Australian National Aged Care Classification (AN-ACC) Version 1.0

Work in progress as at November 2018
A reminder of the background
Background

- AHSRI completed a major report in early 2017 on alternate funding models for residential aged care
- Department of Health and AHSRI undertook national consultations during 2017
- RUCS is a major ($2m) research and design study on the recommended option
  - But results will be useful more generally
- Work in progress, policy decisions need to be made after that
## ACFI daily rates 2017-18
(plus basic fee and capital)

<table>
<thead>
<tr>
<th>Level</th>
<th>Activities of daily living (ADL)</th>
<th>Behaviour (BEH)</th>
<th>Complex Health Care (CHC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td>Low</td>
<td>$36.65</td>
<td>$8.37</td>
<td>$16.37</td>
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<tr>
<td>Medium</td>
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<td>$17.36</td>
<td>$46.62</td>
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<tr>
<td>High</td>
<td>$110.55</td>
<td>$36.19</td>
<td>$67.32</td>
</tr>
<tr>
<td>High, high, high</td>
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<td>$214.06</td>
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</table>

### Plus basic fee @ 85% pension

<table>
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<tr>
<th>Plus basic fee @ 85% pension</th>
<th>per fortnight</th>
<th>$814.00</th>
</tr>
</thead>
</table>

| Max per day (plus supplements) | $272.20 |
| Per year                      | $99,354.04 |
Major issues with ACFI

- Additive design – the sum of individual item scores ignores interactions
- Does not focus on what drives care costs
- Does not discriminate enough between residents
- Inequitable outcomes (geographic and socioeconomic)
- Creates perverse incentives for income maximisation resulting in funding uncertainty

**Conclusion:** ACFI is no longer fit for purpose
ACFI profile 2015-16

- **Major Cities**: High, high, high
- **Inner Regional**: One or two Highs
- **Outer Regional**: No Highs
- **Remote**: High, high, high
- **Very Remote**: No Highs

[Color codes: Red for High, high, high; Light Blue for One or two Highs; Purple for No Highs]
The ACFI industry
(‘ACFI Consultant’ = 40,300 Google hits)
RUCS represents a very clear policy alternative to the current ACFI model

For both government and the sector
Three key separate but inter-related issues

◆ Cost
  – Cost of care is in scope for RUCS
    † Capital accommodation and ‘hotel’ services are out of scope

◆ Funding (payment) model and policy
  – In scope for RUCS (develop model and provide policy advice)

◆ Price
  – Out of scope for RUCS (ultimately a decision for payers – government and consumers)
  – But RUCS provides evidence to aid decision-making
Six core elements (1)

- Separate assessment for funding from assessment for care planning
- Assessment for care planning to be undertaken by the residential aged care facility
  - based on resident needs and underpinned by CDC principles
- Assessment for funding purposes to be undertaken by external assessors
  - capturing only the information necessary to assign a resident to a payment class
Six core elements (2)

- One-off adjustment payment for each new resident
  - Recognising additional, but time-limited, resource requirements when someone initially enters residential care

- Fixed per diem price for the costs of care that are shared equally by all residents
  - May vary by location (and size and specialisation?)

- Variable price per day for the costs of individualised care for each resident
  - Based on each resident’s casemix funding class
  - Price per class would be standardised across Australia
The Resource Utilisation and Classification Study (RUCS)

Design August 2017 – February 2018
Study went live March 2018
Results end 2018
Sector engagement and advice

◆ Sector Reference Group advising the Department of Health
◆ Overall design informed by four expert panels advising ASHRI:
  – Function, cognition and behaviour specialist advisory panel
  – Wound management specialist advisory panel
  – End of Life specialist advisory panel
  – Technical nursing specialist advisory panel
The RUCS outline

◆ Now 4 (originally 3) studies over 18 months

◆ Each study aligned with a particular set of project deliverables
Study One: Service utilisation and classification development

- Assess each resident in Study One using the variables agreed to by the expert panels
- Collect time in minutes per resident per day & calculate actual cost for each resident day
- Test (1) the hypothetical classification tree (2) ACFI
- Develop a final classification tree based on the evidence collected in Study One
  - Use in Study Three to develop a national resident classification profile
Study Two

Structural and individual costs of care

◆ Financial data to identify factors that drive fixed care costs such as facility characteristics and shared care. Region, facility size, specialisation and seasonal effects were tested.

◆ Nationally representative sample of 110 care homes.
  – Oversampling remote and very remote services to ensure that their shared costs are adequately represented

◆ Usable data for 106 care homes, 4 excluded
Study Three: Casemix profiling study

- To model the impact of introducing the classification in a blended payment model
- Classification variables from Study One in an additional 80 nationally representative facilities.
  - Purpose is to develop a national profile of residents allocated to each final casemix class and to model and test the impact of implementing the blended payment model nationally.
- In progress but delayed
Study Four

Supplementary reassessment study

◆ Reassessed 912 (about half) of the residents assessed in Study One

◆ Measure how residents have changed over time (about six months) plus critical events eg,
  – Hospitalisations, falls, reablement / restorative care programs

◆ To inform reassessment protocols

◆ Plus a substitute assessment tool for the NPI

◆ Assessments complete, analysis in progress
RUCS Final Reports

- Report 1: The Australian National Aged Care Classification (AN-ACC).
- Report 2: The AN-ACC assessment model.
- Report 3: Structural and individual costs of residential aged care services in Australia.
- Report 4: Modelling the impact of the AN-ACC in Australia.
- Report 5: Funding model for the residential aged care sector.
Study One, Report One
What drives care costs?

- Not medical diagnosis / diagnoses
  - So Diagnosis Related Group concepts are not relevant

- Costs are driven by care burden from:
  - End of life needs, frailty, functional decline, cognition, behaviour and technical nursing needs

- These may be due to one or more diagnoses
  - Including dementia, mental health disorders, physical health etc
  - But the diagnosis per se is not a cost-driver
What drives costs?

- Care burden due to Function
  - FIM Motor, DEMMI and RUG-ADL
- Care burden due to Cognition and Communication problems
  - FIM Cognition
- Care burden due to Behaviour, Harm, Anxiety, Distress
  - NPI-NH, BRUA
- Technical nursing requirements
‘Capacity’ drives care needs and costs

- RUCS assessment captures resident capacity taking into account:
  - Physical ability (including pain)
  - Cognitive ability (including ability to communicate, sequence, socially interact, problem solve, memory)
  - Mental health issues (including depression and anxiety)
  - Behaviour (including cooperation, physical agitation, wandering, passive resistance, verbal aggression etc)

- It thus captures the functional consequences of health conditions (eg, dementia) rather than the condition itself
The assessment and resource utilisation collection process
Information for Residents

The Resource Utilisation and Classification Study (RUCS)

Over the next few weeks, the University of Wollongong will be collecting information about residents for a research project funded by the Commonwealth Government. The research is to develop a new funding model for care homes.

Registered nurses will visit this care home to conduct assessments on residents at this care home. Participation is completely voluntary. You will be asked if you are happy to participate at the start of the assessment.

The assessment involves asking you some questions about the things you can do on your own, and the things you need help with. It won’t take too long. If at any time you want to the assessment to stop, just tell the nurse.

Of more than 2,100 residents, about 40 opt outs (<2%) due to either resident or family choice or because resident died before being assessed.
RUCS time and cost data collection

- Staff used bar coders and standard activity categories to collect time data on every shift
- 30 days of time data for each resident
- Staff recognised as data collection proceeded
  - Mainly chocolates and cakes
- Each day of care for each resident costed on a full bottom up cost basis
Resource utilisation: staff time

- 52% of time reported was individual time, 48% shared
- This is evidence supporting a fixed and variable payment rate
Resident assessments
Training and support

- Assessors were all RNs with minimum 5 years experience
- Assessors received half day training
- Regular teleconferences with assessors to get feedback and ensure consistency of approach
Time taken to complete assessment

- <15 minutes
- 15-29 minutes
- 30-44 minutes
- 45-59 minutes
- One hour
- One hour 15 minutes
- One hour 30 minutes
- One hour 45 minutes
- 2 hours or more
How difficult was it to make the ratings?

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<thead>
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<th>Number</th>
<th>Percentage</th>
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<tbody>
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<td>Very easy</td>
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<td>28.6%</td>
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<tr>
<td>Moderately easy</td>
<td>465</td>
<td>46.0%</td>
</tr>
<tr>
<td>Not sure</td>
<td>111</td>
<td>11.0%</td>
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<tr>
<td>Moderately difficult</td>
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<td>Very difficult</td>
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<td>0.5%</td>
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<tr>
<td>Not reported</td>
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<tr>
<td>Total</td>
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<td>100.0%</td>
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</table>
How confident do you feel that the ratings that you have recorded are accurate?

<table>
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<th>Number</th>
<th>Percentage</th>
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</thead>
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<td>Very confident</td>
<td>393</td>
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<tr>
<td>Fairly confident</td>
<td>527</td>
<td>52.1%</td>
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<tr>
<td>Undecided</td>
<td>56</td>
<td>5.5%</td>
</tr>
<tr>
<td>Not very confident</td>
<td>5</td>
<td>0.5%</td>
</tr>
<tr>
<td>Not at all confident</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>Not reported</td>
<td>29</td>
<td>2.9%</td>
</tr>
<tr>
<td>Total</td>
<td>1011</td>
<td>100.0%</td>
</tr>
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</table>
Feedback on sections

◆ Assessors had no difficulty assessing ‘can do’ rather than ‘do do’

◆ Two sections perceived as difficult / problematic / resource intensive
  – FIM
    ✷ Stairs item, Can do: Do do, 7 point scale
  – NPI
    ✷ Only section rated as “Do do”
    ✷ Sources of evidence
External assessment - what we now know

- There is an appetite for change in the sector
- External assessment works
- Assessments can be conducted by RNs but not ENs
- ‘Can Do’ assessment can support consumer choice
- External assessment is acceptable to residents
- Assessors need training and to operate as a networked workforce to ensure consistency
- Experienced assessors can make confident clinical judgements and determine capacity (distinguish between ‘can do’ and ‘do do’)

External assessment – issues not completely resolved in Study One (most addressed in Study Four)

- **Assessor skill mix** – RNs, OTs and Physios
- **Assessment locations** - home and hospital
- **Sources of information** – cognition and behaviour
- **Admit for end of life care**
- **Mode** – assessment via video / telehealth?
- **Recruitment and structure of the assessment workforce**
- **Reassessment protocols**
Resident profiles
## Technical nursing requirements

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<td>Oxygen</td>
<td>961</td>
<td>41</td>
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<td>Enteral feed</td>
<td>997</td>
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<td>Catheter</td>
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<tr>
<td>Stoma</td>
<td>991</td>
<td>11</td>
<td>1.1%</td>
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<tr>
<td>Dialysis</td>
<td>1002</td>
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<td>0.0%</td>
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<tr>
<td>Daily injections</td>
<td>944</td>
<td>58</td>
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<tr>
<td>Complex wounds</td>
<td>932</td>
<td>70</td>
<td>7.0%</td>
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</table>
The RUG-ADL

1 = completely independent
5 = cannot do

Note: eating scale is only 1 to 3

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<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Bed mobility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toileting</td>
<td></td>
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</tr>
<tr>
<td>Transfer</td>
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<td>Number</td>
<td>Percentage</td>
<td></td>
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<td>-------------------------------------------</td>
<td>--------</td>
<td>------------</td>
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<tr>
<td><strong>Falls in last 12 months</strong></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td>479</td>
<td>48.2%</td>
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<td>Yes, once</td>
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<tr>
<td>Yes, more than once</td>
<td>262</td>
<td>26.4%</td>
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<td><strong>3 persons for transfers?</strong></td>
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<td>Yes</td>
<td>25</td>
<td>2.5%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Weight loss of more than 10% in last 12 months?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No</td>
<td>920</td>
<td>92.5%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>75</td>
<td>7.5%</td>
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</table>
The AKPS
AKPS (palliative performance) profile

The lower the rating, the more dependent
AKPS (palliative performance) profile

The lower the rating, the more dependent
AKPS profile (cumulative)
# Rockwood Frailty Score

10 = very fit

90 = terminally ill
### DEMMI

Four sections:
- Bed mobility
- Chair mobility
- Balance
- Walking
DEMMI total: % of residents

0 = Cannot mobilise at all
16 = Complete mobility and balance
The Australian Modified FIM

### FIM Motor score – first 12 items
- ‘Stairs’ item removed from analysis
- Range 12 (total assistance on every item) to 84 (complete independence on every item)

### FIM Cognition score – last 5 items
- Range 5 (total assistance on every item) to 35 (complete independence on every item)

<table>
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<tr>
<th>Score</th>
<th>Description</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>10</td>
<td>Total Assist (Subject = less than 25%)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Maximal Assist (Subject = 25%+)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Minimal Assist (Subject = 75%+)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Moderate Assist (Subject = 50%+)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Supervision (Subject = 100%+)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Modified Independence (Device)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Complete Independence (Timely, Safely)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Independent</td>
<td></td>
</tr>
</tbody>
</table>

Rate ‘Can Do’ not ‘Do do’
AM-FIM Motor Score (stairs item excluded)
AM-FIM Cognition Score
Braden Scale
Braden Scale - Sensory Perception

- Completely limited: 5%
- Very limited: 15%
- Slightly limited: 40%
- No impairment: 35%
Braden Scale - Activity

- Bedfast: 10%
- Chairfast: 25%
- Walks occasionally: 35%
- Walks frequently: 40%
Braden Scale - Mobility

- Completely immobile: 15%
- Very limited: 20%
- Slightly limited: 40%
- No limitations: 20%
Braden Scale - Nutrition

- Very poor: 0%
- Probably inadequate: 20%
- Adequate: 50%
- Excellent: 10%
Braden Scale - Friction and Shear

- Problem: 20%
- Potential problem: 40%
- No apparent problem: 45%
An extract of the NPI screening tool

12 screening questions

A ‘Yes’ triggers further questions
Neuropsychiatric Inventory NPI - 12 items

- No problems
- 1-3 problems (highest percentage)
- 4-6 problems
- 7 or more problems
NPI not included in the final version of the assessment tool

- NPI is a great tool for use by care homes for needs assessment and care planning
- It is not a good tool for use in a funding assessment at first contact with a resident
- Has been replaced by a five item Behaviour Resource Utilisation Assessment (BRUA)
Australian National Aged Care Classification

AN-ACC Version 1
What makes a good classification?

- **Resident related cost drivers**
  - Resident characteristics
  - Not the type, or extent, of services used.

- **Variance reduction**
  - Minimum variation within each class and maximum differences between classes.

- **Sensible clinical groups**

- **Ease of collection**
  - Variables used should be capable of routine collection, coding and data entry.
Statistical results and performance

- Statistics of interest are RIV and CV
  - RIV – bigger is better
  - CV – smaller is better
- All results being presented as RVUs, not $
- RVU = Relative Value Unit
  - Average is 1.00
  - 0.50 = half the average, 1.50 = 50% more than the average
ACFI performance

- Using staff time in minutes as a proxy for cost
  - ACFI is the benchmark (status quo)
  - ACFI – 64 groups – RIV ~0.2
## How the ACFI performs - RIV = 0.20

<table>
<thead>
<tr>
<th>ACFI Score</th>
<th>RVU</th>
<th>n</th>
<th>$\bar{c}_p$</th>
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<tbody>
<tr>
<td>LNM</td>
<td>1.57</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>HHH</td>
<td>1.26</td>
<td>277</td>
<td>0.52</td>
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<tr>
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<tr>
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<td>0.69</td>
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<table>
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<td>LLL</td>
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<td>LMM</td>
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</tr>
<tr>
<td>MLH</td>
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<td>LLM</td>
<td>0.36</td>
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<td>-</td>
</tr>
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<td>LHN</td>
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<td>NHN</td>
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</tr>
<tr>
<td>NNH</td>
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<td>1</td>
<td>-</td>
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<tr>
<td>LMM</td>
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<td>7</td>
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<tr>
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</tr>
<tr>
<td>MNN</td>
<td>0.14</td>
<td>1</td>
<td>-</td>
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</table>
Statistical importance of variables at the top level (in order)

1. Function (AM-FIM Motor)
2. Mobility (DEMMI)
3. Function (RUG-ADL)
4. Wound risk (Braden)
5. Frailty (Rockwood)
6. Palliative function (AKPS)
7. Cognition (AM-FIM Cognition)
AN-ACC Version 1

- 13 classes:
  - Palliative care at admission – one class
  - Independent mobility - two classes
  - Assisted mobility - five classes
  - Not mobile - five classes

- RIV = 0.50

- CVs range from 0.34 to 0.62

- Five fold difference in (time) cost (range 0.37-1.95)
AN-ACC Version 1.0 – top level

Palliative care at admission?

- Yes
  - Class 1
    - N=6 ***
- No
  - Mobility N=1,755
## First branch analysis

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>N</th>
<th>Binary Split</th>
<th>RIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIM Motor</td>
<td>1025</td>
<td>FIM Motor &lt;= 31, FIM Motor &gt;= 32</td>
<td>0.389</td>
</tr>
<tr>
<td>Raw DEMMI</td>
<td>993</td>
<td>Raw DEMMI &lt;= 3, Raw DEMMI &gt;= 4</td>
<td>0.381</td>
</tr>
<tr>
<td>RUG</td>
<td>1036</td>
<td>RUG &lt;= 13, RUG &gt;= 14</td>
<td>0.367</td>
</tr>
<tr>
<td>Braden</td>
<td>1030</td>
<td>Braden &lt;= 15, Braden &gt;= 16</td>
<td>0.315</td>
</tr>
<tr>
<td>Rockwood</td>
<td>1030</td>
<td>Rockwood &lt;= 6, Rockwood &gt;= 7</td>
<td>0.305</td>
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<tr>
<td>AKPS</td>
<td>1035</td>
<td>AKPS &lt;= 50, AKPS &gt;= 60</td>
<td>0.199</td>
</tr>
<tr>
<td>FIM Cognition</td>
<td>1029</td>
<td>FIM Cognition &lt;= 12, FIM Cognition &gt;= 13</td>
<td>0.156</td>
</tr>
<tr>
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<td>1030</td>
<td>Nursing count = 0, Nursing count &gt;=1</td>
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</tr>
<tr>
<td>Complex wound mgmt</td>
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<td>CWM = 0, CWM=1</td>
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<tr>
<td>NPI Disruptiveness</td>
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<td>Disruptiveness &lt;= 1, Disruptiveness = 2</td>
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<tr>
<td>NPI Count</td>
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<td>Weight Loss</td>
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<td>Daily Injections</td>
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<tr>
<td>Falls in last 12 months</td>
<td>995</td>
<td>Falls = 0, Falls = 1</td>
<td>0.002</td>
</tr>
<tr>
<td>Time in care</td>
<td>1033</td>
<td>Time in care &lt;= 180 days, Time in care &gt; 180 days</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Independent variables that did not produce branches include: Age, ATSI status, weight flag, oxygen, enteral feeding, tracheostomy, catheter, stoma & peritoneal dialysis
AN-ACC V1 – top level

All

Admit for palliative care?

No

Mobility N=1755

Independent

Mobile with assistance

Not mobile

Yes

Class 1
AN-ACC V1 in summary

- Admit for palliative care – one class
- Independent mobility branch
  - Two classes – with and without compounding factors
- Assisted mobility branch
  - Five classes, first split by Cognition
  - Second split by compounding factors for the high and medium cognition groups
- Not mobile branch
  - Five classes, first split by RUG and Braden
  - Second split by compounding factors for two groups
Compounding factors

◆ Variables that explain differences in resource consumption that are incorporated to create the final branches of the tree
  – Includes cognition, behaviour, technical nursing requirements etc both as single items and in combination
  – Being careful to ensure that they do not create perverse incentives
    ♦ Behaviour, pressure ulcers etc

◆ Remembering that this is a branching model, not additive
All residents

Class 1 Admit for Palliative Care

Mobility (DEMMI)

Independent mobility
- Without CF
  - Class 2
  - Class 3
- With CF
  - Class 4
  - Class 5

Assisted mobility
- Higher cognitive ability
  - Without CF
    - Class 6
  - With CF
    - Class 7
- Medium cognitive ability
- Low cognitive ability
  - Without CF
    - Class 8
  - With CF

Not mobile
- Higher function
- Lower function and lower pressure sore risk
  - Without CF
    - Class 9
  - With CF
    - Class 10
- Lower function and higher pressure sore risk
  - Without CF
    - Class 11
  - With CF
    - Class 12
  - Class 13
<table>
<thead>
<tr>
<th>Factor</th>
<th>Independent</th>
<th>Assisted mobility</th>
<th>Not mobile</th>
</tr>
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<tbody>
<tr>
<td>FIM Motor</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FIM Transfers</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>FIM Eating</td>
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<td></td>
<td>Blue</td>
</tr>
<tr>
<td>FIM Cognition</td>
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<td></td>
<td>Blue</td>
</tr>
<tr>
<td>FIM Communication</td>
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<td>Blue</td>
</tr>
<tr>
<td>FIM Social Cognition</td>
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<td></td>
<td>Blue</td>
</tr>
<tr>
<td>RUG</td>
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<td></td>
<td>Blue</td>
</tr>
<tr>
<td>Braden</td>
<td>Blue</td>
<td></td>
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</tr>
<tr>
<td>Braden Activity</td>
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<td>AKPS</td>
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</tr>
<tr>
<td>Rockwood</td>
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<td>Blue</td>
</tr>
<tr>
<td>Falls last 12 months</td>
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</tr>
<tr>
<td>Obese Flag</td>
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<td>NPI Disruptiveness</td>
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<tr>
<td>NPI Agitation</td>
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<td>Daily Injections</td>
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<tr>
<td>Complex Wound Management</td>
<td>Blue</td>
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</tr>
</tbody>
</table>
AN-ACC V1 – RIV = 0.50

All
N=1761
RVU = 1.00
$c_0$ = 0.701

Admit for Palliative Care
N = 6
RVU = 1.95

Independent
DEMMI>=13
n = 269
RVU = 0.45
$c_0$ = 0.633

Without CF
n = 179
RVU = 0.37
$c_0$ = 0.569

With CF
n = 90
RVU = 0.60
$c_0$ = 0.570

Mobility Assisted
DEMMI >=4 & DEMMI<=12
n = 867
RVU = 0.75
$c_0$ = 0.642

FIMCog >=22
n = 426
RVU = 0.63
$c_0$ = 0.667

FIMCog>=11 & FIMCog<=10
n = 322
RVU = 0.78
$c_0$ = 0.617

FIMCog<=10
n = 119
RVU = 1.06
$c_0$ = 0.478

Not Mobile
DEMMI<=3
n = 625
RVU = 1.59
$c_0$ = 0.430

RUG<=16
n = 255
RVU = 1.31
$c_0$ = 0.495

RUG >=17 & Braden >=14
n = 96
RVU = 1.62
$c_0$ = 0.338

RUG >=17 & Braden <=13
n = 274
RVU = 1.83
$c_0$ = 0.360

Without CF
n = 165
RVU = 1.11
$c_0$ = 0.523

With CF
n = 90
RVU = 1.68
$c_0$ = 0.362

Without CF
n = 303
RVU = 0.72
$c_0$ = 0.615

With CF
n = 122
RVU = 0.94
$c_0$ = 0.573

Without CF
n = 123
RVU = 0.41
$c_0$ = 0.606

With CF
n = 303
RVU = 0.72
$c_0$ = 0.615

Without CF
n = 165
RVU = 1.11
$c_0$ = 0.523

With CF
n = 90
RVU = 1.68
$c_0$ = 0.362

Without CF
n = 89
RVU = 1.59
$c_0$ = 0.336

With CF
n = 185
RVU = 1.95
$c_0$ = 0.350
Independent mobility branch

DEMMLI >= 13

- $n = 269$
- $RVU = 0.45$
- $\hat{C}_v = 0.633$

Class 2
- Without CF
- $n = 179$
- $RVU = 0.37$
- $\hat{C}_v = 0.569$

Class 3
- With CF
- $n = 90$
- $RVU = 0.60$
- $\hat{C}_v = 0.570$
Assisted mobility branch

DEMNI >=4 & <=12
n = 867
RVU = 0.75
\( \hat{C}_V = 0.642 \)

FIMCog >=22
n = 426
RVU = 0.63
\( \hat{C}_V = 0.667 \)

Class 4
Without CF
n = 123
RVU = 0.41
\( \hat{C}_V = 0.606 \)

Class 5
With CF
n = 303
RVU = 0.72
\( \hat{C}_V = 0.615 \)

Class 6
Without CF
n = 200
RVU = 0.69
\( \hat{C}_V = 0.611 \)

FIMCog>=11 & <=21
n = 322
RVU = 0.78
\( \hat{C}_V = 0.617 \)

Class 7
With CF
n = 122
RVU = 0.94
\( \hat{C}_V = 0.573 \)

Class 8
FIM Cog<=10
n = 119
RVU = 1.06
\( \hat{C}_V = 0.478 \)
DEMMI $\leq$ 3
$n = 625$
$RVU = 1.59$
$\hat{c}_v = 0.430$

Class 11
RUG $\geq$ 17 & Braden $\leq$ 13
$n = 274$
$RVU = 1.83$
$\hat{c}_v = 0.360$

Class 12
Without CF
$n = 89$
$RVU = 1.59$
$\hat{c}_v = 0.336$

Class 13
With CF
$n = 185$
$RVU = 1.95$
$\hat{c}_v = 0.350$

RUG $\leq$ 16
$n = 255$
$RVU = 1.31$
$\hat{c}_v = 0.495$

Class 9
Without CF
$n = 165$
$RVU = 1.11$
$\hat{c}_v = 0.523$

Class 10
With CF
$n = 90$
$RVU = 1.68$
$\hat{c}_v = 0.362$

RUG $\geq$ 17 & Braden $\geq$ 14
$n = 96$
$RVU = 1.62$
$\hat{c}_v = 0.338$

Not mobile branch
Assessment model and protocols in routine practice

- The final assessment design includes items if:
  - They are needed in Version 1 of the classification
  - They would be contenders for inclusion in future versions of the classification
  - They provide objective measures of (changing) needs in the sector

- While there is the potential for assessments to be algorithm-based in the longer term, the Clinical Panel recommended that all residents should be asked all questions for the next few years
Study Two, Report Three

Preliminary results only – analysis still underway
Fixed care vs variable costs

- **Fixed care costs** - staff time in delivering shared care, care management and additional costs of salaries and consumables driven by facility characteristics such as remoteness.
- **Variable costs** – the cost of time spent delivering individualised care to residents and the cost of clinical consumables (e.g. continence supplies, oxygen).
- Both fixed care and variable costs were allocated a share of corporate costs in the cost allocation process.
Direct, indirect and corporate costs

◆ For total care related costs (across all facilities):
  – 87% are direct costs (80% care salaries)
    ♦ 48% - shared care and
    ♦ 52% - individual care
  – 5.6% are indirect (e.g. admin, training, insurances etc)
  – 7.4% are corporate
The allocated cost model

**Group 1**
Variable costs
- Corporate allocation
- Direct individual care

**Group 2**
Fixed care costs
- Corporate allocation
- Shared care
- Indirect - care related

**Group 3**
Hotel costs
- Corporate allocation
- Hotel and accommodation
- Indirect - non-care related

*Note: Group 3 (Hotel) costs were out of scope for analysis in Study Two*
Fixed care costs - key findings

◆ The overall proportion of fixed to individual care costs after full cost allocation is 48:52.

◆ The overall mean fixed care costs is given a Relative Value Unit (RVU) of 1.00 and all other costs will be reported relative to this.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Category</th>
<th>RVU Shared Cost per OBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Not remote</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>Remote</td>
<td>1.38</td>
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<tr>
<td>Ocupancy rates</td>
<td>less than 80%</td>
<td>1.34</td>
</tr>
<tr>
<td></td>
<td>more than 80%</td>
<td>0.96</td>
</tr>
<tr>
<td>Size</td>
<td>Up to 30 beds</td>
<td>1.54</td>
</tr>
<tr>
<td></td>
<td>30 beds and more</td>
<td>0.96</td>
</tr>
<tr>
<td>Indigenous</td>
<td>No</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1.69</td>
</tr>
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<td>Category</td>
<td>RVU Shared Cost per OBD</td>
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<td>--------------------------------</td>
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</tr>
<tr>
<td>Homelessness</td>
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<td>Financially disadvantaged</td>
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<tr>
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<td>Yes</td>
<td>1.03</td>
</tr>
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</table>
Major findings - 1

◆ **Fixed care cost drivers:**
  - Very remote facilities (MMM 7) incur significantly higher fixed care costs, which include increased costs of consumables and salary loadings for care staff.
  - There is an increased cost of indigenous care specialisation.

◆ Remoteness is closely associated with small size (<30 beds) and low occupancy (<80%).

◆ Remote small facilities (MMM 6 and <30 beds) report high costs that are almost entirely explained by low rates of occupancy and indigenous care specialisation.
Major findings - 2

- Contrary to what might have been expected, there was no difference in shared care costs per occupied bed day between specialist dementia facilities and other facilities.

- Likewise specialist CALD facilities.

- Likewise specialist palliative care.
  - Additional costs are in the costs of individualised care.
Study Two results

- Implications for the funding model:
  - a funding model should include a fixed care baseline payment with additional loadings for (at least) facilities that are
    - 1. small
    - 2. remote and
    - 3. specialised indigenous care
    - Maybe also homes specialising in homelessness and financially disadvantaged – but small numbers of each in RUCS Study Two
  - Payments for small remote facilities that are based on capacity rather than occupancy would account for the increased cost associated with low occupancy.
This is still a work in progress
Key outcomes to date

- AN-ACC Version 1 with 13 classes based on the capacity of the resident and with a 5 fold variation in cost
- An assessment tool suitable for use by external assessors
  - Will need a complementary assessment model for use within homes to assess care needs and for care planning and outcome measurement
- Still to be finalised – funding system design, reassessment protocols, transition / implementation strategy
RUCS Final Reports

- Report 1: The Australian National Aged Care Classification (AN-ACC).
- Report 2: The AN-ACC assessment model.
- Report 3: Structural and individual costs of residential aged care services in Australia.
- Report 4: Modelling the impact of the AN-ACC in Australia.
- Report 5: Funding model for the residential aged care sector.
A reminder of the six core elements (1)

- Separate assessment for funding from assessment for care planning

- Assessment for care planning to be undertaken by the residential aged care facility
  - based on resident needs and underpinned by CDC principles

- Assessment for funding purposes to be undertaken by external assessors
  - capturing only the information necessary to assign a resident to a payment class
A reminder of the six core elements (2)

◆ One-off adjustment payment for each new resident
  – Recognising additional, but time-limited, resource requirements when someone initially enters residential care

◆ Fixed per diem price for the costs of care that are shared equally by all residents
  – may vary by location (and size and specialisation?)

◆ Variable price per day for the costs of individualised care for each resident
  – based on each resident’s casemix funding class
  – price per class would be standardised across Australia
What else can this type of system deliver?

- Better data to understand resident profile and changing needs and costs
- If resource utilisation classes contain residents with similar needs, they can be used to measure quality and outcomes in meaningful ways
  - eg, hospital transfer rates adjusted for casemix
  - eg, rates of functional decline adjusted for class at entry
  - eg, rates of adverse events – falls, medication errors, injuries – adjusted for casemix