Casemix in aged care:

Creating the foundations for much-needed reform

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CHSD centre for health service development

Casemix in aged care
Aged care services in Australia

- The Australian Government subsidies aged care services for eligible people aged 65 and over
- Services include home-based care through to residential care in aged care homes
- Providers include not-for-profit, for-profit, and government organisations
- Higher than projected sector-wide growth leading to increasing demands on expenditure
- Reform initiatives ongoing from 2012 to address major issues: funding, quality of care, staffing

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Background

Study commissioned by Australian Government (2017)

- Review of current funding model – concluded it was 'no longer fit for purpose'
- Recommendation to develop a new casemix classification and funding model - selected by Government as the preferred option for further investigation

Resource Utilisation and Classification Study (RUCS) (2018-2019)

Objectives:

- What characteristics influence the cost of care residents receive?
- What care costs are shared across residents and what are related to individual needs?
- Develop a casemix classification system to underpin a funding model that incorporates both shared (fixed) and individual (variable) costs
- Test the feasibility of implementing the classification and funding model

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Key design principles

Resident Assessment

1. Assessment for funding
to be separate from assessment for care planning

2. Assessment for care planning
to be done within the residential aged care home based on resident needs

3. Assessment for funding purposes
external assessors capturing the information needed to assign residents to a payment class

Funding

4. Variable payment component
per diem payment for the individualised care costs for each resident, based on casemix class

5. Fixed payment component
per diem payment for the costs of care shared equally by all residents (varying by care home characteristics, such as location, size and specialisation)

6. One-off adjustment payment
for each new resident - recognising additional, but time-limited, resource requirements

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RUCS methodology - four studies

Study	Objective	What was involved
1. Service utilisation and classification study	Development of the casemix classification	▪ Prospective data collection from 30 aged care homes (clustered in three geographical regions; metropolitan, rural and remote) ▪ Data collected (one month period): o resident assessment data (using AN-ACC assessment tool) o individual care time per resident per day o financial data
2. Fixed and variable cost analysis study	Understand the differences in costs between different types of aged care homes	▪ Retrospective data collection from a nationally representative sample of 107 aged care homes ▪ Data collected (18 month period): o facility level expenses o bed occupancy o paid staff time data

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RUCS methodology - four studies

Study	Objective	What was involved
3. Casemix profiling study	Development of a national casemix profile of residents in aged care	▪ Collection of variables included in the draft casemix classification (developed from the findings of Studies 1 & 2) ▪ Data collected from a nationally representative sample of 80 aged care homes
4. Reassessment study	Understand the rate and extend of change in residents' care needs over time	▪ Reassessment of approximately 1,000 residents assessed as part of Study 1 - four to six months after their initial assessment

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Results – variable payment component

Analysis dataset included:

- 1,877 resident assessments
- 1,600 aged care staff activities
- 315,029 staff time activity records
- 60,990 resident days
- 30 aged care homes' financial data

Findings: What drives individual care costs?

Costs are driven by resident care needs related to:
- end of life, 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.

Not medical diagnosis/diagnoses
- Diagnostic Related Groups not relevant

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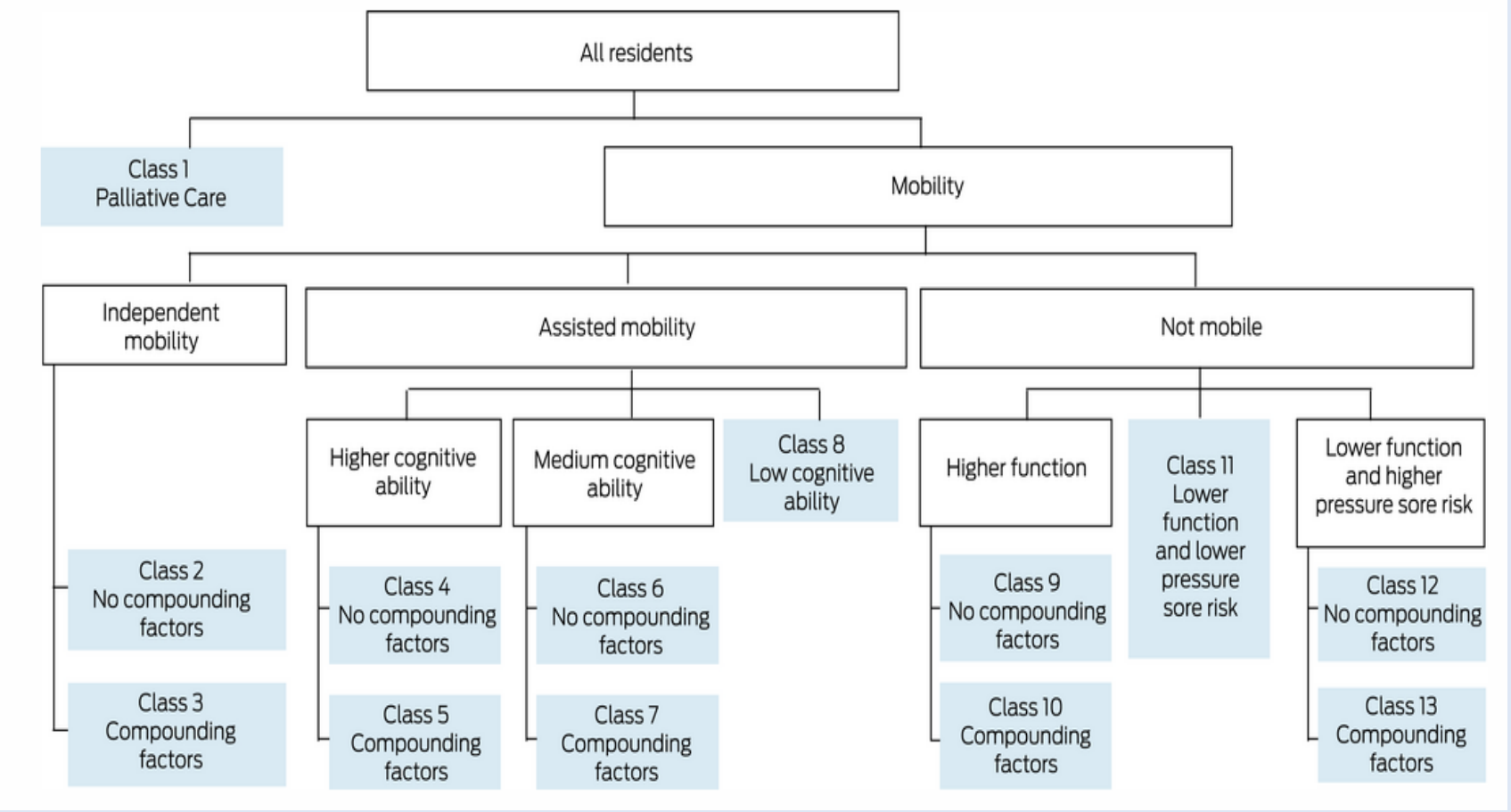
Results – casemix classification

The AN-ACC casemix classification Version 1.0

- A clinically informed regression tree model
- Comprises 13 resident classes:
  - a class for residents admitted for palliative care
  - 12 classes spread across three main branches defined by resident mobility
- Includes classes defined by whether a resident has 'compounding factors' (includes frailty, falls, daily injections and wound management)



(Source: Eagar K, Gordon R, Snoek M, Loggie C, Westera A, Samsa P, Kobel C (2020) The Australian National Aged Care Classification (AN-ACC): A New Casemix Classification for Residential Aged Care. Medical Journal of Australia 213(8) 359-363)

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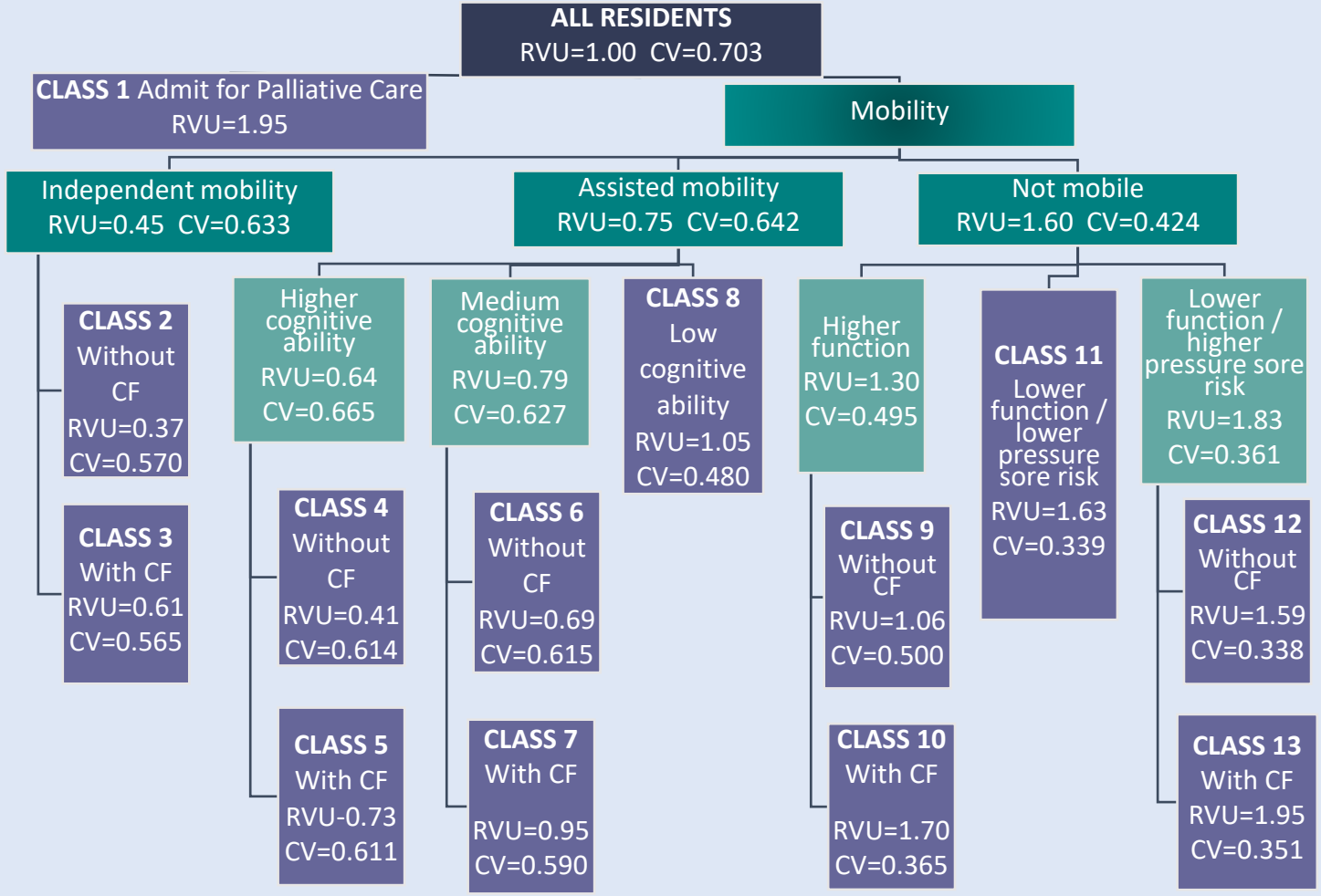
Results – casemix classification

- Each class represents residents with similar care needs, who cost about the same to care for each day, and whose clinical risks and outcomes are similar
- RVUs for individual AN-ACC classes range from 0.37 (Class 2) to 1.95 (Classes 1 and 13[1])
- The CV for each class was quite small (less than 1.0; range: 0.34–0.62) indicating that each class is relatively homogenous with respect to resource use
- The Reduction in Variation (RIV) was 0.52 indicating that the classification performs well in explaining the variation in daily care costs between classes of residents.

[1]due to a lack of data the values for Class 1 were imputed from Class 13 on advice from clinical experts



RVU = relative value unit (a measure of relative resource consumption - 1.00 being the national average)
CV = coefficient of variation (a statistical measure of homogeneity within a group)

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Results – fixed payment component

Analysis datasets included:

- 89 aged care homes' financial data
- 3 distinct types of cost allocations within each aged care home:
  - individual care costs
  - fixed care costs
  - hotel and other non-care costs (out of scope)

Findings: What drives fixed care costs?

The facility level characteristics that impact the 'fixed' costs are:

- remoteness
- <30 beds in a remote location
- specialised care for indigenous or homeless residents

Specialisations such as dementia, culturally and linguistically diverse (CALD), and palliative care do not impact fixed costs

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Results – Base Care Tariffs

AN-ACC Base Care Tariffs

- Overall, fixed care costs account for just over 50% of the daily total care costs
- The fixed payment component comprises six categories of 'Base Care Tariffs'
- Almost a five-fold cost difference between the lowest and highest categories
- The cost homogeneity within the categories is very high

Cat code	Category description	Fixed care RVU per occupied bed day	Fixed care CV
1	Very remote (MMM=7), indigenous care	4.63	0.34
2	Remote (MMM=6), indigenous care	1.62	0.16
3	Remote (MMM=6-7), non-indigenous, up to 29 approved beds	1.87	0.35
4	Remote (MMM=6-7), non-indigenous, 30 or more approved beds	1.06	0.28
5	Specialised homeless	1.79	0.22
6	All other Aged Care Homes	0.95	0.33

RVU = relative value unit (a measure of relative resource consumption - 1.00 being the national average)
CV = coefficient of variation (a statistical measure of homogeneity within a group)
MMM = Modified Monash Model (a measure of remoteness from Level 1 to 7)

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Results – modelling and reassessments

Analysis datasets included:

Modelling:

- 3,148 residents' data (age group, time in care, indigenous status, English as preferred language, AN-ACC class, current funding category)
- Sample data projected to the national scale where possible

Reassessment:

- 961 residents' data (AN-ACC classes at first assessment and reassessment, significant event information (falls, hospitalisation, other medical events)

Findings:

Small and medium aged care homes would gain slightly at the expense of larger homes

Government and not-for-profit care homes would receive proportionally more funding than for-profit homes

Residents in care the longest are more likely to fall into the more complex (costly) AN-ACC classes

Indications for reassessment:
- significant hospitalisation
- significant change in mobility
- after a standard time period (varies by class)

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The AN-ACC funding model

Subsidies payable to homes for the care of residents incorporate three components:

1. **variable payment** - for the individual care needs as determined by the resident's AN-ACC class
2. **base care tariff** - for the fixed care component
3. **one off adjustment payment** - for when a resident enters residential aged care

- The National Weighted Activity Unit (NWAU) is the common unit used for funding purposes across all three components
- NWAUs applied in the funding model are **relative values** that determine the amount paid for each component — with an NWAU of 1.00 being a single measure of price that represents the national average
- The national NWAU price is set by Government

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Recent developments

- Results of an AN-ACC trial undertaken by Government (2019-2020) were consistent with the RUCS findings
- Australian Royal Commission into Aged Care Quality and Safety (2018-2021) recommended a new casemix classification system 'such as the AN-ACC model' for residential aged care
- AN-ACC legislated as part of aged care reforms (August 2022) - to be used for funding from October 2022 and for staff time standards from October 2023

Minor updates to AN-ACC Version 1.0

- changes to the Base Care Tariffs:
  - new category for homes in MMM 5 areas (small rural towns) (based on national data collected in 2020-21)
  - combining of the two categories for homes located in MMM 6 and 7 (non-indigenous) with a two-stage payment scale introduced (first 29 beds and 30+ beds)
- resident reclassification criteria expanded to include additional variables

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Conclusion

- The statistical performance and clinical acceptability of the AN-ACC are adequate for its application, providing a meaningful system for addressing critical issues
- With only 13 classes and an RIV of 0.52 the AN-ACC compares favourably with related casemix classifications, including the Australian National Subacute and Non-Acute Patient (AN-SNAP) classification (83 classes; RIV=0.54[2])
- It can be used to:
  - inform **input** measures (staffing levels, best (acceptable) practice for each of the 13 classes)
  - measure and fund **outputs** (more transparent and equitable pricing)
  - turn crude **outcome** measures into meaningful comparisons for benchmarking and other purposes (casemix adjustment) e.g. mortality rates and quality indicators, such as pressure injuries and falls
- AN-ACC has the capacity to be progressively expanded to all aged care services

[2]Independent Hospital Pricing Authority (2021) Development of the Australian National Subacute and Non-acute Patient Classification Version 5.0: Final Report, December 2021 p.8

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Further information

Australian Health Services Research Institute
University of Wollongong

https://www.uow.edu.au/ahsri/research/

Australian Government
Department of Health and Aged Care
Residential Aged Care Funding Reform

https://www.health.gov.au/health-topics/aged-care/aged-care-reforms-and-reviews

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Thank you

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