Submission to the Independent Hospital Pricing Authority on the Pricing Framework for Australian Public Hospital Services 2019–20

By

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Introduction

This submission discusses several key issues surrounding pricing and funding for safety and quality in relation to avoidable readmissions as set out in Chapter 11 of the document "Consultation Paper on the Pricing Framework for Australian Public Hospital Services 2019–20."

The Consultation Paper listed three funding options in relation to avoidable readmissions. Options 1 and 2 (not funding readmission episodes and reduced funding for the combined index and readmission episodes) target funding changes at the episodic level, while Option 3 involves funding adjustments on the basis of some threshold rates of avoidable readmissions at the provider (hospital, LHN or some other unit) level. Among the three options listed, we recommend Option 3. We further recommend that IHPA considers an incentive scheme that not only penalises poor performance but also rewards good performance. This scheme can be implemented using a model that incorporates risk adjustment and the computation of 'excess' levels of avoidable readmissions for each provider. Several key design considerations are discussed below.

Targeting incentive effects

A well-designed incentive scheme should not only provide incentives for poor-performing providers to raise their performance, but also for good-performing providers to strive for continual improvement. Improving quality of care can be costly to providers, as it may require adjustments to workflow and processes, and investment in human and physical capital. As rational production units, care providers will only implement production adjustments if the costs of doing so can be compensated by either the avoidance of a potential loss of revenue (due to the penalty imposed on poor performance), or the increase in revenue (from incentive payments for good performance). Options 1 and 2 both involve a funding reduction at episodic level when avoidable admissions occur, unlike Option 3, they could not be extended to recognise and reward good performance.

The importance of recognising good performance in an incentive scheme goes beyond the financial incentive effects. It provides a way of identifying and recognising the leading providers, whose experience other providers could look to

and learn from. This also creates a competition effect whereby providers compete to better their performance so as to be included in the league of leading providers. From the perspective of design flexibility, Option 3 is clearly preferable to the other two options.

Benchmarking

A key design element is the setting of the benchmarks by which performance is judged. Instead of focusing on setting benchmark rates, we recommend a model that includes risk adjustment and at the same time allows the notion of an 'excess' level of avoidable readmissions be defined and operationalised. The model consists of two stages. In Stage 1, risk adjustment is performed. This can be done via logistic regression estimation. In principle, the risk adjustment model should remove all patient complexity and characteristics from the outcome measures so that incentive payments or penalties are applied purely based on factors within the control of providers. After logistic regressions with all relevant risk factors are estimated in Stage 1, the estimated equations can then be used in Stage 2 to make predictions about the likelihood, in probability terms, of an index episode having a subsequent avoidable readmission. A sum of the predicted probabilities can be obtained for each readmission condition by each provider. An excess level of readmissions can then be computed as the difference between the observed number of readmissions and the predicted sum given by the estimated regression. For convenience, a normalisation rule can be employed so that the mean excess level is set to zero. Thus providers with positive excess levels of readmissions can be considered poor performers, whereas negative excess levels of readmissions indicate good performance. In practice, however, one may wish to account for the variance of these excess levels, e.g., poor performance may be defined more stringently as 2 standard deviations above the mean, likewise for good performance.

A key advantage of this model is good performers and poor performers can be easily classified using the notion of excess levels of avoidable readmissions. It does not require the setting of arbitrary benchmarks.

Funding adjustments

Under the proposed model, funding adjustments could be directed at both poor performers and good performers. A scheme that only penalise poor performance would provide no incentive for good performing providers to improve. Thus we recommend a gradual scale with varying levels of incentive payments and penalties. For example, a five-point scale could be created by setting cut points at plus/minus 2 standard deviations and plus/minu 1 standard deviation. Another possibility is to link incentive payments or penalty directly with a continuous payment function that depends positively on the excess level of readmissions.

Comparison groups

Stage 1 of the proposed model can be implemented over all in-scope admission episodes over several years, the computation and comparison of excess readmission levels in Stage 2 requires careful consideration on the relevant comparison group of providers. Ideally one should only compare providers with their peers of comparable size, since volume is known to correlate with quality measures (e.g., Gutacker et al. 2013; Lee et al. 2015). One practical approach is to use the peer group classification developed by the Australian Institute of Health and Welfare. In addition, one may also further restrict the comparison to providers within each state or territory, since resources and funding for providers and regulatory requirements are likely to differ across states and territories.

Risk factors

For the purpose of risk adjustment, it is important to include a list of patient risk factors that are outside the control of providers. Five categories of risk factors can be identified (Iezzoni 2009): (i) Clinical factors, e.g. diagnoses, comorbidities, mental health. (ii) Demographics, e.g. gender, age, ethnicity. (iii) Socio-economic status, e.g. employment, occupation, income, neighbourhood characteristics. (iv) Health behaviour and activities, e.g. smoking, drinking, diet and nutrition. (v) Attitudes and perceptions, e.g. religious belief, care preferences, motivation and expectations. Administrative data such as those in IHPA's collection typically contain rich information on the first two categories but scant information on socio-economic status, health behaviour and attitudes. Yet these are important factors known to

affect patient health outcomes and are typically beyond the control of providers and clinicians (e.g., Glance et al. 2016). The omission of relevant variables can cause serious problems in risk adjustment estimation and in econometrics the problem is known as omitted variable bias.

We recommend that IHPA explores the possibility of supplementing the current administrative data with survey data on health behaviour (smoking, exercise, diet, etc.), socio-economic status (income, education, employment, etc.), and personal attitudes and preferences (religion, risk and time preferences, etc.). The survey data will fill the gap in the current data collection. Further, the survey data can be linked to administrative records to support research on understanding important social and healthcare issues such as the relationship between health care financing and utilisation, health inequities, and health behaviour. This expansion of data collection will complement IHPA's intention to broaden access to data as outlined in Chapter 5 of the Consultation Paper.

Level of aggregation

An important consideration in the funding options is to decide whether the funding change should be calculated at the level of individual hospitals or LHNs. We recommend that funding should be targeted at the lowest level of aggregation permitted by data – at least at hospital level. In our recent review we find some evidence that the salience of incentives matters, e.g., the extent to which clinicians or clinical teams were aware of the rewards or able to influence how the rewards were used (Scott et al. 2018). A lower level of aggregation will increase the likelihood of incentive effects flowing to clinicians and clinical terms, thereby changing their behaviour and resulting in improved quality of care. On this, it is worthwhile to investigate whether funding changes could be further decentralised to hospital departments, possibly by aligning funding changes with existing national quality improvement initiatives.

Measurement issues

The enumeration of readmissions, in principle, should be based on readmissions occurring anywhere, including in private hospitals, not just within the same hospital or LHN. There is no reason, except for administrative convenience, to treat readmissions occurring in the same hospitals differently from those in other

hospitals, including private hospitals. Although IHPA has demonstrated using past data that close to 70% of readmissions occurred in the same hospital, and about 85% within the same LHN, there is no guarantee that this pattern would persist into the future, particularly after funding adjustments have been introduced. However, to effectively track readmissions beyond the same hospital would require the use of a unique patient identifier for all patients. In the longer term the use of a unique patient identifier would hopefully become standardised across all sectors of the health system. We recommend a design that can accommodate the long-term view. Interim measures can be put in place, but unintended consequences arising from these measures should be closely monitored. We think it is important to stress that the central design framework should follow from the first principle. The same can be said of restricting the measurement of readmissions to the same financial year.

References

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