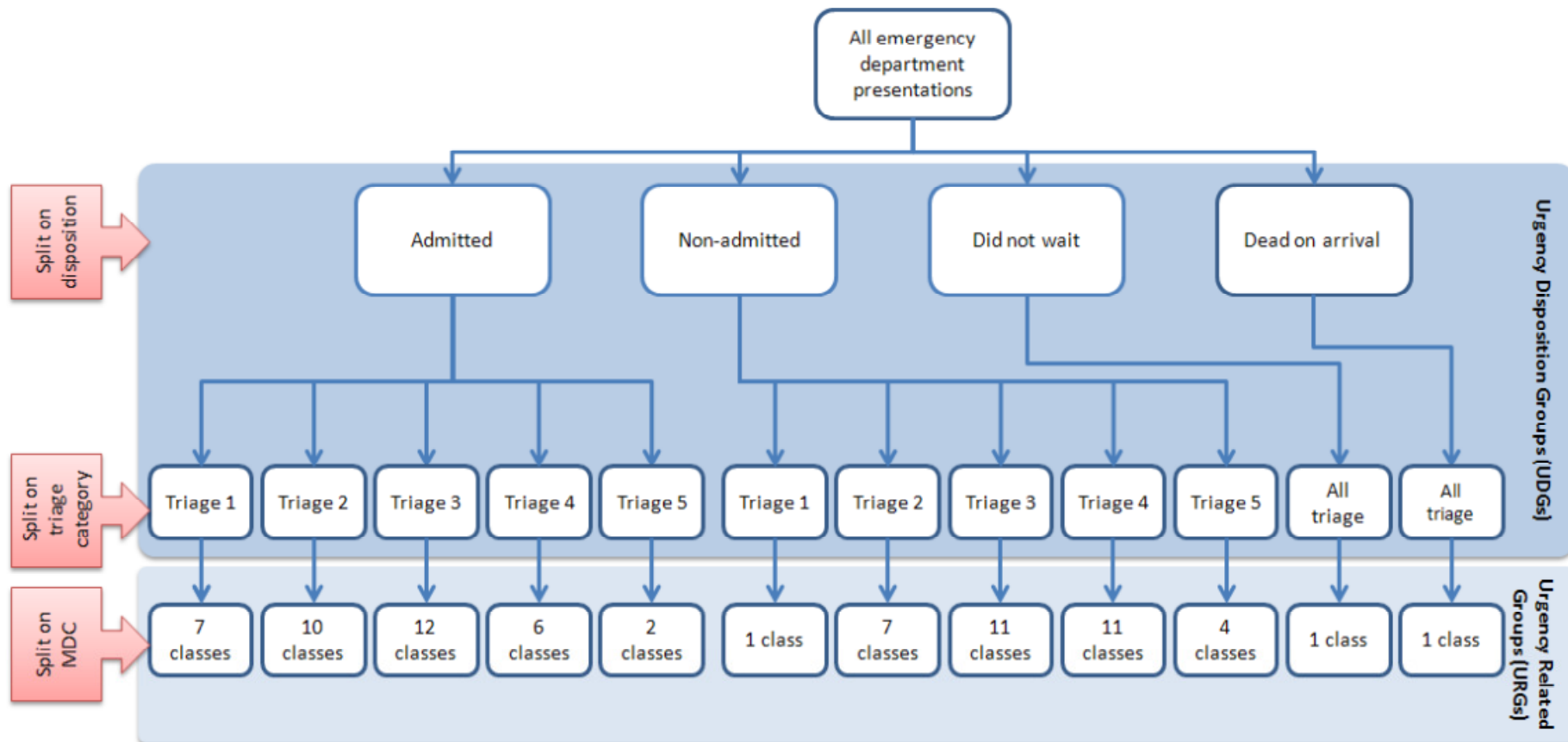
- For many only aggregate reporting of activity



National ABF reforms

- National health reforms of 2012 introduced two classifications for emergency care as part of the Commonwealth funding contribution to hospital services:
 - Urgency Related Groups (URGs) – 113 classes – Larger emergency departments
 - Urgency Disposition Groups (UDGs) – 12 classes – Smaller emergency departments

URGs – original structure





Impetus for the review

- Recognition that improvements could be made to the classification
- Part of a broader agenda of classification development and refinement
- Key objectives:
 - Improved clinical meaning
 - Based on data that is clinically meaningful
 - Recognise secondary uses



Methods

- Development of a set of principles to evaluate candidate classification systems/ approaches
 - Assigned weights to reflect relative importance of each principle
- Literature review
 - Other Australian and international classification systems with coverage of emergency care
 - Cost drivers
 - Development of an ‘issues paper’
- Consultation with wide range of stakeholders
- National workshop
- Final report



Key findings – Australian and international classification systems

- Australian classification systems:
 - Urgency and Disposition Groups (UDGs) and Urgency Related Groups (URGs) (G.A. Jelinek, 1992; G. A. Jelinek, 1994)
 - Urgency, Disposition and Age Groups (UDAGs) (Bond, Erwich-Nijhout, Phillips, & Baggoley, 1998; Erwich-Nijhout, Bond, & Baggoley, 1996; Erwich-Nijhout, Bond, Phillips, & Baggoley, 1997)
 - Summated procedures, investigations or consultations (PICsum) (Sprivulis, 2004)



Key findings – Australian and international classification systems

- International classification systems:
 - UK - Healthcare Resource Groups (HRGs)
 - US - Ambulatory Payment Classifications (APC)
 - US - Ambulatory Patient Groups (APG) and Enhanced Ambulatory Patient Groups (EAPG)
 - US - Emergency Department Groups (Cameron, Baraff, & Sekhon, 1990)
 - Canada: Comprehensive Ambulatory Care Classification System (CACS)



Key findings – Australian and international classification systems

- The boundary between admitted and non-admitted care varies across countries
 - In Australia, 28% of emergency department presentations lead to an admission
 - In the US, 14.8% lead to an admission
 - What is regarded as ‘admitted’ in Australia is not necessarily the case elsewhere
- Subsequently admitted episodes sometimes bundled with a DRG payment, sometimes not



Key findings – Australian and international classification systems

- Approaches vary as to whether emergency care forms a discrete classification, or part of a broader ambulatory classification (e.g. CACS vs. Australian classifications)
- Triage category has not been used as a classification variable in systems outside of Australia (Some countries have now picked up URGs)
- Patient diagnosis used for grouping in some classification systems; tend to use procedures/ interventions instead




Key findings

- Strong preference to maintain a separate ED classification, but align in general structure with admitted (DRGs) and non-admitted
- Sensible to separate ‘emergency’ presentations from ‘other’ presentation.
- **Triage** not favoured as a classification variable
 - Found to predict cost
 - But, used for management of workflow within an emergency department
 - Impacted by inconsistencies in its assignment within and between hospitals.



Key findings

- Strong support for use of emergency department **diagnosis** as a classification variable
 - Debate over ‘presenting problem’ vs ‘diagnosis’
 - Grouping to Major Diagnostic Block as in current URGs – loses clinical meaning – too broad.
 - ‘Diagnostic groupings’ could be similar to the Adjacent DRGs in the medical arm of the AR-DRG classification
 - Some diagnoses are less relevant to emergency department and need to be ‘collapsed’ (e.g. maternity, cancer). Others need to be expanded to reflect the different casemix within EDs - (e.g. injuries)



ED diagnosis grouping	Episodes	% of episodes	Mean ED Cost (\$AU)	Relative cost weight
I801 Concussion without loss of consciousness	2,606	0.1%	565	1.06
I802 Intracranial Injury	10,298	0.3%	737	1.39
I803 Skull fractures	4,590	0.1%	815	1.53
I821 Injuries, internal organs	1,537	0.0%	1,218	2.29
I822 Injuries, multiple body regions	4,972	0.2%	1,005	1.89
I831 Fractures of pelvis	3,768	0.1%	1,018	1.91
I832 Fractures of neck of femur	10,066	0.3%	969	1.82
I833 Fracture, lower leg	21,821	0.7%	589	1.11
I834 Fracture, shoulder and upper arm	18,166	0.6%	577	1.08
I835 Fracture, ankle and foot	17,394	0.5%	444	0.83
I836 Fracture, forearm	35,923	1.1%	511	0.96
I837 Fracture, ribs and sternum	2,249	0.1%	787	1.48
I841 Sprains, strains and dislocations of hip, pelvis and thigh	9,537	0.3%	633	1.19
I842 Dislocation, sprain and strain, knee	21,751	0.7%	423	0.80
I843 Dislocation, sprain and strain, shoulder	22,035	0.7%	517	0.97
I844 Dislocation, sprain and strain, elbow	13,754	0.4%	387	0.73
I851 Nasal Trauma and Deformity, Foreign body	7,884	0.2%	384	0.72
I861 Trauma to the eye, foreign body on external eye	17,425	0.5%	297	0.56
I862 Trauma to the eye, other	16,160	0.5%	329	0.62
I881 Injury to forearm, wrist, hand or foot, other	162,262	4.9%	394	0.74
I882 Injury to shoulder, arm, elbow, knee, leg or ankle, other	16,403	0.5%	407	0.77
I883 other injury to skin, subcutaneous tissue and breast	159,989	4.8%	431	0.81



Key findings – Analysis of emergency department diagnoses

- Use of short lists for assignment of diagnosis code in emergency department
 - Analysis shows that about 1,500 codes account for over 97% of principal emergency care diagnoses across Australia
 - Diagnosis usually assigned by a clinician directly into a software system, therefore, helpful to have a short list
 - Also sensible to have a standardised list across the country for consistency



Key findings – Severity/ complexity

- The need for better measures of severity/ complexity was highlighted during the consultation
- Approaches suggested for capturing severity/ complexity in the medium term to long term:
 - Additional diagnoses
 - Could focus collection on a relatively small set of conditions that typically complicate care (e.g. dementia, mental health conditions.)
 - Procedures
 - Age
 - Possibly disposition
 - Possibly triage in short term



Key findings – Procedures

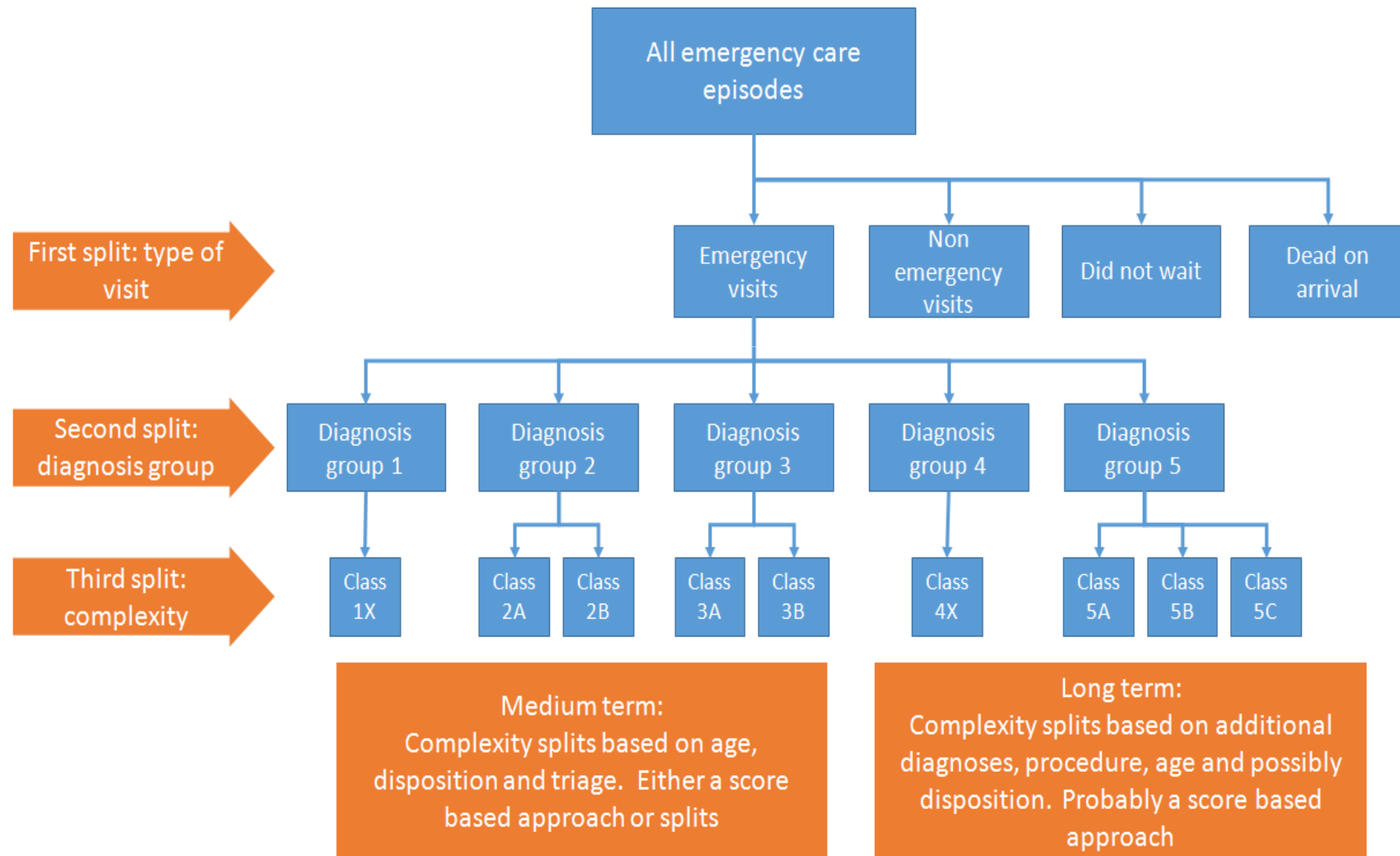
- Data on procedures not currently collected in national data sets of emergency data
- Some stakeholders supportive of collecting information on procedures; some not
- Key challenge to minimise data collection burden



Key findings – Overall findings

- URGs and UDGs were assessed as not being suitable for classifying emergency care in the medium to long term in Australia
- International alternatives weren't considered appropriate.
- The overall recommendation from the project was that IHPA support a staged development over a five-year period of a new classification system

Recommended classification system





Key findings – Features of the recommended classification system

- Tier 1: Use visit type and episode end status to allocate episodes related to:
 - Emergency versus non-emergency visits
 - Patients who did not wait
 - Patients who are dead on arrival
- Tier 2: For emergency patients only, based on principal diagnosis
- Tier 3: Based on severity, complexity and dependency