



Australian Consortium for Classification Development

AR-DRG Classification System

Development and Refinement Project

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**Australian Consortium for
Classification In Health**

Consortium Partners



THE UNIVERSITY OF
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NATIONAL CENTRE
FOR CLASSIFICATION
IN HEALTH


University of
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Bringing knowledge to life



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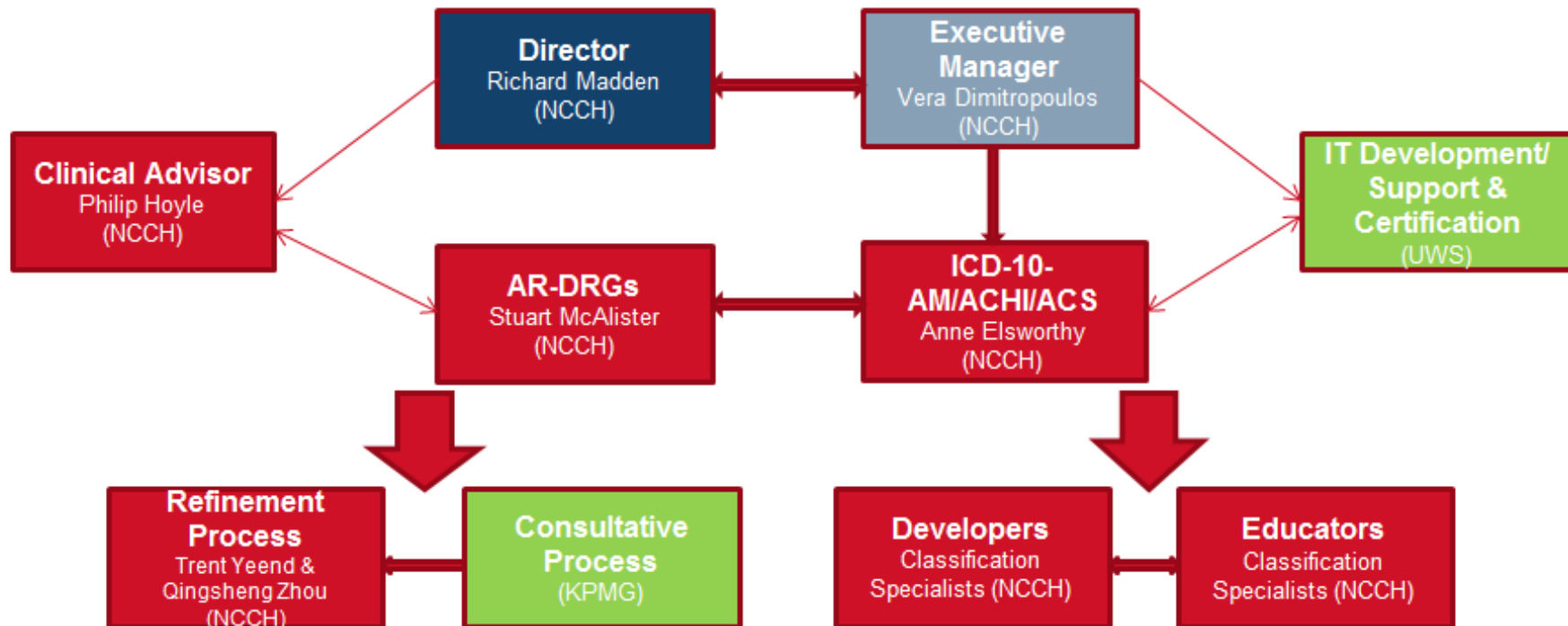
AR-DRG Classification System

- Development & Refinement Service

National Centre for Classification in Health (NCCH) is leading the **Australian Consortium for Classification Development (ACCD)**, in collaboration with the University of Western Sydney and KPMG, in the ongoing development of the Australian Refined Diagnosis Related Groups (AR-DRG) Classification System (which includes ICD-10-AM/ACHI/ACS and AR-DRGs)

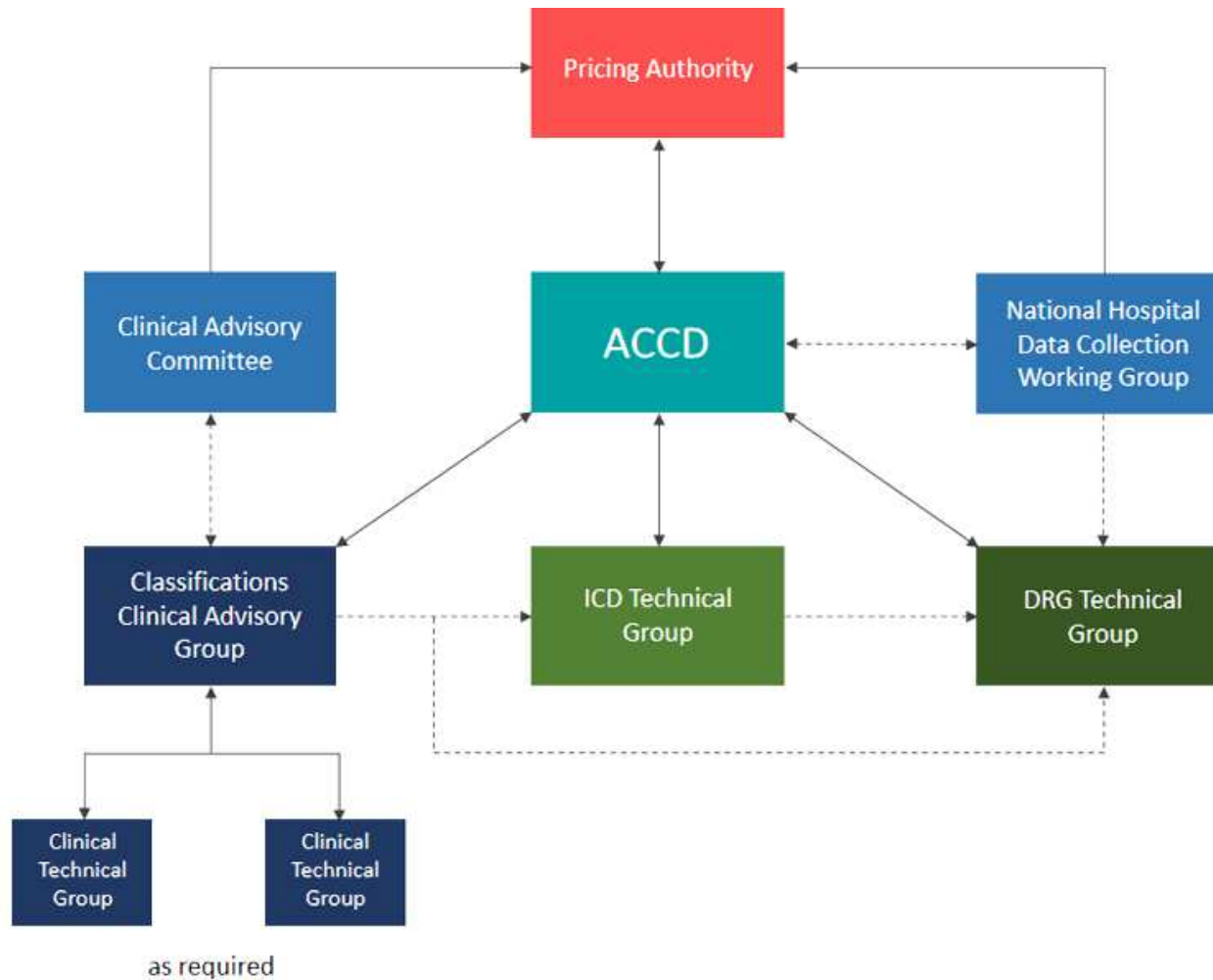


ACCD roles





ACCD Governance Structure





Australian Consortium for Classification Development

ICD-10-AM/ACHI/ACS Ninth Edition Update

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Progress

Major addenda updates for Ninth Edition:

- Review of classification of chronic/systemic conditions (ACS 0002 *Additional diagnoses*)
- Review of classification of sepsis (ACS 0110 *Sepsis, severe sepsis and septic shock*)
- Review of multiple coding standards related to cardiovascular system to rationalise, review and consolidate overlapping content.



Progress

- Review and standardisation of classification of palliative care and rehabilitation episodes of care (*ACS 0224 Palliative care* and *ACS 2104 Rehabilitation*)
- Review of classification of subacute episodes of care
 - *ACS 2103 Admission for convalescence/aftercare*
 - *ACS 2105 Long term/nursing home type inpatients*
 - *ACS 2107 Respite care*



Additional work

Work undertaken but held over for further consideration in the Tenth Edition:

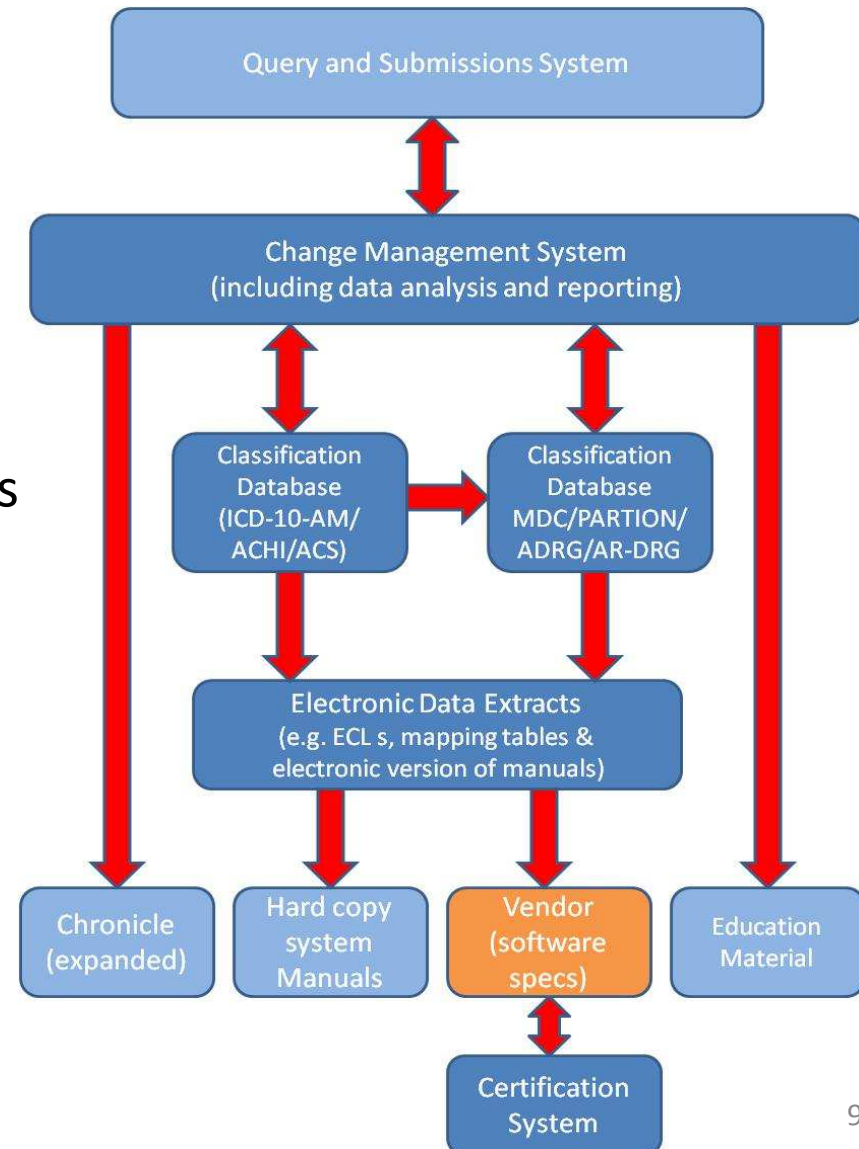
- a preliminary review of the classification of mental health interventions
- Classification of chronic pain
- sameday endoscopy and
- ophthalmology interventions



ACCD IT Infrastructure

AR-DRG Support System:

- › Maintenance of the classifications
 - Enhanced communication
 - feedback mechanisms
 - Continuing user education
 - Ongoing end user support





2015 Work Plan

20	9th Edition and AR-DRG V8.0 hardcopy manuals print ready for publication	31 January 2015
21	AR-DRG V8 specifications to software developers to allow for production of accredited software	31 January 2015
22	9 th Edition available to the general public	15 March 2015
23	Quarterly Newsletter	March 2015
24	Pre-edition education covering 9th edition changes	April-June 2015
25	Document of changes between all editions of ICD-10-AM/ACHI/ACS (Chronicle)	30 June 2015
26	Document of changes, rationale for changes and consultations undertaken for AR-DRG V8	30 June 2015
27	Quarterly Newsletter	June 2015
28	9 th Edition implemented	1 July 2015
29	AR-DRG V8 software and manuals released (for implementation July 1 2016)	1 July 2015
30	8 th Quarterly Report (for the quarter year ending on 30 June 2015)	15 July 2015
31	Quarterly Newsletter	September 2015
32	Quarterly Newsletter	December 2015



AR-DRG Development Phases

- Two phases:
 - **Phase 1:** a major review of the existing Complication and Comorbidity system (nearing completion)
 - **Phase 2:** to commence post 30 June 2014 and will involve AR-DRG splitting based on the revised AR-DRG complexity process and revised underpinning AR-DRG structure principles.



Phase 1 - Proposed Episode Clinical Complexity Model

- Initial analysis of recent years' patient and cost data indicated that current CCs are generally poorly related to cost variations within ADRGs
- Not surprising given the time elapsed since the development of the CC list and levels, and the limited data available at the time (AR-DRG V4.0)
- ACCD has developed a revised approach, assisted by the DRG Technical Group and the Classification Clinical Advisory Group.
- **Yet to be considered by the Pricing Authority**



Evidence based approach to complexity processing

- Proposed Episode Clinical Complexity Model differs substantially from the approach originally taken in AR-DRG V4.0
- Developed using a robust conceptual and statistical methodology including the assignment of diagnosis complexity levels to selected diagnoses
- Terminology used in the new model has been modified to reflect changes in concept.
- Principal diagnosis may be included in the calculation of Episode Clinical Complexity.



New terminology

- **Episode clinical complexity (ECC)** is the element of AR-DRGs that recognises and allows for cost variation within ADRGs. The following terms describe the various concepts within the ECC Model.
 - **Diagnosis Complexity Level (DCL)** is the complexity weight assigned to each diagnosis within a particular ADRG
 - **Complex Diagnoses (CDs)** in a particular ADRG are the set (or list) of diagnoses that have a non-zero DCL within an ADRG
 - **Episode Clinical Complexity Score (ECCS)** is the measure of the cumulative effect of DCLs for a specific episode.



Overview of the Episode Clinical Complexity Model

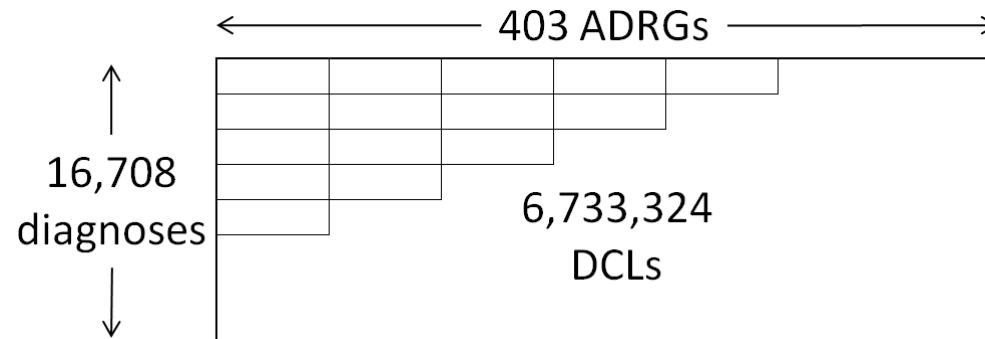


Episode Clinical Complexity Model

1. Estimation of the marginal change in cost associated with each diagnosis in the context of each ADRG
 - Diagnosis Complexity Level $DCL(x, A)$
2. Combination of DCLs across each episode to estimate the cumulative marginal cost at the episode level
 - Episode Clinical Complexity Score $ECCS(e)$



1. Diagnosis Complexity Level

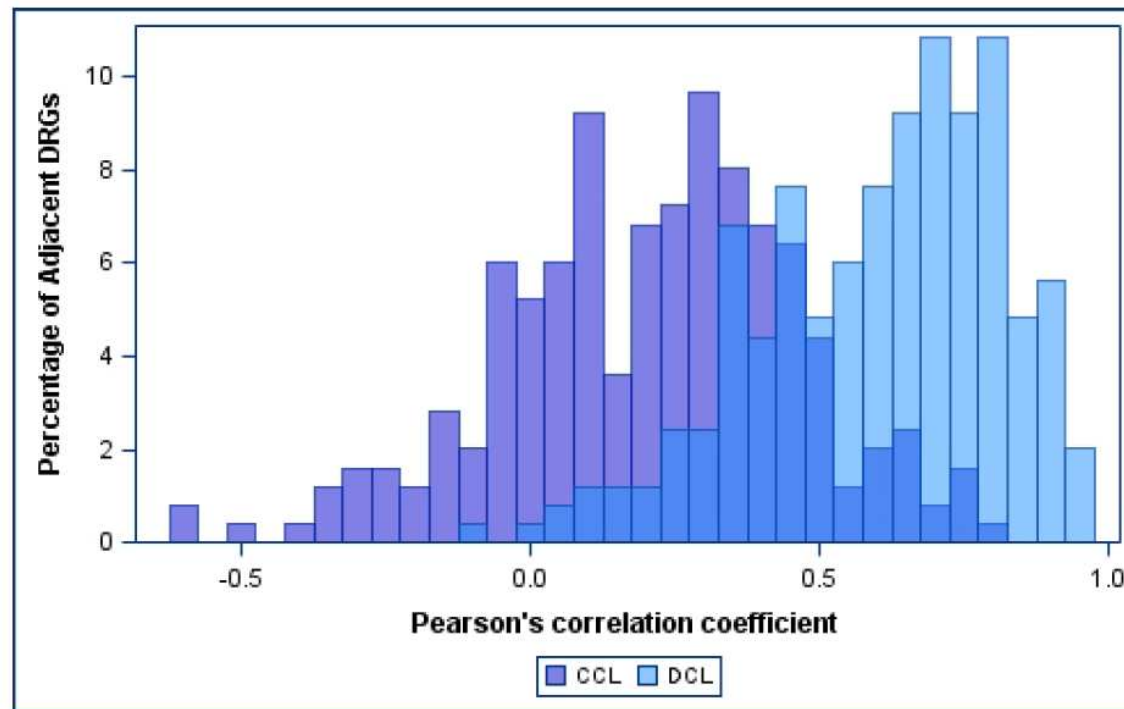


- DCL values range between 0 and 5
- Diagnoses identified as out of scope for the ECC Model are assigned a DCL of zero across all ADRGs (unconditional exclusions)
- Conditional exclusions are also used to set the DCL of particular diagnoses to zero conditional to the presence of other diagnoses



1. Diagnosis Complexity Level

Comparison of CCL and DCL correlations with cost among episodes with exactly two diagnoses





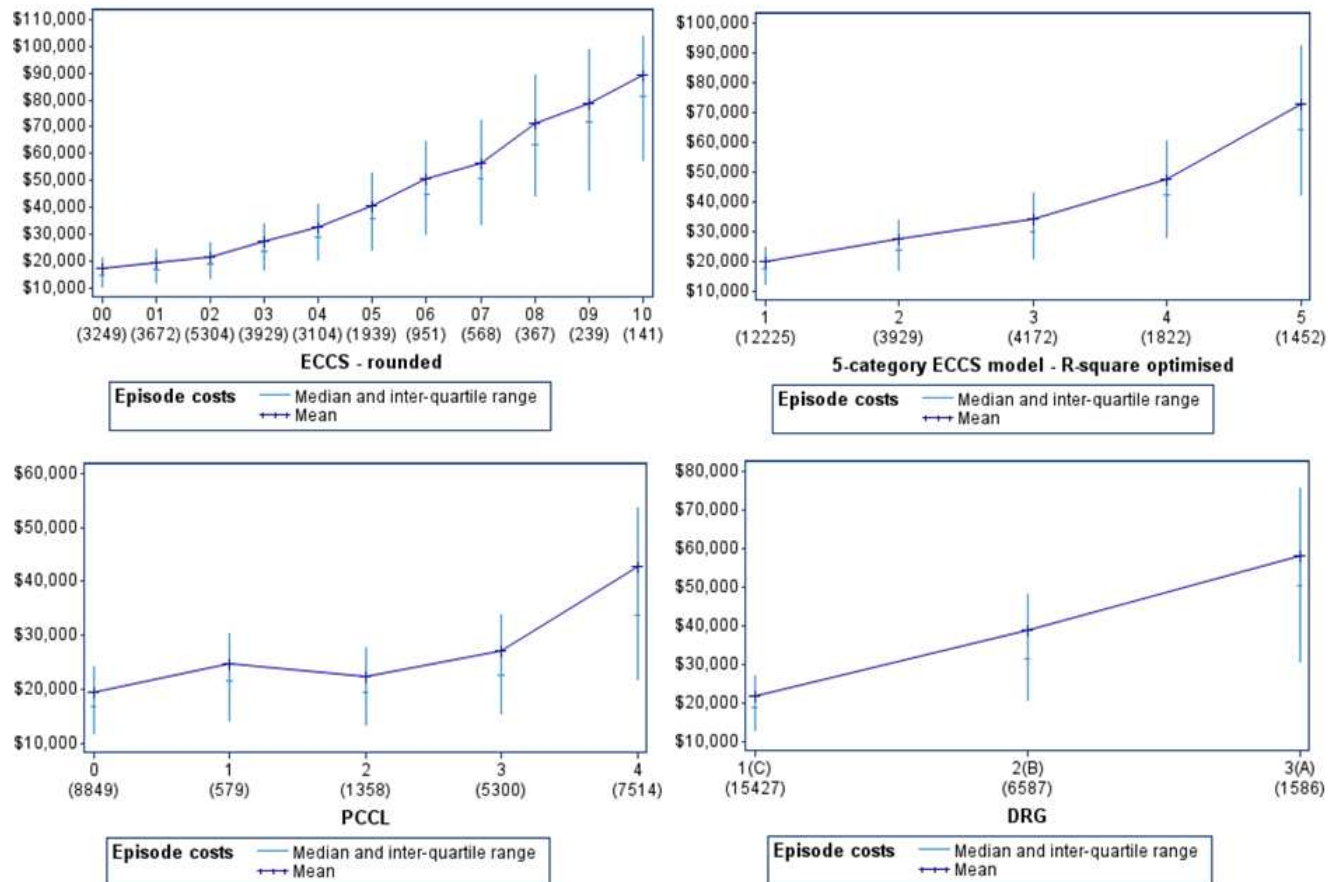
2. Episode Clinical Complexity Score

- ECCS values range between 0 and 32
 - around 40% have an ECCS of zero and 0.5% have an ECCS of 10+
- Multiple DCLs make diminishing contributions to ECCS



ECCS – Examples

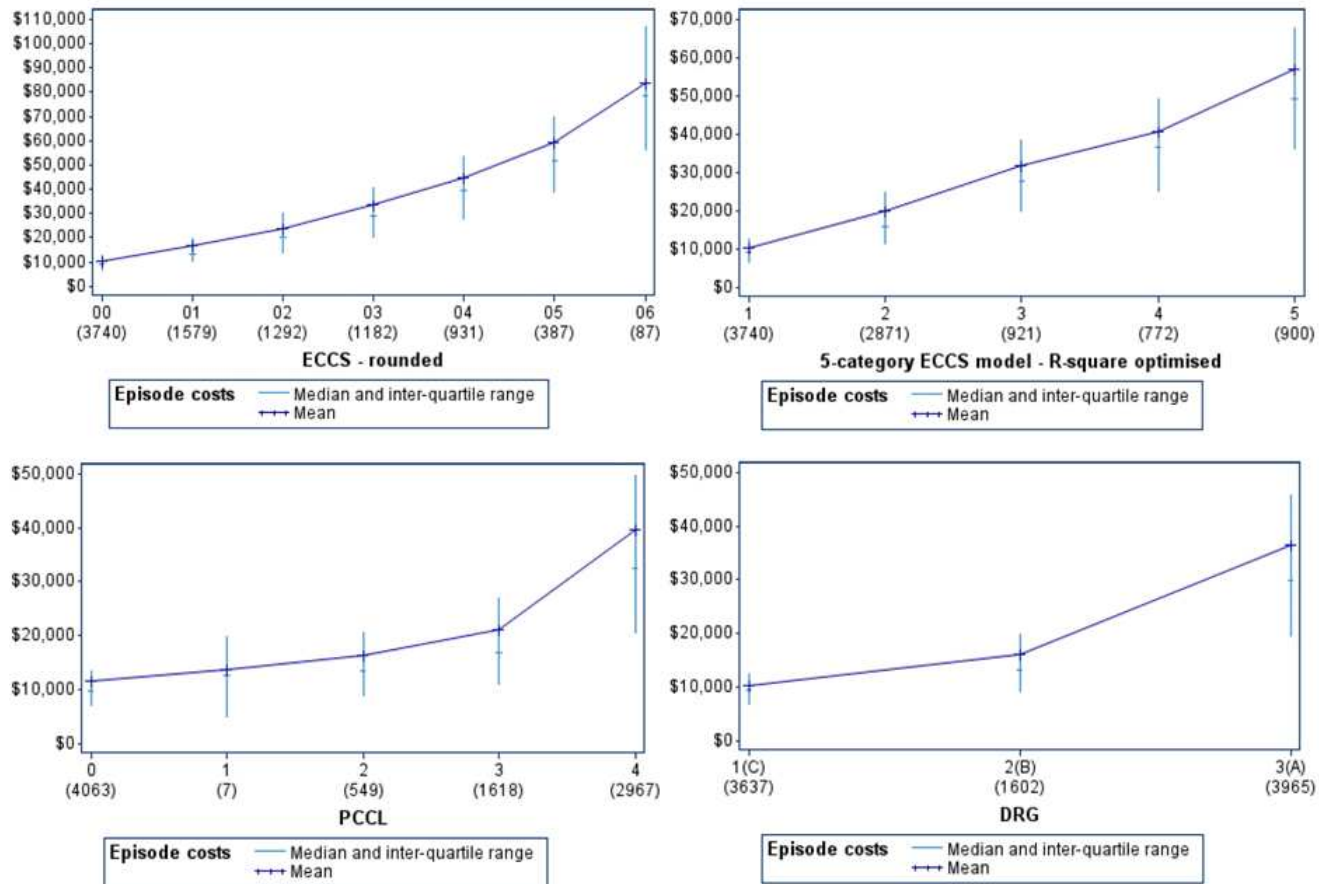
B02 - Cranial Procedures





ECCS – Examples

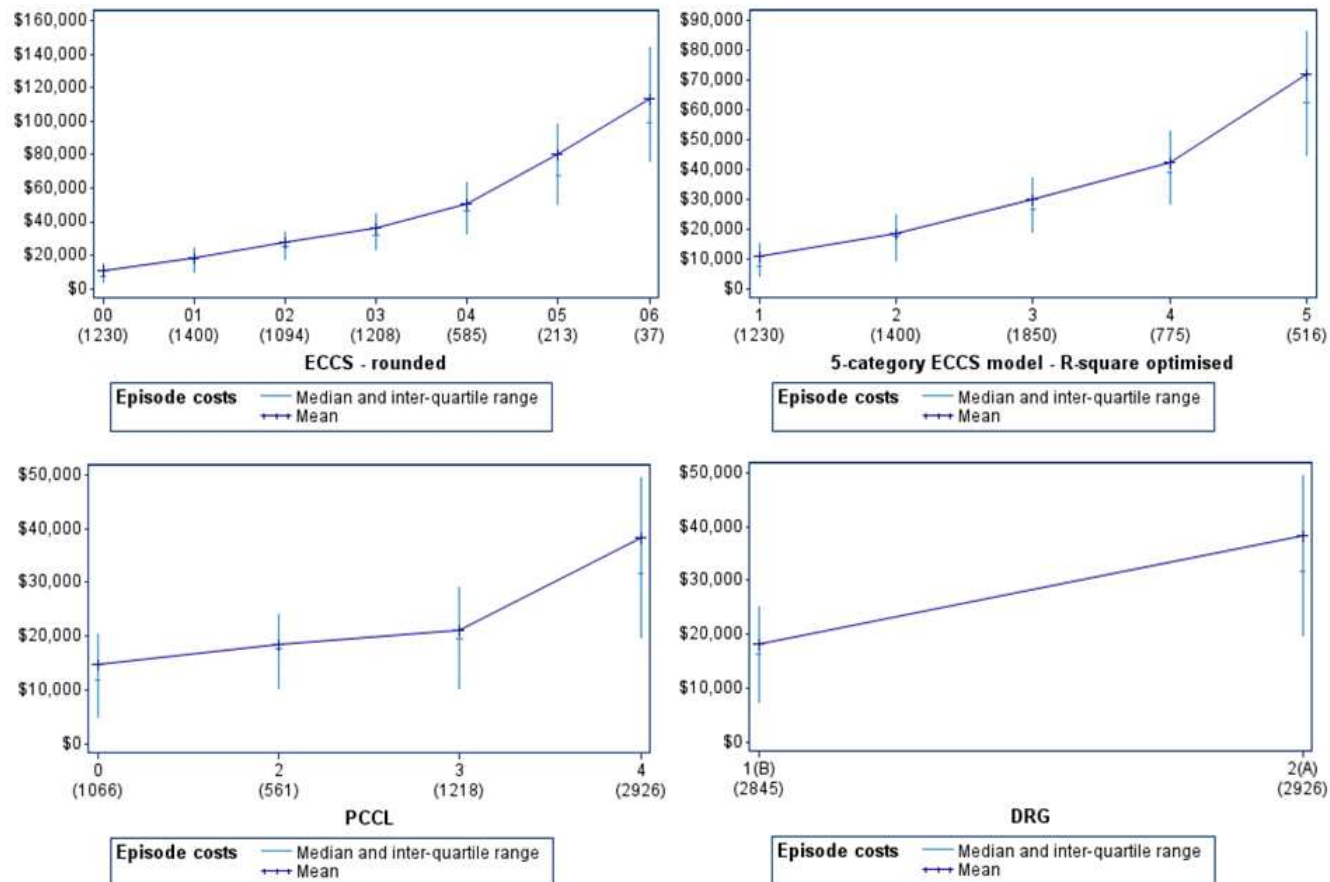
G03 - Stomach, Oesophageal and Duodenal Procedures





ECCS – Examples

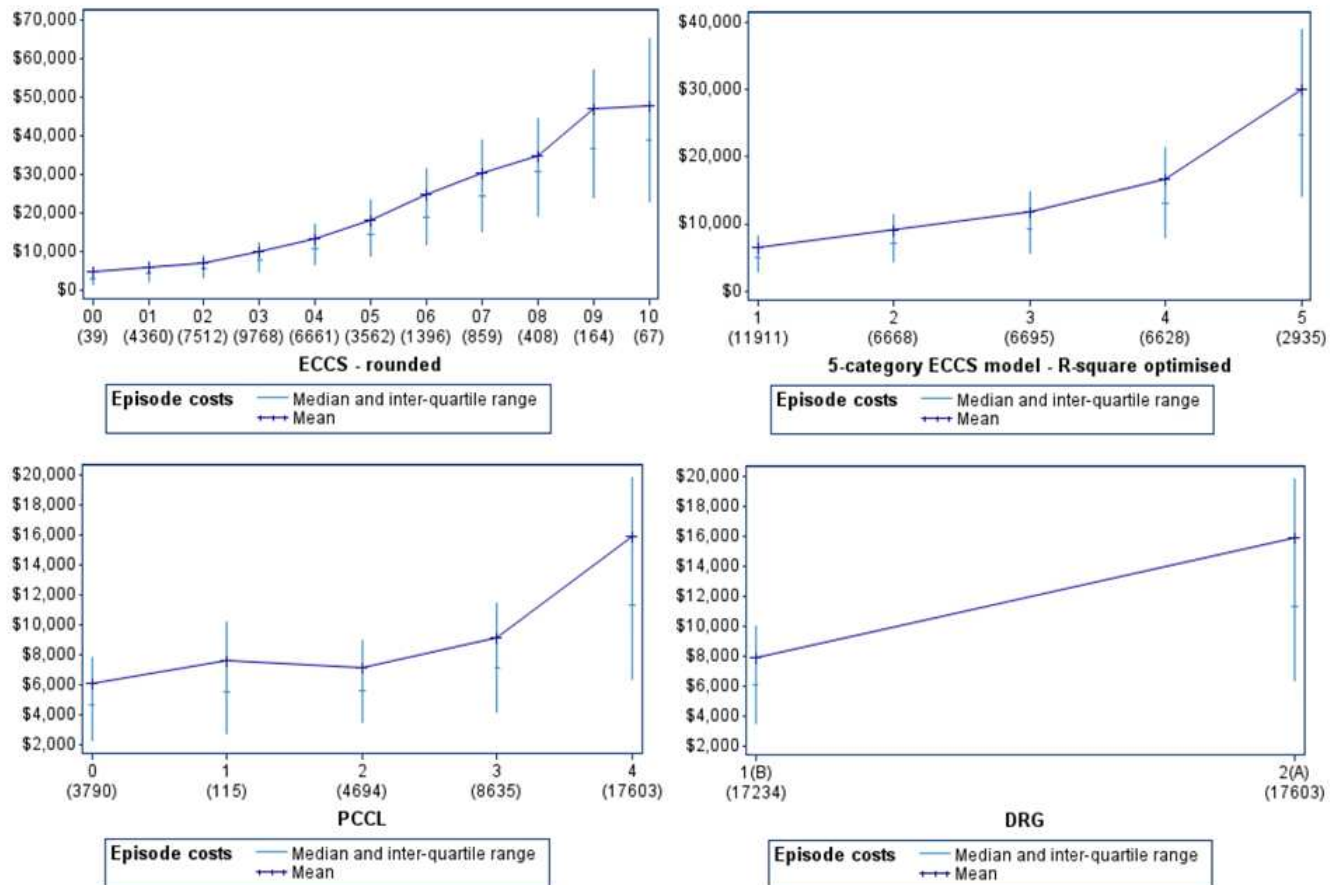
H01 - Pancreas, Liver and Shunt Procedures





ECCS – Examples

T60 - Septicaemia



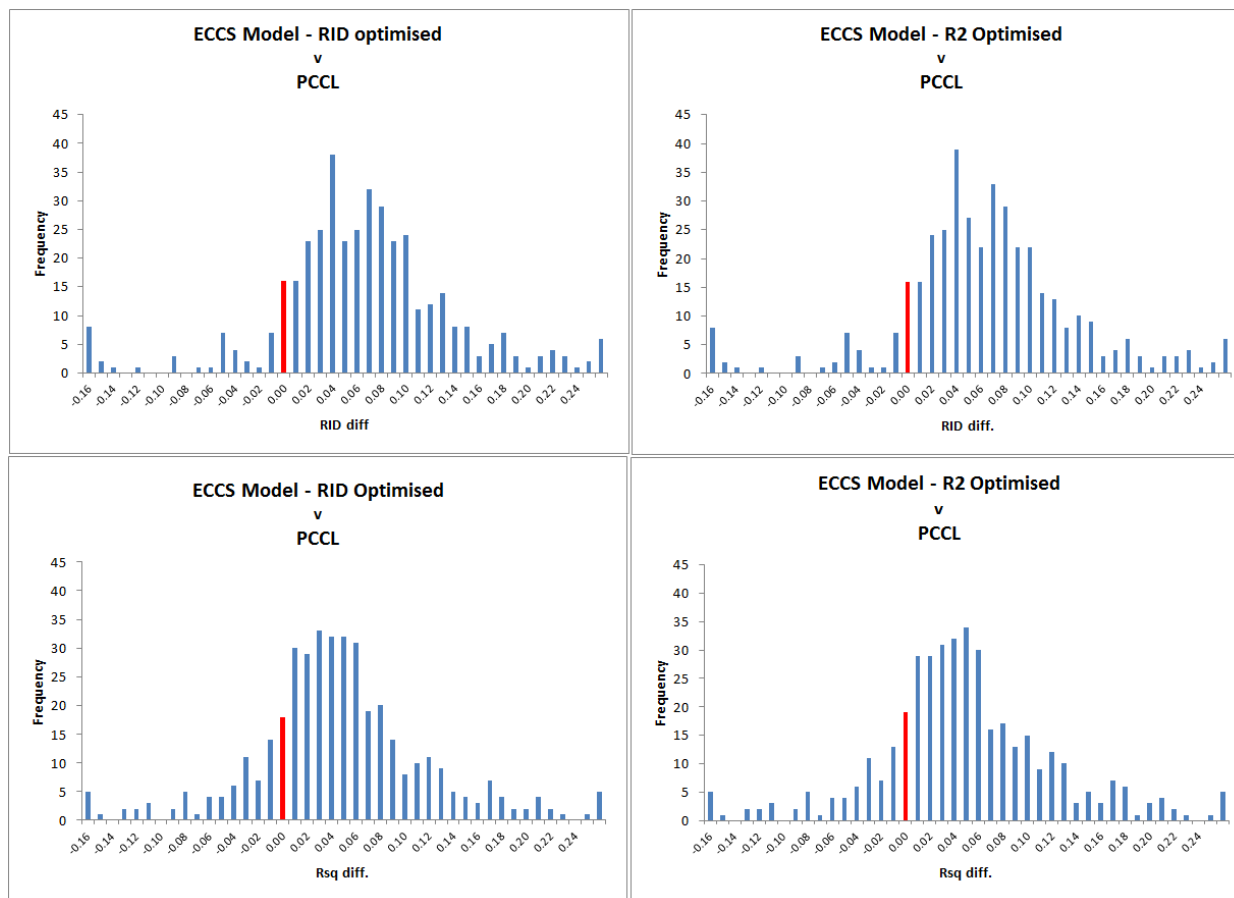


ECCS – comparative performance

Classification	Categories	R-Square	RID
ADRG	402	42.8%	60.9%
PCCL (in ADRG)	1,908	48.8%	67.7%
DRG	766	52.0%	70.7%
5-category ECCS model - R2 optimised	1,743	55.1%	69.8%
5-category ECCS model - RID optimised	1,744	54.9%	69.9%

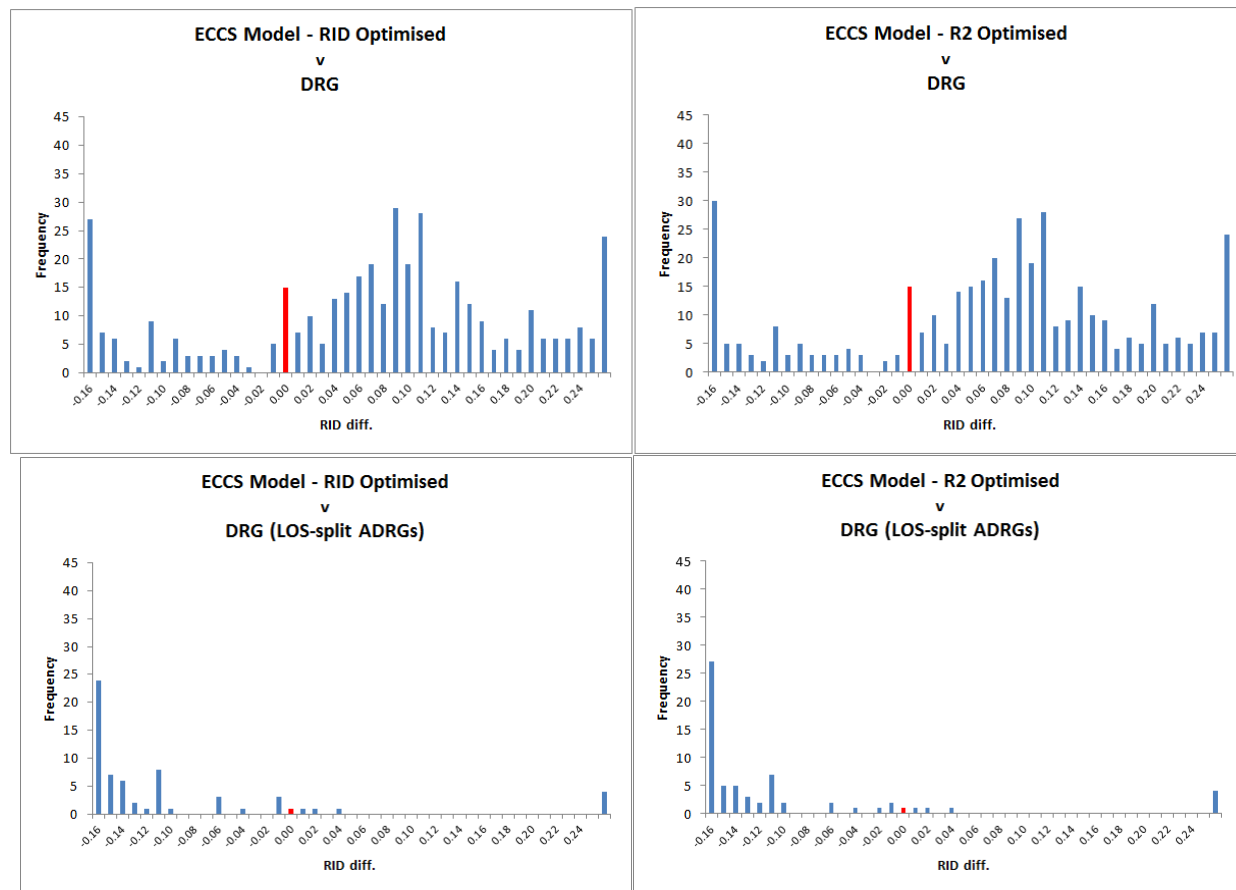


ECCS – comparative performance





ECCS – comparative performance





ECCS & paediatrics

- Comparison of cost ratios on paediatrics episodes

Classification	Cost Ratio
PCCL (in ADRG)	1.066
DRG	1.034
ECCS 5Cat (in ADRG) - R2 optimised	1.007
ECCS 5Cat (in ADRG) - RID optimised	1.007



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Thank you

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