Submission on proposed residential aged care funding model

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Summary

This submission is made in response to a consultation paper by the Department of Health, seeking submissions by 31 May 2019. A more stable funding model is sought, to provide greater certainty to government, providers and investors. A better model might help persons with high care needs find residential care.

The University of Wollongong has proposed an Australian National Aged Care Classification, for use in a residential aged care funding model. Their proposed classification subdivides residents into 13 payment classes, using complex criteria, but has poor performance. Payments more closely related to care costs may be obtained through models based directly on functional assessments, rather than indirectly through payment classes.

The University concluded that functional assessments could effectively be completed by external assessors, generally in less than one hour.   No measurements appear to have been made of inter-rater reliability. The fewer the items to be assessed, and the lower their measurement errors, the less vulnerable the assessments will be to legal challenge.

Much more work is needed before a new residential aged care funding model can be safely introduced:

- The data collected by the University should be available for independent analysis
- A consultant with strong expertise in data algorithms should be engaged
- Measurement errors should be estimated for each assessment item
- Unused, unreliable or overlapping assessment items should be eliminated
- Legal advice should be obtained on the risks of legal challenges to assessments
- Allowances should be made for the costs of different levels of care staff
- Data should be collected on many more residents
- The mathematical structure of the funding model should be chosen taking into account simplicity as well as performance
- Allowances for fixed costs should be based on standardised financial statements
- Full details of research methods and results should be public
- Submissions to consultation processes should be public.

Answers to the questions in the consultation paper are at the end of this submission.

1.   Why a new residential aged care funding model is needed

In 2017-18 the Australian Government paid $12.2 billion of residential aged care subsidies and supplements, of which $11.3 billion was determined by the Aged Care Funding Instrument (ACFI) (1: p8). This instrument was introduced on 20 March 2008, and relies on providers making detailed assessments of the functional capabilities of their residents.

The Aged Care Financing Authority (ACFA) considers that ACFI

"…appears to lack stability (with a history of cycles of high growth followed by low or no growth as higher than expected provider claiming leads to Government taking measures to reduce funding growth rates back to estimated levels)… A more stable system would provide greater certainty on funding levels for government, providers and investors" (1: p8).

Unexpected cost increases have been high. For example, the average subsidy per day paid to private providers increased from 62% of the maximum daily rate at 30 June 2009 to 86% at 30 June 2016 (2: p13).

While ACFA is concerned about government, providers and investors, a bad funding model may have severe consequences for individuals. For example, if a person has care needs which are under-compensated, they may find it very difficult to find a provider willing to admit them. If providers receive more for semi-comatose patients, they may profit by using unnecessary drugs.

2.   Key proposals by the University of Wollongong

The first two principles underling underlying the University's work are

* *"Resident assessment for funding to be separate from resident assessment for care planning purposes.*
* *Assessment for funding purposes to be undertaken by external assessors capturing only the information necessary to assign a resident to a payment class."* (3: p3)

Separating resident assessment for funding from care planning is very sensible. Funding data need to be closely targeted and verifiable, and are only required at entry and when major changes to care needs occur. Care planning needs more extensive data, on an ongoing basis.

Using external assessors is also very sensible, as it largely avoids the problem of providers exaggerating care needs to increase their revenues. It also helps providers in remote areas obtain specialist assessments.

The University collected care times and made external functional assessments for 1655 residents (3: p39). This allowed a classification and regression tree analysis to be done, allocating residents into 13 classes, and estimating the payment level for each class.

It is far from clear that assigning residents to payment classes will prove to be the best basis for a funding system. After rejecting data items with unacceptably high measurement errors, a range of methods should be used to find the funding model most closely relating payments to functional assessments.

3.   Complexity and poor performance of proposed classification

Of the 13 payment classes proposed by the University, 10 rely on complex "compounding factors". For example

"The not mobile branch has five classes and splits on function and pressure sore risk, along with compounding factors for the lower branches. The compounding factors in the not mobile branch include the Braden total, AM-FIM eat, AM-FIM transfer, disruptiveness, falls in the last 12 months, obesity flag, daily injections, and complex wound management." (3: 37)

It is hard to see these classes as being meaningful to providers or regulators. In spite of this complexity, only 50% of the variance in the cost of individual care is explained by the model (3: p41). If there is no need to assign residents to classes, then a robust payment system can be designed using a wide range of calculation methods. Payments more closely related to the underlying costs of caring for individual residents should be feasible.

Casemix payments defined by diagnostic related groups were suggested for US hospitals in 1980 (4), and subsequently adopted in Australia. Version 9 of the Australian Refined Diagnostic Related Groups model for admitted hospital patients, with 399 classes, was proposed in 2016 (5).

A casemix model for sub-acute and non-acute patients, with 134 classes, was proposed by the University of Wollongong in 1997 (6). An updated model, with 130 classes, was proposed in 2015 (7). A casemix model for mental health services, with 40 classes, was proposed in 1998 (8), but not implemented, and a report on mental health classification development was published in 2013 (9). All these Australian models appear to be using simple classification trees, without compounding factors.

Residential aged care providers are generally smaller than hospitals, residents tend to stay much longer, and providers can often choose which applicants to admit. There is thus less ability to average out, and a strong need for payments matching the costs of care for each resident.

Persons requiring a lot of individual care may find themselves at risk in the proposed system. For example, extreme obesity may sometimes, depending on many other factors, cause an increase in the calculated payments. Taking into account the chances of getting the increase, and the heavy costs of care for the condition, many providers may decide not to admit such a person.

4. Feasibility of external assessments

An important finding by the University is that external assessments are feasible:

"Study One assessments were completed by a team of registered nurses with at least five years' experience in the aged care sector. Overall, the overwhelming finding emerging from Study One was that the RUCS Assessment Tool can effectively be completed by suitably qualified external assessors, generally in less than one hour." (3: 42)

These assessments were completed face to face with the resident, or by observation of the resident, contact with family and/or friend carers, gathering information from facility staff or other sources, such as notes and documents (10: p24). Although information was recorded on the number of minutes data was obtained from each source for each resident, no analysis of these time records has been published. Information obtained from staff, notes or documents could potentially be biased towards revenue maximisation.

5.   Work needed for a new residential care funding model

5.1   Availability of data for independent analysis

The Resident Classification Scale was used from 1997 to March 2008, and ACFI has been used for the 11 years since. If the proposed funding model remains in place for 10 years, it will determine the recipients of at least $120 billion. All possible steps should be taken to ensure that the funding model is robust enough to support such large payments.

One low-cost step would be to make all the data available for independent analysis. This is a routine requirement by reputable scientific publications, and helps guard against fraud or error. Importantly, public availability of data allows persons with many different skills to contribute to the solution of difficult problems.

The identity of residents should be kept confidential. Demographic details, such as sex and age-band of each resident, could be made available without breaching confidentiality. Demographic details and functional assessments are available from the Australian Institute of Health and Welfare for every ACFI ever made, and similar availability should apply for residents assessed in the University of Wollongong studies.

5.2   Engagement of consultant with strong expertise in data algorithms

Stephenson recommends the use of algorithm specialists who

"can leverage the modelling and data processing libraries to rapidly experiment with a variety of diverse models … they might compare results from a statistical regression vs results from a support vector machine vs results from a decision tree, quickly determining the most promising model for future development" (11: p165).

Given the shortage of such specialists, and the high salaries they can earn on big data projects, it is unlikely that any are routinely employed by the University of Wollongong or the Department of Health. Engaging a consultant may be a solution, but Stephenson warns:

"it can be quite difficult to find high-quality data science consultants. Quality varies significantly even within the same company… If possible, look for boutique consulting firms, where the company owners are involved in monitoring each project." (11: p175).

Breiman et al published their well-known book on classification and regression trees in 1984 (12), and software to derive these trees soon became widely available. But plummeting costs of data storage and processing power, and open software, have seen the recent development of many new ways to use big data (11: p12-19).

5.3   Estimation of measurement errors

By using different assessors to independently assess the same resident, it would be straightforward to estimate the measurement error associated with each assessed item. It is not clear if this was done. The assessor feedback form asked "How confident do you feel that the ratings that you have recorded are accurate?" (12: p24). This question should be asked about each assessment item.

5.4   Elimination of unused, unreliable or overlapping assessment items

The University's second report recommended that all items in the assessment tool be routinely collected, even though not used in assigning residents to classes:

"Not all items in the AN-ACC assessment are used in the assignment of residents to a class in AN-ACC Version 1.0. However, we recommend that implementation of the new AN-ACC assessment system includes routine collection of all items in the assessment tool. This will provide an important source of information for modifications to be made in future versions of the classification. Further, it will provide an invaluable source of information and provides the basis of a national minimum data set for the sector more broadly." (13: p24).

Strong priority should be given to the development of a funding model that can withstand legal challenges by providers. Data items not intended for immediate use should be omitted - their potential value for any future application can be explored by sample data collections. Data with high estimation errors should not be used for funding purposes, as such data will greatly increase the risk of successful legal challenges. It may be possible to replace unreliable items - for example, requiring three or more persons for lifting might be replaced by weight.

Overlapping data should be eliminated as far as possible. In particular, RUG-ADL items, the Rockwood Frailty Score, Braden Scale items, Australian Modified Functional Independence items and De Morton Mobility Index items may all be measuring various aspects of physical weakness. Tests could readily be made to see which scales or items could be omitted without significant reductions in performance indices.

Eliminating unused, unreliable and overlapping data items should significantly reduce the costs of assessment and assessment audit.

5.5   Legal advice on the risks of challenges to assessments

In an appeal about ACFI that the Department of Health lost in 2016, the Federal Court judgment said:

"It is unsurprising that the scheme is complex, as it deals with the allocation of vast amounts of public money to many different providers for the care of large numbers of vulnerable people with differing needs." (14: para 20).

"The appeal has revealed some significant inconsistencies, ambiguities and difficulties in the language of the Answer Appraisal Pack and the User Guide. Those instruments … are frequently used by aged care providers and their employees, as well as by departmental officers performing important auditing functions under the Act. Those instruments should be reviewed to make them more readily understandable." (14: para 129).

Will providers have any right to a reassessment if they are dissatisfied with an assessment? Will they have a right to appeal to the Administrative Appeals Tribunal if they are dissatisfied with the reassessment? How can legislation about external assessments be worded to minimise the risks of successful challenges?

5.6   Allowances for costs of different levels of care staff

If records are kept of the skill levels or pay rates of the staff providing time records, then the funding model can readily allow for the costs of different levels of care staff. It is not clear if the University did this.

5.7   Collection of more data on care times and functional assessments

The University collected staff times for 1967 permanent residents, and made functional assessments of 1880 residents. This gave 1655 persons with both staff times and functional assessments, who were used to derive and test the classification. By comparison, 30,057 episodes were included in the final data set for the first version of the Australian National Sub-Acute and Non-Acute Patient Classification (6: p56), and the fourth version used 37,223 linked records (7: p27).

 Collecting more data would allow more reliable models to be fitted, give more confidence that unusual care needs had been fairly dealt with, and reduce the risks of successful legal challenges.   The costs of collecting additional data should reduce once unnecessary, unreliable and overlapping data items have been identified. A multi-stage data collection process seems necessary, progressively reducing the items collected, and stopping when a reliable and defensible model has been obtained.

5.8   Choice of mathematical structure for funding model

There are many different types of mathematical structures which could be used for a residential aged care funding model. Given sufficient data, it is likely that most of the structures would provide broadly similar performance indices. Preference should be given to a structure which is simple enough to be broadly intelligible to providers, regulators and lawyers, even if this gives slightly lower performance.

Stephenson advises:

"Choose simple, intuitive models whenever possible. A simple model, such as a basic statistical model, is easier to develop, to fit to the data, and to explain to end users than is a more complicated model such as non-linear support vector machines or neural networks. In addition, transparent models allow end users to apply intuition and suggest improvements … Model transparency is particularly important for applications where outcomes must be explained to healthcare patients, government regulators or customers" (11: p129-130).

5.9   Allowances for fixed costs based on standardised financial statements

Early in 2019 the Department of Health issued a discussion paper, seeking submissions on managing prudential risk in residential aged care. This paper gave several examples of complex financial structures, greatly reducing the usefulness of the data provided to the Department. The discussion paper commented:

"There is limited transparency and disclosure of financial practices of providers who have trusts in their structure or those who operate their services through trusts. These structures are opaque in terms of what assets they hold, who the beneficiaries are and for what purposes the funds are used." (15: p36)

Complex structures may have several purposes, including tax reduction. It is likely that reported profits from aged care are substantially lower than actual profits. Any allowances for fixed costs in a residential aged care funding model should be based on standardised financial statements, intended to provide a fair as possible a view of the aged care operations.

5.10 Full details of research methods and results should be public

Many different types of expertise are needed to design a residential aged care funding model, and individual experts have specialities and biases. Persons outside the Department of Health and its consultants should be able to help. To design a robust, fair model, full details of research methods and results should be public. The results from different model trials, and the reasons for selecting a particular model, should be known. Full details of the selected model should be known, so that providers can estimate the impact of the model on their present and potential residents.

5.11 Public access to submissions to consultation processes

The Department is not planning to publish submissions to its consultation, or a list of organisations making submissions. It may however make available a de-identified summary of the key themes and issues raised through the submission process (16). This contrasts with the consultation on version 10 of the Australian Refined Diagnosis Related Groups Classification, where the identities of the 16 submitters were available on the website of the Independent Hospital Pricing Authority, together with 15 of the submissions. Ideally, submissions should be available to the public immediately, with submitters given the option of keeping their submissions confidential. This process is followed by the Productivity Commission and parliamentary committees, and allows the maximum possible public engagement, without the delays and costs of preparing a de-identified summary.

6. Answers to questions in the consultation paper

6.1 Are there any risks or benefits of the proposed funding model that have not been identified?

The major risks appear to be

- Adoption of a complex, poor-performing model using classifications, simply because casemix classifications have long been used for government payments to hospitals
- Persons requiring a lot of individual care may not be able to find an aged care facility willing to admit them
- Unless a strong quality control process is in place, the payment system could provide perverse incentives for providers to make residents less mobile by over-medicating them
- A successful legal challenge to an assessment could disrupt the whole payment system.

To minimise the risks of legal challenge, the funding model should only collect reliable relevant data. The potential benefits of the proposed system have been overstated:

- Assessments for the funding model will fall much below a suitable minimum data set (13: p24)
- The quality of residential care is best measured through targeted data collections, and outcomes are best measured through administrative systems (13: p26).

6.2 Are the proposed resident assessment and classification processes appropriate? If not, why not?

The proposed assessment process may prove reasonable, but it should only collect data that are reliable, non-overlapping and used in the payment model. The intention should be to minimise the risks of successful legal challenges.

The proposed classification process is complex and poor-performing. A range of alternative modelling processes should be explored, both by the University and by the Department. It is likely that models based directly on functional assessments will perform better than any classification model.

6.3   Are the proposed reassessment triggers appropriate? If not, why not?

The proposed reassessment triggers (1: p33) seem overly complex. Triggers should be kept simple initially, and reviewed as experience emerges.

6.4   Are there other factors that should be considered for inclusion as reassessment triggers?

Not yet.

6.5   Should the Commonwealth consider the introduction of reassessment charges for services that trigger unnecessary reassessments?

All services should pay a reasonable fee for each assessment after the first.

6.6   Should there be a requirement for reassessment in the proposed funding model?

No.

6.7   What are your views on an annual costing study to inform price?

Annually is too often, but a review every 3 to 5 years may be valuable.

6.8   What are the risks and benefits of rolling viability supplement into the fixed payment NWAUs?

Given the very poor quality of provider financial data, viability supplements should be kept separate.

6.9   What are the risks and benefits of rolling homeless supplement into the fixed payment NWAUs?

Given the very poor quality of provider financial data, homeless supplements should be kept separate.

6.10   Which transition option do you prefer? Why?

The recommended two-year transition strategy, where all new residents are assessed under the model, and providers can choose whether to apply for reassessment of existing residents, seems preferable. The alternative, of expecting all residents to be paid under the new model, seems impractical, as it would create a very large temporary demand for assessors. Under the recommended proposal, would a provider have to accept the new model payment for any reassessed resident, or could they elect to keep the exiting ACFI or RCS payment?

6.11   Are there any other approaches that should be considered?

No.

6.12   What are the implications of ceasing ACFI assessments in relation to care planning activities?

Anecdotally, ACFI assessments are seldom used for care planning.

6.13   Do you support the development of a best practice needs identification and care planning assessment tool for use by residential facilities?

Yes, provided it is designed by experienced aged carers, and is supported by randomised testing of alternatives.

6.14   Do you support a requirement for care planning assessments to be undertaken at least once a year for all residents, with outcomes discussed with residents and carers?

No, unless there is statistical evidence that the process would be valuable.

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