

Activity Based Funding Conference 2014

Apples & Oranges

A review of ADRG A06 to assess the homogeneity of the DRG grouping and the impact of the bundled intensive care unit payment

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Government**

Royal Children's Hospital Brisbane (RCHB)

| Operational Activity | 2011-12 | 2012-13 | 2013-14 Forecast |
|---------------------------------|---------|---------|---------------------|
| Total Separations | 20,769 | 20,144 | 21,463 |
| Average Length of Stay | 2.45 | 2.50 | 2.30 |
| ALOS Overnight only | 4.31 | 4.53 | 4.19 |
| Day-only Cases | 11,690 | 11,572 | 12,679 |
| Occupied Bed Days | 51,001 | 50,531 | 49,453 |
| Emergency Presentations | 28,618 | 24,632 | 24,928 |
| Admissions from Emergency | 6,603 | 6,641 | 6,925 |
| Outpatients | 126,391 | 104,438 | 107,262 |
| Outpatients (exc Allied Health) | 85,298 | 84,086 | 87,253 |



201 Total Beds

RCH annual expenditure c. \$215m (67.8% of total CHQ expenditure \$317.1m)

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RCHB - Paediatric Intensive Care Unit (PICU)

Paediatric Intensive Care Unit (PICU) 7 Beds

Average PICU Occupancy 5.6 Beds (80.4%)

| Year | PICU Length of Stay (Days) | |
|---------------|----------------------------|----------|
| | ALOS | Max. LOS |
| 10/11 | 3.47 | 310 |
| 11/12 | 3.18 | 58 |
| 12/13 | 3.42 | 166 |
| 13/14 to date | 3.53 | 124 |

ADRG A06 'Coverage':

37.2% of total PICU days in version 6X and,

31.5% of total PICU Days in version 7 (to DRG W01B)

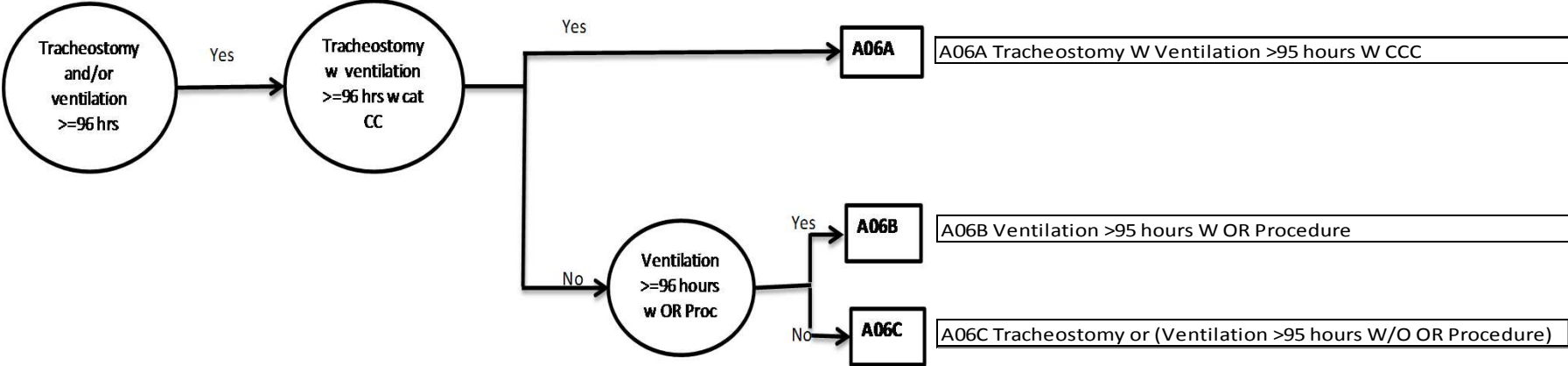
DRG Assignment

Diagnosis Related Groups (DRGs)

‘DRGs are a patient classification system that provides a clinically meaningful way of relating the types of patients treated in a hospital to the resources required by the hospital.’

AR-DRG Version 7.0, 1 July 2013 Definitions Manual Volume 1 – National Casemix and Classification Centre

A06 to DRG Decision Tree



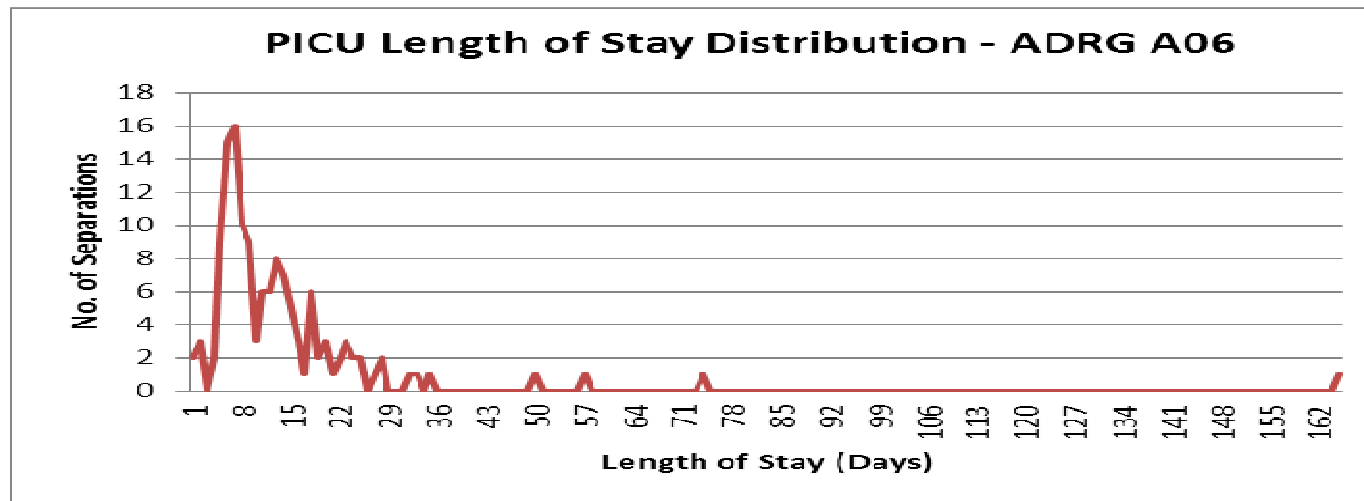
AR-DRG Version 7.0, 1 July 2013 Definitions Manual Volume 1 – National Casemix and Classification Centre

Activity Review – ADRG A06

Children's Health Queensland - A06 (Ver 7.0) Activity for July 2011 to February 2014 (32 Months)

Summary Analysis

| DRG | Separations | Total Occupied Bed Days | PICU bed Days | Average LOS | Average PICU LOS | % of Seps | % of Total OBDs | % of PICU OBDs |
|--------------------------------|-------------|-------------------------|---------------|-------------|------------------|-----------|-----------------|----------------|
| A06A Tracheostomy W Ventilatio | 8 | 627 | 278 | 78.4 | 34.8 | 6.1% | 15.1% | 15.3% |
| A06B Ventilation >=96hrs and O | 46 | 2,109 | 665 | 45.8 | 14.5 | 34.8% | 50.7% | 36.7% |
| A06C Tracheostomy W/O Ventilat | 78 | 1,420 | 871 | 18.2 | 11.2 | 59.1% | 34.2% | 48.0% |
| Total | 132 | 4,156 | 1,814 | 31.5 | 13.7 | 100.0% | 100.0% | 100.0% |



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Understanding the A06 underlying Casemix

Sample representation of 72 A06A Cases recoded and regrouped with ventilation component excluded.

| Major Diagnostic Category (MDC) | DRG | DRG Description | Cases |
|--|------|--------------------------------|-------|
| Diseases and Disorders of the Nervous System | B02A | CRANIAL PROC +CER HAEM +CCC | 6 |
| | B06A | CBL PSY,MUS DYSY,NPTHY PR+CSCC | 1 |
| | B41Z | TELEMETRIC EEG MONITORING | 1 |
| | B76A | SEIZURES +CSCC | 1 |
| | B82A | CHR UNSP PARA/QUAD+/-OR+SGFR | 3 |
| Diseases and Disorders of the Ear, Nose, Mouth and Throat | D02A | HEAD & NECK PROC +MVTT/+CSCC | 2 |
| | D12A | OTH EAR,NOSE,MTH & THRT PR +CC | 5 |
| | D63A | OTITIS MEDIA AND URI +CC | 1 |
| Diseases and Disorders of the Respiratory System | E01A | MAJOR CHEST PROCEDURE +CCC | 4 |
| | E01B | MAJOR CHEST PROCEDURE -CCC | 1 |
| | E02A | OTHER RESPIRATRY SYS OR PR+CCC | 6 |
| | E42A | BRONCHOSCOPY +CCC | 4 |
| | E42B | BRONCHOSCOPY -CCC | 2 |
| | E62A | RESPIRATRY INFECTN/INFLAMM+CCC | 5 |
| | E62B | RESPIRATRY INFECTN/INFLAM+SMCC | 1 |
| | E64A | PULMONRY OEDEMA &RESP FAIL | 3 |
| | E68A | PNEUMOTHORAX +CSCC | 1 |
| | E70A | WHOOPNG CGH &ACTE BRNCHIO +CC | 3 |
| Diseases and Disorders of the Circulatory System | F75A | OTHER CIRCULATORY DIS +CCC | 1 |
| Diseases and Disorders of the Digestive System | G02A | MJR SMALL & LARGE BOWEL PR+CCC | 3 |
| | G03A | STOMCH,OESPH&DUODNL PR+MAL/CCC | 2 |
| | G04A | PERITONEAL ADHESOLYSIS +CCC | 1 |
| Diseases and Disorders of the Musculoskeletal System and Connective Tissue | I66A | INFLAM MUSCULO DSR +CSCC | 1 |
| Endocrine, Nutritional and Metabolic Diseases and Disorders | K62A | MISC METABOLIC DISORDERS +CSCC | 1 |
| | K63A | INBORN ERR OF METAB +CSCC | 1 |
| Diseases and Disorders of the Blood and Blood Forming Organs and Immunological Disorders | Q02A | BLD&IMM SYS DIS +OTH OR +CSCC | 1 |
| | R02A | OTH NPLSTC DSRD+MJR OR PR+CCC | 1 |
| Neoplastic Disorders (Haematological and Solid Neoplasms) | T01A | OR PROC INFECT& PARAS DIS+CCC | 4 |
| | T60A | SEPTICAEMIA +CCC | 2 |
| | T64A | OTH INFECTOUS&PARSTIC DIS +CCC | 1 |
| Injuries, Poisoning and Toxic Effects of Drugs | X62A | POISNG/TOXC EFF DRUGS +CSCC | 2 |
| | X62B | POISNG/TOXC EFF DRUGS -CSCC | 1 |
| | | | 72 |

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Costs (CHQ)

2012/13 Costs (Excluding Corporate Overheads) ADRG A06 (Version 7.0)

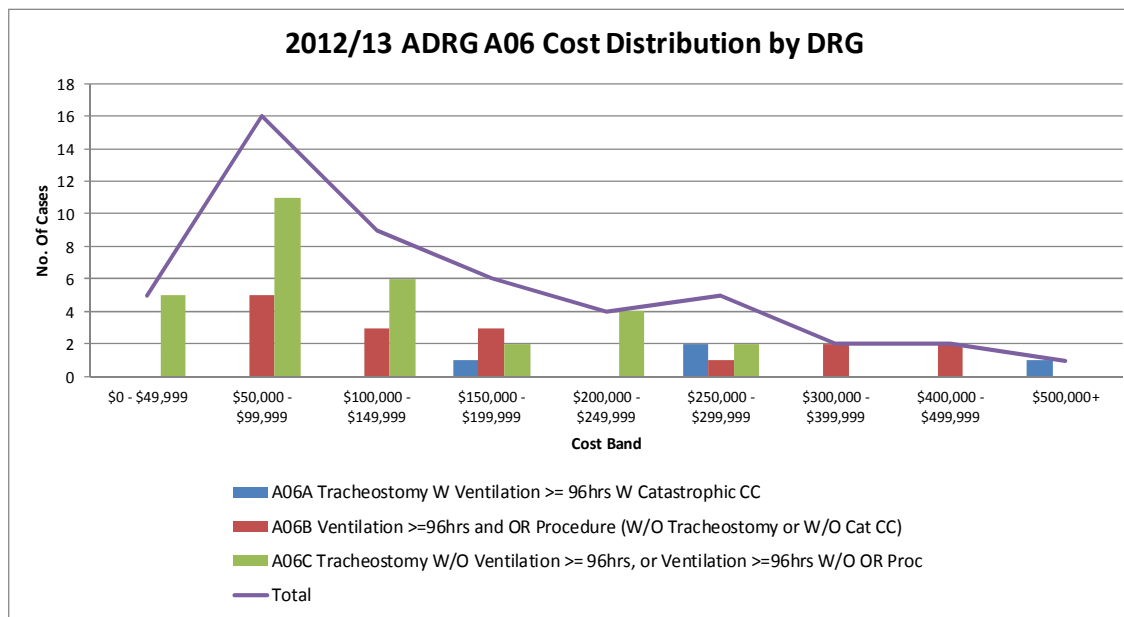
| | Seps | Total Cost | Average Cost | Median Cost | Minimum Cost | Maximum Cost |
|--|------|------------|--------------|-------------|--------------|--------------|
| A06A Tracheostomy W Ventilation >= 96hrs W Catastrophic CC | 4 | 2,239,415 | 559,854 | 265,728 | 151,321 | 1,556,639 |
| A06B Ventilation >=96hrs and OR Procedure (W/O Tracheostomy or W/O Cat CC) | 16 | 3,232,427 | 202,027 | 148,492 | 75,384 | 467,641 |
| A06C Tracheostomy W/O Ventilation >= 96hrs, or Ventilation >=96hrs W/O OR Proc | 30 | 3,435,107 | 114,504 | 88,526 | 6,038 | 292,079 |
| Total | 50 | 8,906,949 | 178,139 | 126,984 | | |

| 2014/15 Inlier Paediatric Price | 2014/15 Inlier Paediatric Price |
|--|--|
| 239,766 | 100% |
| 158,842 | 138% |
| 92,687 | 123% |

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ADRG A06 Cost Distribution

| Cost Band | \$0 - \$49,999 | \$50,000 - \$99,999 | \$100,000 - \$149,999 | \$150,000 - \$199,999 | \$200,000 - \$249,999 | \$250,000 - \$299,999 | \$300,000 - \$399,999 | \$400,000 - \$499,999 | \$500,000+ |
|--|----------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|
| A06A Tracheostomy W Ventilation >= 96hrs W Catastrophic CC | | | | 1 | | 2 | | | 1 |
| A06B Ventilation >=96hrs and OR Procedure (W/O Tracheostomy or W/O Cat CC) | | 5 | 3 | 3 | | 1 | 2 | 2 | |
| A06C Tracheostomy W/O Ventilation >= 96hrs, or Ventilation >=96hrs W/O OR Proc | 5 | 11 | 6 | 2 | 4 | 2 | | | |
| Total | 5 | 16 | 9 | 6 | 4 | 5 | 2 | 2 | 1 |



Comparison to 'Bundled' PICU Days

Children's Health Queensland - A06 (Ver 7.0) Activity for July 2011 to February 2014 (32 Months)

| DRG | Separations | Total Occupied Bed Days | PICU Days only | Sum of IHPA ICU ALOS* | Variance on 'Funded' PICU Days |
|---|-------------|-------------------------|----------------|-----------------------|--------------------------------|
| A06A Tracheostomy W Ventilation >95 hours W CCC | 8 | 627 | 278 | 215 | 63 |
| A06B Ventilation >95 hours W OR Procedure | 46 | 2,109 | 665 | 547 | 118 |
| A06C Tracheostomy or (Ventilation >95 hours W/O OR Procedure) | 78 | 1,420 | 871 | 760 | 111 |
| Total | 132 | 4,156 | 1,814 | 1,523 | 291 |

*LOS for reported time in ICU by DRG provided by IHPA

IHPA 14/15 Funding Model based on:

| DRG | DRG_ShortDescription | BundledICU Flag (0=unbundled, 1=bundled) | ICU ALOS (hours) | ICU ALOS (days) |
|------|-------------------------------|--|------------------|-----------------|
| A06A | TRACHE +VENT>=96 +CCC | 1 | 645.5 | 26.9 |
| A06B | VENT>=96 +OR PROC | 1 | 285.6 | 11.9 |
| A06C | TRACH -VENT / (VENT -OR PROC) | 1 | 233.9 | 9.7 |

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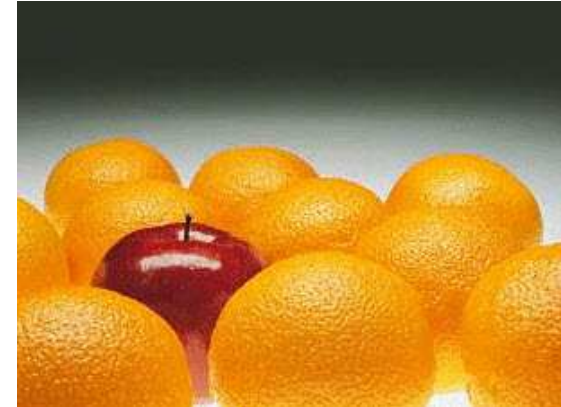
The Paediatric Intensivist's View

Why should we consider children in PICU differently from adults in ICU?

- Tracheostomy in PICU is uncommon and is not a good marker of acuity for children
- Heterogeneous patient group
- Terminology/ Grouping has little clinical relevance

Conclusion

- The ADRG A06 is not clinically meaningful in paediatrics due to the wide underlying casemix and different models of care compared to adult patients.
- 'Bundling' of PICU costs for this heterogeneous patient group with variable PICU lengths of stay exacerbates patient costing/price differentials and may lead to inequitable funding allocation.



Questions?



Lady Cilento Children's
Hospital opening in South
Brisbane late 2014

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