ACCESS ECONOMICS Pty Limited

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Economic evaluation of capital financing of high care

Report by Access Economics Pty Limited for

Anglicare Australia, Baptist Care Australia, Catholic Health Australia, Churches of Christ Living Care, Lutheran Aged Care Australia, Sir Moses Montefiore Jewish Home, National Presbyterian Aged Care Network, UnitingCare Australia

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LIST OF ACRONYMS

Acronym	In full
ABS	Australian Bureau of Statistics
CAPM	capital asset pricing model
CGS	Commonwealth Government Security
CHA	Catholic Health Australia
CPI	Consumer Price Index
DoHA	Department of Health and Ageing
GDP	gross domestic product
GFC	global financial crisis
HASA	Healthy Ageing Savings Account
IGR	InterGenerational Report
IRR	internal rate of return
MTAWE	Male Total Average Weekly Earnings
NPV	net present value
RAC	residential aged care
sqm	square metres
SSD	statistical sub-division
UK	United Kingdom
US	United States
WACC	weighted average cost of capital
WCI	Wage Cost Index

EXECUTIVE SUMMARY

Access Economics was commissioned by a consortium of church sector high care residential aged care (RAC) providers to:

- use accepted investment analysis methodologies to review current Australian Government regulation and pricing arrangements for the development of new high care residential facilities, relative to costs; and
- explore options for reform and the policy and financial implications of the options from a government, provider and care recipient perspective, including consideration of access issues for disadvantaged groups.

To address these objectives, Access Economics used a Capital Asset Pricing Model-Weighted Average Cost of Capital (CAPM-WACC) approach to determine whether current pricing arrangements are appropriate for high residential care service providers to obtain normal returns from their capital. The decision rules for investment are that the internal rate of return (IRR) is greater than the WACC or, equivalently, that the net present value (NPV) of the costs and revenues is positive. Since the generally accepted depreciation period was 25 years, this was used, with scenarios at 20 and 30 years. Capacity utilisation was assumed to be 95%. The analysis was limited to publicly available data sources. Evaluation criteria were established for policy options and a range of options were analysed relative to these criteria.

Findings

The WACC estimated for the calculations was derived from Reuters data on beta values and Fitch public estimates of debt ratings, as 8.14%.

The average construction cost per bed was estimated based on a low quartile from Grant Thornton for NSW, VIC, QLD, SA, WA and TAS and a high quartile from Hanna Newman (NSW/ACT) with an Australian average calculated based on relative population shares of $163,656 and $211,265 respectively. **The overall average was taken of $187,460, equating to a breakeven point for the accommodation payment of $40.32/bed-day as the base case** from March 2009, growing by 3% per annum thereafter.

With current projected revenue streams, new facility development would not proceed even for the lowest Grant Thornton state estimate (Tasmania at $138,000) since the present value of revenues is less than all the cost estimates, making the internal rate of return (IRR) less than the WACC.

BASE CASE – PRESENT VALUE OF REVENUE AND IRR

	20 Years	25 Years	30 Years
Present value of revenues	$119,057	$136,199	$149,636
IRR	3.02%	5.04%	6.19%

A sensitivity analysis was conducted including land cost, which was based on the averages reported in Hogan (2004) inflated from 2003 to 2009 (5.7% per annum on average) based on data from the Real Estate Institute of Australia. The average land cost across Australia was thus estimated as $141/sqm in 2009. Using average block size, the land cost per bed was estimated as $14,995, increasing the base case breakeven point to **$43.54**/bed-day.

Hanna Newman also provided breakdowns of cost components and background information in relation to the characteristics of the sample (n=15 excluding a high outlier) eg, the percentage of single rooms, ensuite/resident ratio, car-parking and numerous other features.

Scenarios and sensitivity analysis

Hanna Newman estimated that metropolitan costs were 5% higher than the average while regional costs were 89% of the average. Applying these relativities to the average cost estimate of $187,460 for Australia provided average metropolitan and regional cost estimates of $196,261 and $166,338 respectively. Using these estimates and the WACC of 8.14%, the breakeven points were calculated for 25 years as **$35.77**/bed-day for regional and **$42.21**/bed-day for metropolitan areas (with no apparent differences in specifications).

Using the Hanna Newman estimate as the high cost estimate and the Grant Thornton estimate as the low cost estimate, the breakeven points were calculated for 25 years as **$35.20**/bed-day for the low sensitivity and **$45.44**/bed-day for the high sensitivity.

Indexation

The breakeven point analysis was conducted using growth in revenue of 3% per annum from March 2009. However, this is conservative since the average rate of increase in the combined accommodation payments from 2000 to 2008 was **4.1% per annum, although the pensioner payment component grew by only 2% per annum**. The latter was steady and the former was volatile. While an average increase of 4.1% was higher than the average increase in CPI over 2000 to 2008, the average rate of increase in average building cost per sqm in aged care industry between 2001 and 2007 was much higher, at 5.8% (Rawlinsons, 2001-08). Indexation to CPI may thus be inadequate to reflect cost drivers in, and a more appropriate index may need to be investigated if caps are still to apply.

Evaluation criteria for Options

Five broad criteria were used to evaluate policy options which, looking forward, might also be considered as goals for effective policy.

The main criterion and the focus of this analysis was '**industry sustainability**', which is defined as an average IRR that is adequate to support new capital investments (ie, IRR>WACC). Problems arise when industry sustainability is compromised for prolonged periods eg, (1) compromised quality – from a consumer choice perspective (naturally minimum regulatory standards must continue to be met); (2) other problems of construction/land cost minimisation eg, not locating in high-cost areas, leading to maldistribution of services; (3) cherry-picking – selecting clients based on revenue/cost considerations (eg, those that come from low-care, in order to access bonds); (4) cross-subsidisation from other investments (more common in the non-profit sector where concern for higher need residents is higher); (5) exit from taking up of high care places – leading to overall service gaps and under-provision of care.

In addition to achieving industry sustainability, the four other criteria were:

- **fiscal sustainability** (there is discussion of this issue in an IGR context, but it is simply applied here as 'no change from current forward budget projections');
- **efficiency** (which is achieved in part from the tensions inherent in the other goals in a competitive market);

- **consumer choice** (in standard of care relative to budget and in method of financial contribution); and
- **equity** ie, access for the disadvantaged – comprising health equity (the most chronically disabled), socioeconomic equity (the least well off financially) and demographic equity (those that may be marginalised due to age, gender, ethnicity/culture or location).

Options

While there are many possible policy options that could be considered in this report, the focus is on the four specified in the consortium's brief to Access Economics plus an additional option specified later, namely:

1. Increase in the Accommodation Charge (only);
2. Increase in the Accommodation Charge and the Accommodation Supplement;
3. Uncapping the Accommodation Charge; and
4. Introducing flexibility for the (a) increased or (b) uncapped Accommodation Charge to be paid in a variety of forms, including as a daily charge (rent), refundable lump sum or a charge against the resident's estate.
5. As per Option 4 but with an increase in the Accommodation Supplement.

These options improve on the current situation by improving industry sustainability and their impacts are discussed in detail in Chapter 6, bearing in mind the implications of the global financial crisis or 'GFC' (particularly on consumer wealth/assets) and the current economic climate. Each of these options has advantages and disadvantages which are set out in Section 6.

Counter-recessionary fiscal stimulus can be provided through infrastructure investments, including in relation to high care RAC facilities, and the Government's zero real interest loans embark in this policy direction. However, the value of the loans is relatively small. Ideally, such fiscal stimulus should not become entrenched or it loses its impact as a counter-cyclical measure.

The score-card below summarises the options with respect to the evaluation criteria.

SCORE CARD OF OPTIONS RELATIVE TO CURRENT SITUATION

Relative to current	Industry sustainability	Fiscal sustainability	Efficiency	Consumer choice	Equity
Option 1	✓	✓	-	✓	✓
Option 2	✓	×	-	✓	✓✓
Option 3	✓✓	✓	-	✓	×
Option 4a	✓	✓	-	✓✓	✓
Option 4b	✓✓	✓	-	✓✓	×
Option 5a	✓	×	-	✓✓	✓✓
Option 5b	✓✓	×	-	✓✓	✓✓

Access Economics
12 March

1. INTRODUCTION

Access Economics was commissioned by a consortium of church sector high care residential aged care (RAC) providers (Anglicare Australia, Baptist Care Australia, Catholic Health Australia, Churches of Christ Living Care, Lutheran Aged Care Australia, Sir Moses Montefiore Jewish Home, National Presbyterian Aged Care Network and UnitingCare Australia) to:

- use accepted investment analysis methodologies to review current Australian Government regulation and pricing arrangements for the development of new high care residential facilities, relative to costs; and
- explore options for reform and the policy and financial implications of the options from a government, provider and care recipient perspective, including consideration of access issues for disadvantaged groups.

To address these objectives, Access Economics used a Capital Asset Pricing Model-Weighted Average Cost of Capital (CAPM-WACC) approach to determine whether current pricing arrangements are appropriate for high residential care service providers to obtain normal returns from their capital. Evaluation criteria were established for policy options and a range of options were analysed relative to these criteria.

1.1 STRUCTURE OF THIS REPORT

The detailed findings are presented in this report, which is structured as follows.

- **Chapter 1: Economic underpinnings:** The rest of this first chapter discusses some core underlying economic issues, including investment decision-making methods, regulation (risk) and consumer expectations (choice).
- **Chapter 2 WACC**: The weighted average cost of capital (WACC) is estimated using publicly available data sources and expectations about the future.
- **Chapter 3 Costs**: The construction costs of high care providers are examined, with discussion of parameter estimates from publicly available data.
- **Chapter 4 Sensitivity analysis**: The sensitivity of the results to changes in key parameter assumptions is assessed.
- **Chapter 5 Comparisons**: Returns to capital are compared to returns made in other industries, as well as international comparisons.
- **Chapter 6 Options for policy:** Using evaluation criteria that comprise industry and fiscal sustainability, efficiency, equity and consumer choice considerations, current financing arrangements are examined relative to a number of alternatives as per the consortium brief with one addition.
- **Chapter 7 Indexation**: Potential indexation arrangements are discussed for any capped financing components.
- **Chapter 8 Concluding comments**: The final chapter comments briefly on issues not detailed in the scope but relevant to the analysis and worthy of further consideration in the future.

1.2 ECONOMIC UNDERPINNINGS

This section sets out the theoretical framework for assessing the required cost of capital for any investment project, government regulation and risk, utility from consumer choice and other fundamental considerations of the context of this project.

1.2.1 COST OF CAPITAL USING A CAPM-WACC MODEL

The cost of capital is the minimum rate of return required for an investment to attract and retain investors. This return should be therefore sufficient to offset both the cost of the project and the expected risk to investors who may fund the investment either through debt or equity. Investors will buy an asset when the expected return is greater than, or equal to, the required cost of capital. If the required cost of capital exceeds the expected return then the asset is unlikely to attract investment. Investors will also attempt to choose projects with maximum return for minimum risk.

The capital asset pricing model (CAPM), while not without flaws, is nevertheless most commonly used to identify the cost of equity for investment projects. Although CAPM relies on a series of assumptions about investors' preferences and the functioning of asset markets, empirical studies have nevertheless found that the CAPM is a reliable framework for estimating the expected return to equity. The total expected return is then assessed using the Weighted Average Cost of Capital (WACC) which takes account of the relative cost of both equity and debt, as well as other factors such as the investment's taxation structure and dividend imputation.

1.2.2 GOVERNMENT REGULATION AND RISK

Key considerations of the highly regulated high care industry include the following.

- Regulated caps limit revenue for high care service providers. Accommodation payments are the main form of contribution that individual high care residents make to their service providers to meet the capital cost of developing high care facilities. As of 20 March 2008 the capped accommodation payment per day per resident was increased to a maximum of $26.88 per day. This payment is made either by the resident (Accommodation Charge) or the Australian Government (Accommodation Supplement), with the share determined by a means test. Table 1–1 shows how the Accommodation Charge varies relative to a resident's assets.

TABLE 1–1: ACCOMMODATION CHARGE FOR RESIDENTS WHO ENTER AGED CARE FACILITIES FROM 20-9-08 TO 19-3-09

If assets at entry less than $35,000	n/a
If assets at entry between $35,000 and $91,410.40	Calculated on a sliding scale, between $1 and maximum $21.39/day (depending on individual assets assessment)
If assets at entry at least $91,410.41 for a pensioner	Calculated on a sliding scale, (as above) $21.39/day
If assets at entry at least $91,410.00 for a non-pensioner	Calculated on a sliding scale, between $1 and maximum $26.88/day (depending on individual assets assessment)

Source: The Seniors Information Service Inc, December 2008.

- The payment is expected to be capped at approximately $32.38 per day by September 2011. However, debate exists as to whether this is adequate for sustainability of new high care developments. The previous pensioner supplement and higher non-

pensioner daily care charge of up to $7.60 per day was recently included in the Accommodation Charge.

- Where supported residents constitute less than 40% of all residents, the Accommodation Supplement is reduced to $20.16. This reduces funding available to providers and may create distortions since it is unlikely that in every facility this target is exactly appropriate. (An alternative might be a regional or jurisdictional target per provider).
- With the exception of Extra Service Providers, accommodation bonds are not a legally allowable form of revenue for providers of high care services currently, although low care providers are able to charge an accommodation bond to residents.
- With accommodation bonds prohibited and accommodation payments capped, capital financing (debt or equity) from investors is essential for new projects. If returns generated from the new project are expected to be greater than returns payable to debt and equity and thus have a positive net present value (NPV), the high care provider will search for investors. If this is not the case, new places offered by the Government will not be taken up. Evidence suggests that this situation is emerging in some areas.
- There is a tension between the cap and minimum quality standards for certification. The 1999 Building Certification Instrument stipulates that all new RAC services must comply with new regulations and already operational aged care facilities must make alterations to meet the new standards by 2008. These new requirements for new and upgraded facilities include no more than an average of 1.5 residents per bedroom and 3 residents per toilet. Space and privacy requirements can increase capital and operating costs.
- The Hogan Review found that regulations 'diminish the extent of competition between providers and, in particular, make it more difficult for prospective providers to enter the market. Second, they restrict consumer choice and reduce the consumer's ability to bargain over entry conditions. Third, they curtail innovation in service design and delivery. Finally they adversely restrict enterprise mix and investment in the sector'.
- Regulations (in particular price subsidisation) can offer greater certainty and afford some insulation from trends in other markets. As a result the aged care sector has experienced stable revenue streams and cash flows in the past. Stable returns represent a lower level of risk so the required return on capital is less. Over the longer term, potential change to government policy presents investors with regulatory risk, however. This regulatory risk can arise from potential change to policy not just in relation to high care directly but also in relation to alternative care forms. For example, as low care places in the community increase there may be reductions in low-care residential places and less scope for cross-subsidisation from low care bonds.

Regulation by the Australian Government of the RAC sector alters the capital and operating costs and risk of high care residential facilities. Regulation is substantial, affecting the quantity of beds that can be offered, the location of beds, the quality of accommodation and the prices that can be charged. Regulations impact on cash flows of providers and influence how much money needs to be sourced to finance capital; investors will eventually not take up new places if market returns cannot be achieved. The provision of subsidies lowers market risk and thus the cost of capital in the short term, although there is long term regulatory risk if a change in policy or regulatory direction is speculated.

1.2.3 CONSUMER EXPECTATIONS AND CHOICE

A fundamental tenet of economics is the principle of consumer sovereignty. Consumers provided with informed choices are best able to make decisions that maximise their own utility and, in the absence of externalities, social utility. In reality, the complexities of regulation mean that the market for high care RAC is not a free market. Three particular issues that constrain consumer choice are critical in this analysis.

1. Choice regarding quality of service: Capping the total price able to be charged to residents suppresses incentives for providers to invest in modern infrastructure and constrains the location and quality of high care facilities, particularly extra costs to meet special needs (eg, walking areas and additional security for residents with dementia). This results in a lack of choice for consumers, since they are unable to purchase the quality of facility they might wish (although Extra Service provisions aim to redress this to some extent). Anecdotal evidence suggests that market-driven demand and expectations of quality may be different from minimum standards for certification (eg, in terms of proportion of single rooms and ensuites), with a willingness to pay for extra levels of service. There is a need for more research in relation to expectations of consumers and their willingness to pay for facilities and services of differing standards, including for different demographic groups (eg, the baby boomer generation compared to earlier generations or to Generation X).

2. Choice regarding form of payment: Choice is also limited if consumers are unable to make up-front payments and must, instead, make ongoing payments. Up-front payments can effectively be made if residents enter high care via transfer from low care facilities. Noting this is largely outside a resident's control, perverse incentives currently exist for providers to give preference to residents who enter high care from low care.

3. Choice regarding timing and location of placement: An important impact of quantitative supply constraints on the number of beds/places is that queues result if the number of places available is inadequate to meet needs. The ultimate constraint on choice is unmet need for high level care.

1.2.4 OTHER ISSUES

The *raison d'etre* for Government subsidy of the capital component of residential aged care is to provide **equity of access** to socioeconomically disadvantaged groups. Quantity restrictions on places are then imposed to limit budgetary demands, while the overall cap is

imposed to prevent potential **price gouging**[1] in areas where there is limited competition – again for equity reasons.

However, the problems with imposing both set prices and quantities in markets are profound, in terms of lack of flexibility, suboptimal efficiency and the many problems of regulation and choice outlined in the previous two sub-sections, in particular sustainability. Sustainability concerns have been recognised implicitly by the Australian Government in initiating the March 2008 reforms, which provide $300 million in **zero real-interest loans** and other forms of finance available to operators in the high care residential sector. However, the value of the loans is still relatively small compared to the size of annual capital investments required for replacement and growth.

The **current economic climate** in the wake of the GFC (which has had a serious negative on the wealth/assets of people entering residential care) suggests that it is an appropriate time for one-off capital stimulus measures. However, interventions to promote investment in new capital should not become entrenched when the economy recovers, which would be counter-cyclical and fiscally draining. As such, there is currently a window of opportunity to reform the regulatory environment to better achieve long term sustainability while not compromising other policy goals – equity, efficiency, choice, and so on. These options are discussed further in Chapter 6 but, first, the cost of capital and sustainability are considered in the intervening chapters.

[1] Price gouging may occur without price caps if unscrupulous providers selectively choose residents who are most able to pay, and thus exclude disadvantaged groups, in order to realise super normal profits in oligopolistic or monopolistic settings.

2. ESTIMATING THE WACC

The weighted average cost of capital (WACC) is estimated in this chapter using publicly available data sources in a framework of current finance and regulatory practice. Recent financial market developments and their implications are also considered.

The WACC is, by necessity, heavily reliant on assumptions regarding both the overall market and the proposed investment. Nevertheless, this methodology is generally considered the most appropriate means of estimating the cost of capital and is widely used.

For the purposes of this task, Access Economics believes that it is appropriate to use the pre-tax cost of equity, as projected cash flows will not include the impact of taxation.

The WACC is estimated using the equation:

$$WACC = \frac{E}{V} R_E + \frac{D}{V} R_d (1 - t)$$

where:

R_E = cost of equity (as calculated using the CAPM)

R_d = cost of debt

D = total debt

E = total equity

V = total asset value, as represented by debt plus equity

t = company tax rate

The WACC can be broken down into the component costs of debt and equity as follows.

Cost of debt: This is the implicit interest rate that would be paid by the company to raise the required amount of debt, estimated using a benchmark rate for similar risk and maturity.

Cost of equity: The CAPM is used to establish the cost of equity in an equity market context. The cost of equity reflects the risk free rate plus a premium for relative risk, and is expressed as:

$$R_E = R_f + \beta_E (R_m - R_f)$$

where:

R_f = expected **risk-free rate of return** (proxied by the long-term government bond yield)

β_E = sensitivity to **market risk** for the equity security

R_m = expected **equity market** return

The cost of capital may be adjusted by an additional 'special risk' premium, reflecting factors such as the relative size of the company or the level of regulation to which the company is subject.

2.1 ESTIMATING THE COMPONENTS OF WACC: COST OF EQUITY

Calculating an objective cost of equity can be difficult since equity - unlike debt - rarely pays a fixed revenue stream to its investors. The CAPM is a widely accepted method of calculating the cost of equity using the following formula:

$$R_E = R_f + \beta_E \left(R_m - R_f \right)$$

2.1.1 THE RISK FREE RATE OF RETURN (R_F)

In reality there is no truly risk free asset, however long term government bonds are typically the lowest possible risk investment available. These securities are considered to be risk-free because the likelihood of a government defaulting is extremely low (at least, in most developed countries). Government bonds (CGS) are therefore used by investors as a proxy for risk free assets.

Ideally, the bond rate used should reflect the same timeframe as the investment project. For long-lived projects such as high-care facilities, the most appropriate risk free rate is a long-term (10 to 30 year) CGS yield. Since there is usually little discrepancy between 10- and 30-year rates, and since 30-year bonds are not issued by Australian governments, most investors will readily use 10-year rates.

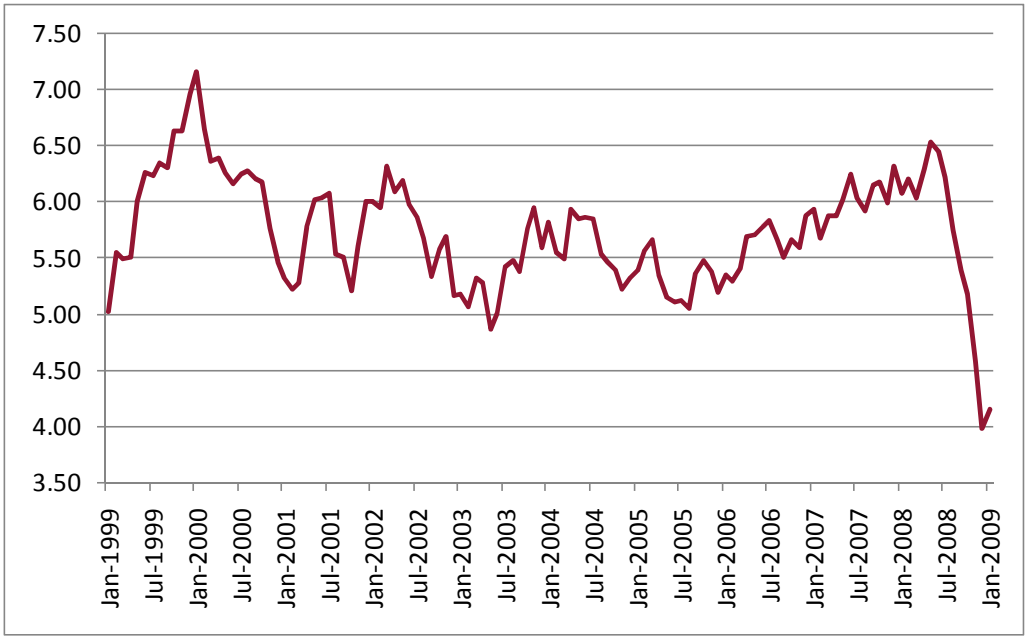
Regulators typically use the most recent 20-day average for CGS in determining the WACC, based on an efficient market hypothesis. However, markets at present are not acting efficiently.

Figure 2-1 shows how the market for CGS has been affected by the GFC since mid-2008, with Treasury yields falling sharply over this period in response to a dramatic increase in demand as capital has 'flown to quality'.

- On 4 February 2009, the 10-year Treasury bond yield was 4.24%. The 20-day average of yields was 4.15%;
- This compares with an average of 5.57% over one year, 5.81% over two years and 5.63% over five years.

From a theoretical perspective, the real yield on 10-year bonds has tended towards 4% over the long term, although a structural shift in markets in more recent years suggests that this rate has moved closer to 3.5%, and 10-year bonds have averaged 5.74% over the past decade.

FIGURE 2-1: AUSTRALIAN BOND YIELDS (%)



Reserve Bank of Australia.

CGS yields are at present unusually affected by financial market and economic conditions, but can be expected to return to more normal levels over the medium term. As healthcare projects require long-term financing, which would typically be rolled over every five years, Access Economics has used the average yield over the past decade of 5.75% as an appropriate proxy for the risk-free rate.

2.1.2 EXPECTED EQUITY MARKET RETURN (R_M)

The market risk premium, $R_{m-} R_{f,}$ reflects the additional return required to compensate investors for the risk associated with holding equities. It is measured by the expected rate of equity market return over and above the risk free rate of return. Historical returns for the Australian equity market are used as a proxy for expected returns, and 10-year Commonwealth Government Security (CGS) yields are a proxy for the risk-free rate.

Consideration needs to be given to the time frame over which historical market returns are averaged. While a long time frame, such as 100 years, is technically preferable, to eliminate fluctuations in returns, this approach may lead to under- or over-estimation of returns if there have been structural changes to the market, such as information and technology changes, an increase in market sophistication or changes in economic policy.

In addition, short term equity market volatility - such as that due to the current GFC - imply that using only recent returns data may also not provide an accurate representation of the expected return on market portfolios, and some normalisation in financial markets can be expected over the short to medium term.

Nevertheless, the historical market risk premium for Australia has typically ranged between 5.5% and 7.5%. Table 2–1 shows the changes in the market risk premium estimate according to the period of estimation.

TABLE 2–1: ESTIMATES OF HISTORICAL MARKET RISK PREMIUMS

Source	Period of estimation	Market risk premium estimate (%)
Gray & Officer (2005)	1885-2004 (a long timeframe eliminates fluctuations in returns but does not account for the many structural changes in the market causing the premium of the market portfolio to alter)	7.2
Hathaway (2005, quoted in Gray & Officer)	1875- 2005	7.0
Hathaway (2005, quoted Gray & Officer)	1960-2005	5.6
Hancock (2005, quoted Gray & Officer)	1974-2003	5.6
Hancock (2005, quoted Gray & Officer)	1883-2004	6.6
Dimson et al (2003)	1900-2002	6.0
Damodaran (1999)	1970-1996	7.0

For the purpose of this study a market risk premium. $R_{m-} R_{f,}$ of 6%, which is the accepted benchmark used in current Australian investment, accounting and regulatory practice will be used.

2.1.3 THE EQUITY BETA (β_E)

Equity betas can be estimated using historical market returns data for individual companies listed on the stock exchange. For companies that are privately held or not-for profit, or new projects, investors must rely on betas that have been estimated for comparable listed companies. Where possible, betas are based on the average equity beta for a group of comparable firms, so that company-specific factors do not distort the data.

Listed aged care provider companies in Australia all have operations outside high care RAC, and particular care must be taken in assessing comparable betas. The following table sets out comparable companies in Australia, and - due to the lack of publicly available data on Australian RAC providers - several overseas markets, the chief characteristics of these companies and their measured betas (which have been deleveraged).

TABLE 2–2: ESTIMATED EQUITY BETAS

Company	Description	β
Primelife (Australia)	Provider of quality retirement home accommodation	1.371
Aevum (Australia)	Owns and operates around Australia, targeted at the resident funded sector of retirement living industry.	0.836
Care UK	Provider of health and social care services including care and support for older people, operating NHS walk-in centres, GP surgeries and treatment centres, and providing specialist care and children's services.	0.442
ADL Health (Australia)	ADL Health is a supplier of Medical and Disability Equipment as well as Occupational Therapy Services to North Queensland.	0.763
Southern Cross Healthcare (UK)	Provider of care homes and offers specialty care services. It provides healthcare services for people with physical or learning difficulties. It also offers a range of care services including nursing, residential and dementia care.	0.492
Forest Place Group (Australia)	Owns and operates retirement villages and nursing homes. The company's retirement villages provide independent living units and serviced apartments.	0.496
Fortis Healthcare Limited (India)	Manages and operates a chain of multi-specialty hospitals.	0.585
IPC The Hospitalist Co Inc (US)	Provider of hospitalist services which is focused on providing, managing and coordinating the care of hospitalised patients.	0.507
Caretech Holdings PLC (UK)	Provides a range of specialist care and housing support services for people with learning and physical disabilities.	0.527
Healthsouth Corp (US)	Provider of inpatient rehabilitative healthcare services. It operates inpatient rehabilitation hospitals and long-term acute care hospitals, and provides treatment on both an inpatient and outpatient basis.	0.108
Health Care REIT Inc (US)	An equity real estate investment trust (REIT) that invests across the spectrum of senior housing and health care real estate, including continuing care retirement communities, independent living, assisted living, skilled nursing, hospitals, long-term acute care hospitals and medical office buildings.	0.652
EPS Co Ltd (Japan)	A Japan-based company mainly engaged in the provision of medical-related services.	0.503
Group mean		**0.607**
Group median		**0.517**

Source: Reuters, Bloomberg.

Table 2-2 shows the estimates of equity betas for individual firms with residential care (or similar) operations that are publicly listed on either the Australian or international markets. The mean beta for the group is 0.607, which is in line with the Reuter's average beta for the UK health sector of 0.61. While somewhat higher than Hogan's estimate of 0.41, we note that there has been considerable corporate activity in the form of mergers and acquisitions taking place in this sector since the Hogan report was written. It is also the case that the average for the UK health sector includes equipment providers as well as care facilities, which might be expected to higher betas. Moreover, using the median value for the group beta adjusts for any skewing in the distribution of results, and produces a group beta of 0.517, which is both intuitively sound and also more consistent with Hogan. Access

Economics has therefore used the median value for beta of 0.517 in calculating the cost of equity.

2.1.4 TOTAL REQUIRED RETURN ON EQUITY

$$R_E = R_f + \beta_E \left(R_m - R_f \right)$$

where:

R_E = 5.75% + 0.517*6%

R_E = 8.85%

2.2 ESTIMATING THE COMPONENTS OF WACC: THE COST OF DEBT

Debt may be raised by potential investors in a number of ways, depending on a variety of factors including the size and term of the loan required, the credit rating of the company and the state of financial markets. For an investment such as an aged care facility, the investor will typically raise debt either through the corporate bond market or directly from a financial institution. In the case of the former, the cost of debt will be a premium over the CGS yield, reflecting the company's credit rating. In the case of the latter, a premium over the bank bill rate will determine the cost of debt.

Hogan notes that companies operating in the aged care sector typically have "a high credit rating for bond issues". The Fitch ratings agency gave an average credit rating for US care companies, as at December 2008, of A-.[2] For the smaller and less-developed Australian market, it may be considered appropriate to ascribe an average rating of BBB.

In "normal" market conditions, the premium (spread) over the CGS yield typically lies between 60 basis points for AA-rated issues and 90 basis points for BBB-rated issues. Using the expected yield for CGS of 5.75% (as discussed in Section 2.1.1 above) and a BBB rating, we would therefore estimate a cost of debt in the order of 6.65%. However, current trends in both Australian and global credit markets mean that it is exceptionally difficult to raise funds via a corporate bond issue, and that even highly rated companies with protected cash flows are currently attracting spreads of between 300 and 500 basis points. This implies a current cost of capital as high as 10.75%, although it is by no means certain that there is sufficient credit market liquidity at present to raise funds in this manner. Conversely, many investors are able to raise debt directly from the banking sector, at an average premium of 200 to 250 basis points over the bank bill rate. The current 90-day yield is 3.2%, implying a cost of debt of 5.7%. This compares with an average cost of funds over the past five years of 6.8%.

Although current abnormal credit market conditions - in terms of yields, spreads or liquidity - will not persist in perpetuity, it would nevertheless be imprudent not to include recent trends in considering the current cost of debt. However, as firms typically roll over their funding requirements on average every five years and as this exercise will provide a foundation for long-term policy recommendations, the likelihood of more normal market conditions must also be factored in (as we have done in determining an appropriate risk free rate).

[2] The Fitch bond credit rating assesses the credit worthiness of corporate debt issues. Comparison of the Fitch ratings (which range from AAA prime to D in default for long term bonds) with those of Moody's and Standard & Poor's are provided at http://en.wikipedia.org/wiki/Bond_credit_rating**.** AA is high grade, A- is upper medium grade and BBB is lower medium grade in the Fitch scale.

Access Economics therefore recommends using a cost of debt of 6.5%.

2.3 ESTIMATING THE COMPONENTS OF WACC: CAPITAL STRUCTURE

A typical debt to equity ratio of 60:40 will be adopted for this study. This will be reflected in the WACC equation to level the equity beta so that it is comparable with the industry benchmark gearing level.

While the corporate tax rate is 30%, the wedge is not included in this analysis due to the nature of the sector. Similarly revenue streams are not adjusted for taxation in Chapter 3.

2.4 ESTIMATING THE WACC

Using the formula:

$$WACC = \frac{E}{V} R_E + \frac{D}{V} R_d$$

Assuming equity 40% and debt 60% then:

WACC = (0.4 * 8.85%) + (0.6 * 6.5%)

= 7.44% (plus specific risk)

Access Economics also notes the WACC calculation should take account of specific risk (alpha) that aged care providers may face which cannot be factored into the projected cash flows. The key additional risk faced by this sector is regulatory risk. Hogan has quantified this risk as 0.7 percentage points, and Access Economics believes that this is appropriate.

The risk-adjusted pre-tax WACC is therefore 8.14%, and this result is within the range of 8% to 10% typical for companies in this sector. Sensitivity at 9% is provided in Section 4.3.

TABLE 2–3: PARAMETERS USED IN THE WACC CALCULATION

Parameter	Value
Market risk premium	6.0%
Risk free return	5.75%
Equity beta	0.517
Return on equity	8.85%
Cost of debt	6.5%
Gearing	60%
Specific risk	0.7pp
Pre-tax WACC	8.14%

3. COSTS

This chapter estimates the cost per bed-day and, using the WACC, the revenue per bed-day required to break even. The chapter is structured as follows:

- cost components,
- revenue streams; and
- NPV, IRR and breakeven points.

3.1 COST COMPONENTS

Accurate modeling of cost components is critical in evaluating any new high care facility development, since costs vary greatly whereas revenue streams are relatively stable on a per resident basis, given the cap (see Section 1.2.2). There are three key considerations in estimating costs.

1 **Types of costs** to be included in the modeling. A significant conceptual issue is whether or not to include the value of land. On the one hand, in theory land value will appreciate and therefore is not used up or depreciated over the period of the capital investment; the argument is thus that it does not comprise a cost which needs to be recovered in revenues. On the other hand, in reality the capital appreciation of the land value may not be realised and may occur so far in the distant future that, with a risk premium included for the investment, the present value (realised) may be somewhat less than the purchase value (the critical issue is the extent to which risk outweighs land value appreciation and the time periods involved). In the modeling in this chapter, the value of land is excluded and is modeled in sensitivity analysis in Section 4.2.

2 **Data to estimate average costs**. Due to the timeframes for this project, the analysis was limited to data able to be accessed from public sources, which was a limitation. Historical data and average cost estimates (capital cost per bed) are reviewed later in this section, from a variety of sources, in the process discussing further issues in relation to types of costs that have been included in various studies. Data from a 2008 Grant Thornton survey were considered to be representative of a low estimate, while a quantity surveying firm (Hanna Newman) was approached to provide a representative sample of recently constructed high care facilities from which to derive an alternative value. Estimates from these two sources were then compared to generate an industry average.

- **Variability surrounding average costs**. Variability relates to the scale of the aged care facility (ie, number of beds), geographical locations, differences in quality (eg, space, privacy, fittings and internal common facilities) and site-specific factors such as topography, car-parking, air-conditioning, legislation and certification and so on. Comparability is also a major issue relating to cost modeling. The variety of definitions and data sources used in government reviews and industry reports has resulted in wide ranging estimated costs. Recognising this, different scenarios were modeled at the low and high end of the cost spectrum (Section 4.1).

3.1.1 PAST ESTIMATES OF COSTS

In the brief **review of literature** undertaken for this project, estimated costs ranged from a low of $68,500/bed a decade ago to more than $200,000/bed in later estimates. Cost variation was driven primarily by what components were included as well as other factors

such as the scale of the facility (Gray, 2001; Diocese of Maitland-Newcastle, 2001; Hogan, 2004; PwC, 2007; CHA, 2008; and Thornton, 2008 and 2009).

The low estimate was provided in the major government review, *Two Year Review of Aged Care Reforms*, conducted by Professor Len Gray in 2001, with the average cost (of $68,500) to build new places estimated in 1998-99 based on a RAC facility lifetime of 30 years (Gray, 2001). However, this estimate was based on a number of sources (including Rawlinsons' construction cost guide for housing, small commercial and industrial buildings, 2000) and excluded many items such as cost of land, furniture, fittings, connections to services, landscaping, roads, parking, paths, balconies, sloping sites, adverse ground conditions, architects and other consultants' fees, legal fees, interest and fees of authorities. The estimate also did not account for changes in building standards required of nursing homes (ie, certification, a minimal average of 1.5 residents per room for new facilities, fire, occupational health and safety and accreditation (Diocese of Maitland-Newcastle, Media Release, 16th July 2001).

In a subsequent major government review, the 2004 Hogan's review of pricing arrangements in RAC, a capital component of between $74,000 and $85,000 per place was estimated in order to establish a residential care service. This consisted of between $60,000 and $65,000 for building, $5,000 and $7,500 for fittings, $3,815 and $6,910 in working capital and $4,800 and $5,200 in professional fees. The cost of land and site-specific costs were excluded in the estimations. In the report, however, average cost of land was estimated to be $8,300 per place, and it varied significantly across locations.

PwC (2007), a report commissioned by Aged Care Industry Council, found that capital needs for the high care RAC sector contrasted greatly with the results of Hogan's report. In the PwC report, the average building cost for a high care bed was found to be $192,500, excluding land cost and external works[3]. This was based on specifications[4] comparable to Hogan's report.

Catholic Health Australia (CHA, 2008) found a similar cost, of $180,000 to build a new high care facility, which it estimated was a conservative minimum rather than a true average. The exact facility specification on which the cost was derived is not known.

Based on the findings from the aged care survey conducted by Grant Thornton in 2008, the following table shows the *lowest* (not average) construction and fit-out costs (excluding land) by states (Table 3–1). Personal communication with Grant Thornton (February 2009) confirmed that these estimates were based on 'top quartile' (ie, lowest cost) operators who have standard design models and a long term relationship with a builder.[5]

Since the Grant Thornton data were based on a survey where respondents state their estimates of costs, they may not be as reliable as data that are based on actual costs derived from financial accounts. The 'stated' versus 'revealed' data issue was a reason for seeking actual cost estimates from Hanna Newman (see Section 3.1.2). In addition, some of the findings from the Grant Thornton data do not accord well with other construction sector data, for example the finding that costs in South Australia are higher than in Western Australia (Table 3–1). A possible explanation of this might be potential low sample size in the Grant Thornton survey for the smaller states (Tasmania is also an outlier).

[3] The figure would be $215,800 if land cost of $8,300 (from Hogan's report) and cost of external works of $15,000 were included.
[4] The exact specifications were not known.
[5] Grant Thornton did not provide any information on industry average costs.

TABLE 3–1: LOWEST CONSTRUCTION AND FIT-OUT COSTS

State	Costs per bed
New South Wales	$165,000
South Australia	$170,000
Queensland	$185,000
Victoria	$145,000
Western Australia	$164,000
Tasmania	$138,000

Source: Grant Thornton (2009).

Weighting these costs by state population shares provides a weighted average cost per bed Australia-wide of **$163,656** from the Grant Thornton lowest cost quartile data.

While the costs reported in the Grant Thornton's findings were the lowest available currently, they are still considerably higher than what was reported in Hogan's report, even if price changes over the years are taken into consideration. This is because quality, costs and consumers' expectations have changed over the years and so imposing comparability to older results may not be appropriate. Hence, this report used the Grant Thornton results as current low estimates and reviewed primary data sources for cost estimates that might be closer to industry norms. The primary data were sourced from Hanna Newman.

3.1.2 HANNA NEWMAN COST DATA

In addition to the Grant Thornton data, cost data used in this report were provided independently to Access Economics by a building and construction industry expert, Hanna Newman Associates Pty Ltd[6], a company with many years' experience in providing quality cost and project management services.

The data collected were based on all high care facilities constructed between 2003 and 2009 for which Hanna Newman had adequate data for a total cost estimate. These 15[7] facilities were distributed in both metropolitan and regional areas in ACT (two facilities) and NSW (13 facilities). The average number of residents per room ranged from 1 to 1.28 and, in all the facilities, minimum standards for certification were satisfied (DoHA, 2006), in terms of:

- safety requirements;
- an average for the whole RAC service of no more than 1.5 residents per room; and
- no more than three residents per toilet, including those off common areas and no more than four residents per shower or bath.

The facilities were described by Hanna Newman as being of a standard that reflects current industry construction norms. They differed in relation to a number of characteristics, such as:

- number of bedrooms and ensuites;

[6] Hanna Newman Associates Pty Ltd provides cost and project management services to the building and construction industry, with clients including local government, architectural/engineering firms, not-for-profit organisations, aged care providers, churches, clubs, banks and financial institutions, individuals and developers, see http://www.hannanewman.com.au/index.html.

[7] One facility in Sydney South was excluded since its total cost per resident was reported as $453,000 and no detailed information was available to explain why this was so expensive. As a result, this facility was treated as an outlier and excluded from the analysis.

- car spaces;
- quality of finish;
- laundry area;
- kitchen;
- common areas; and
- special factors such as rock excavation, slope of land and filled/unstable ground.

Costs of constructing each high care facility varied according to these characteristics. Average cost of the 15 high care facilities was used in the base case cost estimate. Table 3–2 shows average cost by cost component - building works, site works and services, authority fees/contributions, professional fees, furnishing, fittings and equipments and land costs. Cost per resident was then calculated by dividing each cost component by the number of residents (proxied by the number of beds, with occupancy rates taken into account later).

The average cost for all components was $19.0 million or around $213,000 per resident (with an average of 89.5 residents per facility).

TABLE 3–2: AVERAGE COST OF CONSTRUCTING A NEW HIGH CARE FACILITY

Components	Cost ('000)	Cost per resident ('000)
Building works	$13,918	$156
Site works and services	$2,098	$23
Authority fees/contributions	$225	$3
Professional fees	$1,558	$17
Furnishing, fittings and equipments	$1,226	$14
Total	**$19,026**	**$213**

Note: Costs exclude interest and setup/commissioning costs. Total costs may not tally due to rounding errors.

Source: Hanna Newman Associates

The Hanna Newman data showed that costs of constructing a high care facility varied between regional and metropolitan areas (Table 3–3). The average cost in metropolitan areas was $223,000 per resident, while in regional areas it was $34,000 lower at $189,000 per resident.

It should be mentioned that the Hanna Newman data did not include facilities in remote locations, which may involve higher than average costs. For this reason, the Australian Government has an annual capital funding program (of around $40 million per year), which targets remote as well as rural and special needs facilities.

TABLE 3–3: AVERAGE COST OF CONSTRUCTING A NEW HIGH CARE FACILITY BY AREAS

	Cost ('000)		Cost per resident ('000)	
Components	**Metro**	**Regional**	**Metro**	**Regional**
Building works	$15,532	$10,692	$164	$135
Site works and services	$2,270	$1,755	$24	$22
Authority fees/contributions	$181	$312	$2	$4
Professional fees	$1,763	$1,149	$19	$15
Furnishing, fittings and equipments	$1,340	$997	$14	$13
Total	**$21,087**	**$14,904**	**$223**	**$189**

Note: Costs exclude interest and setup/commissioning costs. Total costs may not tally due to rounding errors.

Source: Hanna Newman Associates.

3.1.3 AVERAGE COST ESTIMATE FOR THE BASE CASE, AUSTRALIA

The Grant Thornton data showed an Australian population-weighted average cost per bed of $163,656 and a cost in NSW of $165,000 (Section 3.1.1), with cost variations across different states.

Applying these cost relativities to the Hanna Newman average estimate of $213,000 (which was from NSW/ACT), the average cost per bed by state was calculated, with findings as shown in Table 3–4. The population-weighted average cost per bed obtained from Hanna Newman Associates across Australia was estimated as $211,265.

Taking the average of Grant Thornton and Hanna Newman data, a base case cost estimate was obtained, of $187,460. This figure broadly aligns with estimates quoted by CHA in their Submission to Senate Finance and Public Administration Committee (CHA, 2008).

TABLE 3–4: COST DISTRIBUTION ACROSS STATES

States	Grant Thornton: Cost per bed	Population share (% all states)	Proportion	Hanna Newman: Cost per bed
New South Wales	$165,000	33.5%	1.000	$213,000[(a)]
South Australia	$170,000	7.7%	1.030	$219,455
Queensland	$185,000	20.6%	1.121	$238,818
Victoria	$145,000	25.5%	0.879	$187,182
Western Australia	$164,000	10.4%	0.994	$211,709
Tasmania	$138,000	2.4%	0.836	$178,145
Average	**$163,656**	**100%**		**$211,265**
Overall average			**$187,460**	

Note: (a) Average cost per bed includes costs from ACT facilities.

Source: Grant Thornton (2009) and Hanna Newman Associates (2009).

3.2 REVENUE STREAMS

From 20 March 2008, changes were made to both the arrangements governing the maximum contribution paid by residents in high care and accommodation supplements paid by the Australian Government on a means-tested basis.

Table 3–5 details the caps that are projected to apply to a pensioner or self funded retiree entering a high care facility in a given period to March 2012. Note that the actual Accommodation Charge paid by a pensioner would depend on the level of assets owned as described in Section 1.2.2.

TABLE 3–5: ESTIMATED CAPS FOR ACCOMMODATION PAYMENTS PER DAY PER RESIDENT

Period	Pensioner ($)	Self funded retiree ($)
20/3/08 to 19/9/08	19.56	26.88
20/9/08 to 19/3/09	21.39	26.88
20/3/09 to 19/9/09	23.22	26.88
20/9/09 to 19/3/10	25.05	26.88
20/3/10 to 19/9/10	26.88	26.88
20/9/10 to 19/3/11	28.72	28.72
20/3/11 to 19/9/11	30.55	30.55
20/9/11 to 19/3/12	32.38	32.38

Source: DoHA (2008)

For the purpose of calculating revenue streams, the estimated caps for self fund retirees were assumed to apply to March 2014 as outlined in Table 3–5. The maximum annual capital revenue per resident from accommodation charges and supplements over a five year period was thus estimated as shown in Table 3–6. After March 2012, the caps are projected to increase in line with inflation, imputed as 3% per annum based on the upper bound of the inflation target set in Australia. Occupancy rates were assumed to be 95% on average based on CHA (2008).

The revenue series continues to be inflated by each year out to the expected lifespan of the building. The life span is an important variable for evaluating the investment, and Hanna Newman advised that 25 years is the industry norm in calculations. Time periods of 20, 25 and 30 years were considered in this report, with 25 years as the base case.

The flow of funds over a period of 25 years[8] is presented in Table 3–6. The revenue streams apply to all scenarios (overall average and by regional and metropolitan areas), but the cost of constructing a new facility varies, from $163,656 per resident at the low end to $211,265 at the high end, with a base case of $187,460 per resident (Section 3.1.3). Note that the construction cost of a high care facility was assumed complete in the first year of the period. The flow of funds presented is notional, that is, values are not yet discounted.

[8] The same first 20 year calculations naturally still apply if the time period is shortened to 20 years.

TABLE 3–6: FLOWS OF FUNDS

Year	Period	Annual flow per resident ($)
1	From 20/3/09	(Cost=$187,460 in base case)*
2	From 20/3/10	9,321
3	From 20/3/11	9,640
4	From 20/3/12	10,910
5	From 20/3/13	11,238
6	From 20/3/14	11,575
7	From 20/3/15	11,922
8	From 20/3/16	12,280
9	From 20/3/17	12,648
10	From 20/3/18	13,028
11	From 20/3/19	13,419
12	From 20/3/20	13,821
13	From 20/3/21	14,236
14	From 20/3/22	14,663
15	From 20/3/23	15,103
16	From 20/3/24	15,556
17	From 20/3/25	16,022
18	From 20/3/26	16,503
19	From 20/3/27	16,998
20	From 20/3/28	17,508
21	From 20/3/29	18,033
22	From 20/3/30	18,574
23	From 20/3/31	19,132
24	From 20/3/32	19,706
25	From 20/3/33	20,297

Note: Inflation is assumed to be 3% per annum. This is the upper bound of inflation target set in Australia.

* The first year is a cost, and the remaining years are revenue flows.

Occupancy rate was assumed to be 95% (CHA, 2008).

3.3 NPV, IRR AND BREAKEVEN POINTS

Net present value (NPV) and internal rate of return (IRR) are the most commonly used methods when making an investment decision. In addition, this section calculates the breakeven point in terms of the payment per bed-day in 2009.

NPV measures the increase in wealth expected with various cost and revenue estimates, and is calculated by discounting the revenue flows expected in future periods at the cost of capital (ie, WACC) and then subtracting any current outlay (ie, costs). The decision rule was to accept all non-negative NPV projects, with NPV=0 as the breakeven point.

IRR is the investment yield of a project, defined as that rate of discount that would cause the NPV of the project to be zero. The decision rule was to accept the project if IRR was greater than the WACC and reject the project if IRR was less than WACC, with IRR=WACC as the breakeven point.

NPV and IRR were calculated in both scenarios (i.e. overall average and by regional and metropolitan areas) using the costs and flows of revenue.

3.3.1 OVERALL AVERAGE

Using a discount rate of 8.14% (the WACC from in Section 2.3) and the average cost estimate of $187,460 (recall Table 3–2), the present value of revenue, NPV and IRR were calculated for a period of 25 years, with sensitivity analysis at 20 and 30 years, as presented in Table 3–7.

TABLE 3–7: BASE CASE – PRESENT VALUE OF REVENUE, NPV AND IRR

	20 Years	25 Years	30 Years
Discount rate (i.e. WACC)	8.14%	8.14%	8.14%
Present values of revenues	$119,057	$136,199	$149,636
Costs	$187,460	$187,460	$187,460
IRR	3.02%	5.04%	6.19%

Revenues were discounted using WACC and, over 25 years, had a NPV of $136,199. Given the cost per resident was $187,460, the NPV of the combined investment cost and revenue flows was negative in all time periods (20, 25 and 30 years). According to the NPV decision rule of NPV>0, this investment would not proceed.

A similar decision was derived using the IRR decision rule (IRR>WACC). IRRs were calculated to be 3.02%, 5.04% and 6.19% for a period of 20, 25 and 30 years respectively. Since these rates were lower than the WACC of 8.14%, the investment would not proceed.

The timeframe estimates are conservative for two reasons.

- First, typically if funds are raised in Year 1, then it may take 2-3 years for the capital works to be completed, for the facility to become fully staffed and for capacity utilisation to reach 95%, so the present value of revenue streams may be overstated.
- Second, major refurbishments are typically required (particularly to wet areas) at about the 10-15 year mark, and these are not included in the costs.

At 25 years (base case), the **breakeven point** at which the investment would proceed is an accommodation payment of **$40.32 per bed-day** from March 2009, growing by 3% per annum thereafter.

3.3.2 REGIONAL BREAKDOWNS

Hanna Newman estimated that metropolitan costs were 5% higher than the average while regional costs were 89% of the average. Applying these relativities to the average cost estimate of $187,460 for Australia provided average metropolitan and regional cost estimates of $196,261 and $166,338 respectively. Using these estimates and the WACC of 8.14%, the breakeven points were calculated for 25 years as **$35.77** for regional and **$42.21** for metropolitan areas as presented in Table 3–8.

TABLE 3–8: REGIONAL AND METROPOLITAN BREAKEVEN POINTS

	25 Years	
	Regional	Metropolitan
Costs	$166,338	$196,261
Cost/bed-day	$35.77	$42.21

4. SENSITIVITY ANALYSIS

4.1 HIGH AND LOW COST ESTIMATES

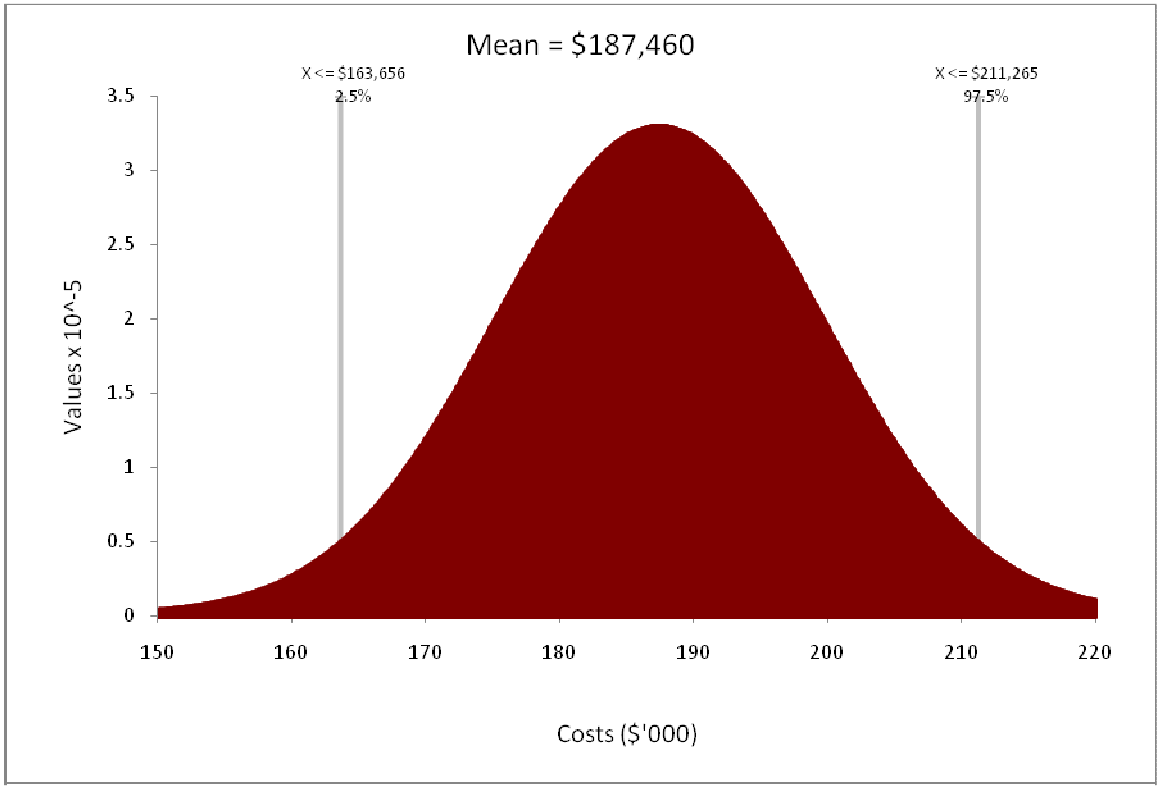
The Hanna Newman estimate was used as the high estimate and the Grant Thornton estimate was used as the low estimate. Using these estimates and the WACC of 8.14%, the breakeven points were calculated for 25 years as **$35.20** for the low sensitivity and **$45.44** for the high sensitivity as presented in Table 3–4.

TABLE 4–1: LOW (GRANT THORNTON) AND HIGH (HANNA NEWMAN) BREAKEVEN POINTS

	25 Years	
	Low	High
Costs	$163,656	$211,265
Cost/bed-day	$35.20	$45.44

Figure 4-1 depicts the costs of construction normally distributed with $163,656 representing the lowest quartile average while $211,265 representing the highest quartile average. The mean value of the distribution is thus the average of the lowest and highest quartiles ie, the base case of $187,460.

FIGURE 4-1: NORMALLY DISTRIBUTED COSTS OF CONSTRUCTION – LOWEST & HIGHEST QUARTILE AVERAGES



4.2 INCLUDING LAND COST

In all previous calculations, land cost was excluded. In this sensitivity test, land cost was added to the average cost per resident obtained in the base case (ie, $187,460).

The calculation of land cost was based on the averages reported in Hogan (2004) - $300 per square metre (sqm) for inner Sydney and Melbourne and $95 per sqm outside these areas, with the weighted average based on population share from Australian Bureau of Statistics (ABS) statistical sub-divisions (SSDs). This cost was then inflated using the growth rate in housing prices for the period 2003-2009 (ie, 5.7% per annum on average) obtained from the Real Estate Institute of Australia. The average land cost across Australia was thus estimated as $141 per sqm in 2009. Using an average of 106 sqm per resident (comprising 64 sqm for the facility and 42 sqm for the grounds), the land cost per bed was estimated to be **$14,995**. This estimate was considered conservative by some consortium members based on their recent experience where land costs ranged commonly between $25,000 and $35,000 per bed.

The total cost per resident including land was thus estimated as **$202,455**. The breakeven rate increased to **$43.54** per bed day with the inclusion of land cost in the calculations.

4.3 WACC AT 9%

In previous calculations, WACC of 8.14% was used. Since this is at the low end of the range (of 8% to 10% - recall Section 2.4) a sensitivity analysis on the base case was conducted for the breakeven point using a WACC of 9%. In this case, the breakeven rate increased to **$43.65** per bed day.

5. COMPARISONS

This chapter investigates returns being made in Australian industries outside of health and aged care and returns in overseas health and aged care sectors. This provides valuable information on alternative investment prospects relative to the Australian high care residential sector, bearing in mind that risk and other factors will be different.

5.1 INTERSECTORAL COMPARISONS

Rates of return on assets in other Australian industries are shown in Table 5–1.

TABLE 5–1: RETURN ON ASSETS IN VARIOUS AUSTRALIAN SECTORS BETWEEN 1995-2001

Australian sector	Return on assets (%)						Change in latest year %	
	'95-96	'96-97	'97-98	'98-99	'99-00	'00-01	Actual	Relative
General construction	8.3	7.6	7.2	9.8	7.0	5.4	-2	-22.9
Accommodation, cafes and restaurants	5.8	5.9	6.7	5.0	5.3	4.8	-1	-9.4
Property services	2.8	3.7	4.9	4.4	3.3	3.7	0	12.1
Private community services	8.2	12.0	11.4	10.0	8.9	10.8	2	21.3
Cultural and recreational services	4.6	3.7	5.9	8.4	9.8	7.4	-2	-24.5
Personal services	10.1	15.8	18.3	14.2	19.7	13.9	-6	-29.4

ABS Cat. No. 8140.0.55.002 Summary of Industry Performance, Australia, Final 2000-01 - Data Report, Electronic Delivery.

Data from the ABS (2002-03) in Table 5–2 illustrates that the return on equity and the return on assets are significantly lower for the aged care industry than in other industries, particularly specialist medical services.

TABLE 5–2: RETURNS TO THE AGED CARE SECTOR (2002-2003)

Return indicator	Nursing homes	Accommo-dation for the aged	Aged care sector	Other health services	Specialist medical services	Health and community services	Utilities	Hotels, motels, etc.
Pre tax nominal 1 year return on equity	5.17%	3.36%	4.40%	10.36%	161.03%	32.52%	9.61%	8.53%
Pre tax nominal 1 year return on assets	2.06%	1.23%	1.74%	6.06%	45.15%	14.98%	7.01%	4.82%
Total assets ($m)	$4,353	$1,985	$6,337	$6,125	$6,222	$50,690	$87,938	$11,635
Gearing ratio	58%	51%	55%	31%	73%	56%	52%	68%

Source: ABS Cat. No. 8155.0 *Australian Industry*. Nursing homes are code 8613, Accommodation for the aged is category 8721. Other codes can be found at http://www.abs.gov.au/Ausstats/abs@.nsf/66f306f503e529a5ca25697e0017661f/9AF5A301B128D1F4CA256B3B00149F87?opendocument

Estimates of the nominal WACC for various firms and industries are provided in Table 5-3. These provide useful comparisons to Access Economics' estimated pre-tax WACC of 8.14% (Section 2.4) for residential high care providers in Australia. Hogan's 2004 Review of Pricing Arrangements in Residential Aged Care also provides another comparable WACC. Hogan estimated the RAC sector in Australia to have a WACC of 10% in 2004. The table shows that a risk-adjusted pre-tax WACC is generally within the range of 8% to 10% regardless of the sector.

TABLE 5–3: WACC ESTIMATES OF FIRMS/INDUSTRIES

Firm/industry	WACC estimate
Sydney Airport Corporation Limited[a]	7.8%
ACTEW[b]	9.3%
Queensland Rail[c]	8.4%
Victorian Gas Access Regime[d]	8.3%
Melbourne Water[e]	8.4%
Australian Health Care Sector[f]	7.8%
UK Fixed Telecommunications Network[g]	10.0%

a. ACCC, '*Sydney Airport Corporation Ltd.: Aeronautical Pricing Proposal, Decision'*, May 2001.
b. ICRC, March 2004, '*Investigation into prices for water and wastewater services in the ACT'.*
c. Queensland Competition Authority, December 2005, *'QR's 2005 Draft Access Undertaking'*.
d. KPMG, March 2007, *'2008 Gas Access Arrangement Review*'.
e. Melbourne Water, Water Plan.
f. Access Economics estimate.
g. Copenhagen Economics, February 2007, '*WACC for Broadcasting – Teracom*'.

5.2 INTERNATIONAL COMPARISIONS

The Australian aged care sector is more heavily regulated than the US and UK aged care sectors.

5.2.1 SUMMARY OF THE US AGED CARE SECTOR

In the US, revenue for providers of RAC comes from public sources through Medicare and Medicaid and private sources such as residents' personal payments and their private aged care insurance. Medicare provides 100 days of nursing and rehabilitation care for all US citizens over 65 years of age. Medicaid is administered by the State Governments and is available to low income earners once both Medicare and the individual's financial resources are depleted. Medicaid payments are made directly to aged care providers. Unlike the Australian system, US RAC providers are not limited by government regulation to a maximum daily fee they can charge. The quality of RAC facilities in the US varies more than the Australian sector, with consumers facing more choice regarding the quality of the service they receive and of the facilities, according to how much they are willing and able to pay. Unlike Australia, both supply and demand for US aged care facilities are largely determined by market forces. Hogan found that in the US, the average return on equity for nursing and personal care facilities was 5.1% in 2002.

5.2.2 SUMMARY OF THE UK AGED CARE SECTOR

The UK RAC sector is also funded through both private and public sources. A large proportion of UK aged care facilities are publicly owned and thus largely government funded. Public funding is also provided through the National Health Service 'continuing care funding' which provides subsidies to aged care providers who take patients with certain levels of disability, injury or illness, which patients are unlikely to recover from, corresponding with NHS guidelines. Private sources of funding include private aged care insurance, and residents' personal payments to RAC facilities. Similar to the US, UK consumers face greater choice concerning the quality and services of RAC facilities.

6. POLICY OPTIONS

While there are many possible policy options that could be considered in this chapter, the focus is on the four specified in the consortium's brief to Access Economics, which were:

1 Increase in the Accommodation Charge (only)

2 Increase in the Accommodation Charge and the Accommodation Supplement

3 Uncapping the Accommodation Charge

4 Introducing flexibility for the (a) increased or (b) uncapped Accommodation Charge to be paid in a variety of forms, including as a daily charge (rent), refundable lump sum or a charge against the resident's estate.

The chapter first specifies criteria by which to evaluate each option, and then describes the impacts, advantages and disadvantages of each, relative to the counterfactual of 'no change to current policy'. In each case the options are evaluated without detailed quantitative modelling as this was outside the scope of the brief. As such, conclusions are drawn based on what would be expected from economic theory and historical experience. The final section of the chapter compares the options.

6.1 EVALUATION CRITERIA FOR POLICY OPTIONS

Five broad criteria were used to evaluate the policy options and each are described in turn below. Looking forward, these criteria might be considered as goals for effective policy.

1. Industry sustainability. 'Industry sustainability' is defined in this analysis as an average IRR that is adequate to support new capital investments (ie, IRR>WACC), which is equivalent to the NPV of a new investment in high care RAC accommodation being positive (as discussed in Chapter 3). When industry sustainability is compromised for prolonged periods, a number of problems arise.

- First, quality may be compromised as providers seek to cut costs in order restore sustainability. While minimum regulatory standards must continue to be met and cost control – in a competitive unregulated market at least – drives efficiency improvements, in a price-capped market the problem is one of cost minimisation (trying to reduce costs regardless of demand factors). This results in the problems identified in the Hogan Review and mentioned in Section 1.2.2 – caps which are too low (together with other regulatory restrictions) curtail innovation in service design and delivery, resulting in very basic facilities. Basic replicated design and construction may not provide the best environment for residents and conflicts with the objective of consumer choice (see below), since residents are unable to access better quality accommodation even if they are willing and able to pay for it.
- Second, there are other problems associated with cost minimisation strategies, such as failing to locate in high-cost areas, leading to maldistribution of services. This may be a particular problem in Queensland or in inner metropolitan areas, where people become less able to access services due to supply constraints. It is a particular problem when the loved ones of the resident are restricted from visits due to transport difficulties to a location distant from the family home or local community, affecting quality of life for the resident and their family, and incurring additional ongoing transport costs.
- A third problem is 'cherry-picking' – selecting residents based on revenue or cost considerations. In particular, for high care RAC there may be a perverse incentive to provide preferences to residents who move across from low-care facilities and

consequently retain access to accommodation bonds. There is a limit to the extent this can occur given that many do not enter from low-care. Also, continuity of care is also important in the transfers that do occur from low to high care.

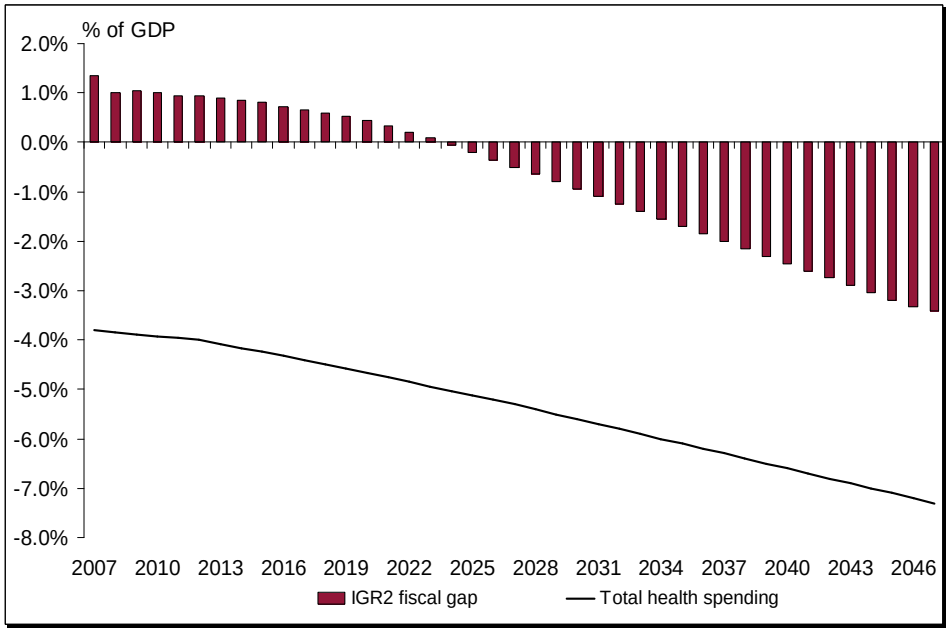
- In the non-profit sector, a major impact of industry unsustainability in high care is cross-subsidisation from other investments, potentially from low care or retirement villages or from operational income streams. This behaviour is more common in the non-profit sector where concern for higher need residents is higher. However, cross-subsidisation even in the non-profit sector is not desirable over the longer term as it compromises overall earnings which are intended for outreach to the most disadvantaged, and thus conflicts with mission statements. Moreover, it may not be possible over the longer term if the extent of losses on high care becomes so severe that they start to outweigh income available from other sources.
- The ultimate consequence of a lack of industry sustainability is exit from taking up high care places or lack of commissioning of places taken up (ie, retaining them as provisional). This leads to overall service gaps and under-provision of care. Care needs are not met and the thinning in competition in the sector compromises the goal of efficiency also for remaining providers.

2. Fiscal sustainability. Fiscal sustainability is defined here as 'no change from current forward budget projections.' However, it is important to note that beyond the current forward budget projections there are problems even with current policy settings. The main conclusion of the second InterGenerational Report (IGR2) released in 2007 was that providing for demographic ageing has substantial implications for the Australian Government's fiscal balance. As a result of expected growth in health and aged care expenditure[9], the Australian government's underlying fiscal balance is forecast to fall from its current surplus of approximately 1% of gross domestic product (GDP) to a deficit of around 3% of GDP by 2046-47 (Figure 6-1).

- The chart highlights that it is health and aged care spending that is driving the gap, reflecting epidemiological, technology and income factors as well as demographic ageing per se. Total Australian health and aged care expenditure has grown from 4½% of national income in 1970 to over 10% of the economy today (over $107 billion in 2008), with continued growth to around 16-17% of the economy by mid-century. Future growth projections are driven by continued epidemiological change from ageing and the high income elasticity of demand for quality health and aged care services, reflecting consumer expectations which, so far at least, have been able to be met from technological advances.
- This growth in health and aged care spending is consistent with projections in other OECD countries such as the US, where one projection by eminent economist Professor Robert Hall (Hall and Jones, 2005) suggests the health and aged care sector may grow to 30% of the US economy by mid-century (it is already around 16% there compared to 10% here in Australia).
- Given this huge projected increase in the sector in coming decades, it is likely that all Commonwealth outlays, and in particular health and aged care expenditure, will come under increasing pressure as future governments review the desirable evolution of the Australian Government's fiscal balance over time.

[9] Growth in the aged pension was no longer a major concern in the IGR2 context due to provisioning for retirement incomes through superannuation since 1996. However, the GFC has had an impact on the value of superannuation assets, so adequacy of retirement incomes may have altered since IGR2.

FIGURE 6-1: PROJECTED AUSTRALIAN GOVERNMENT FISCAL BALANCE, 2007-2046



Source: Costello (2007).

3. Efficiency. Efficiency is defined as producing the same outcomes for less cost, or more outputs for the same cost, and as such is closely linked to productivity (the ratio of output to resource inputs). Efficiency is achieved from competition between high care RAC providers, so it is compromised if the number of providers is reduced as a result of industrial unsustainability or over-regulation (recall Hogan's conclusion that regulations diminish the extent of competition between providers and, in particular, makes it more difficult for prospective providers to enter the market). There can also be a tension between efficiency and equity outcomes in a policy setting, if distortions are introduced in product and service markets.

- Economic theory suggests that efficiency is best achieved through lightening regulation while equity is best achieved through direct untied payments to individuals. This core principle should be observed when considering options for reform in aged care RAC capital financing. For example, any increase in the Accommodation Charge cap that was not accompanied by increase in the Accommodation Supplement cap, might best be considered in the context of pension reform.

4. Consumer choice. Consumer choice was defined and related issues explained in Section 1.2.3. In summary, consumers value choice in relation to standard of care relative to budget, form of payment and timing and location of placement. The current system (again, recalling Hogan's observations) restricts consumer choice and reduces the consumer's ability to bargain over entry or other conditions. In particular, consumers are not able to negotiate differential charges for single-bed ensuite facilities relative to shared bedroom/ensuite facilities.

- The issue becomes even more important going forward, with a different generation of residents (with a different set of expectations and preferences) than historically. One difference going forward is that – having adjusted to superannuation provisions and planning to largely self-fund retirement – future residents may have less expectation that they are entitled to Government-funded services, and a greater expectation that they should be able to top up payments in order to receive the level of service that they would prefer. The ability for residents to be charged more for private facilities and less for shared facilities could occur in the absence of the current regulation.

- In view of fiscal sustainability issues also, it would be desirable to cultivate a financial provisioning vehicle, such as **healthy ageing savings accounts** (HASAs), to gradually accumulate earmarked assets for aged care and health. Dedicated HASAs for aged care must be additional to superannuation since otherwise people (who can afford to) have incentives to spend their retirement incomes on less essential goods and services (eg, leisure, travel) and fall back on public safety nets rather than provisioning for their needs. This moral hazard underpins the need for a parallel, complementary private saving mechanism. Moreover, an insurance product (social or private) is inappropriate given the high probability of the need for care, and a savings vehicle is thus preferable.
- The gradual introduction of HASAs across the Australian population on a level playing field with superannuation (in terms of tax incentives) could utilise successful models from overseas. Review of international experience with HASAs suggests the following lessons for Australia.
  - **Accounts encourage efficiency**. A case study of Discovery Health in South Africa (AON, 2006) found efficiency gains as members were more conscious of cost when paying from personal savings, since marginal cost is explicit (rather than embedded in taxation, as currently occurs for aged care in Australia).
  - **Accounts deliver better health outcomes**, particularly if coupled with wellness programs (eg, screening, health checks, vaccinations, lifestyle modification) and rewards (flyer points etc) as people take greater responsibility for their health.
  - **Lower income groups take up accounts,** potentially more attracted to saving for their own needs rather than pooling risks through insurance. In the US (US Department of the Treasury, 2006), a third of accounts have been taken up by previously uninsured people and 42% were people with incomes below the median.
  - **Incentivisation is necessary** to overcome moral hazard in relation to saving; in New Zealand a HASA product failed due to a lack of tax-deductibility.
  - With **voluntary accounts**, average per capita contributions may be in the ballpark of around Australian Dollar (AUD) 1,000 per annum. Depending on design and rollout mechanisms, take-up may reach around 10% of the population within four years and continue to grow thereafter, in line with international experience.
- HASAs ideally would be used to provision for the more predictable financing needs of healthy ageing (residential and community aged care services, dementia specific services and hospital services), as well as out of pocket expenses, deductibles, preventive health and other approved items. The existence of HASAs would lead to a more appropriate role for private health insurance as a risk-pooling device, while retaining publicly financed safety nets for services to the disadvantaged. Such a system would be budget positive for the Australian Government, ensuring efficiency, equity and sustainability in long term health and aged care financing.

5. Equity. Equity is defined as access for disadvantaged groups – comprising health equity (the most chronically disabled), socioeconomic equity (the least well off financially) and demographic equity (those that may be marginalised due to age, gender, ethnicity/culture or location). Equity is a shared concern of both the current Australian Government and the non-profit providers of aged care services.

- Equity concerns underpin many aspects of aged care regulation (see Section 1.2.4), although embedding this objective in price caps tends to result in tension with efficiency and sustainability objectives. Equity is best achieved by providing welfare transfers and other safety nets to individuals that do not seriously distort markets.

- It is taken as given that specific provisions would continue for disadvantaged groups such as rural and remote or indigenous Australians.

6.2 OPTION 1: INCREASE IN THE ACCOMMODATION CHARGE (ONLY)

- *Description/impacts*: The Accommodation Charge would be increased by a defined finite amount (ie, a higher cap on the consumer element of payment), ideally to a level that covers costs (as calculated in Chapter 3). The Accommodation Supplement would stay at current levels ($0-$26.88 now increasing as scheduled to $0-$32.38 by Sep 2011) for the same, albeit indexed, thresholds for assets at entry and individual assets assessment.
- *Advantages*:
  - Provides industry sustainability and greater consumer choice, but only if the new cap is adequate to cover costs, initially and over time.
  - Revenue-neutral for Government.
- *Disadvantages*
  - Open to errors of miscalculation of the new cap (base period) and of indexation, potentially compromising industry sustainability.
  - Errors compromise consumer choice and equity outcomes (for the reasons identified above), but will not be as large as currently.
  - Consumers pay more, so there may be protests, and the design of the increase should ensure protections that preserve equity, but the scope to do so may be limited with this financing structure. Conversely, given the longevity and extent of the price cap there may be little impact on affordability for the genuinely disadvantaged if the majority of those affected are in the highest income groups.
- *Assessment*: Superior to the current situation, but only if equity can be preserved (eg, through simultaneous introduction of HASAs together with, potentially, one-off fiscal stimulus injections to assist new residents in meeting the higher Accommodation Charge). This option is still subject to potential dynamic weaknesses that may prohibit long term industry sustainability and compromise equity.

6.3 OPTION 2: INCREASE IN THE ACCOMMODATION CHARGE AND THE ACCOMMODATION SUPPLEMENT

- *Description/impacts*: The Accommodation Charge and Accommodation Supplement would be increased (possibly proportionately) by defined finite amounts (ie, higher caps on the consumer and Government elements of payment), ideally to a level that covers costs (as calculated in Chapter 3 and as per Option 1).
- *Advantages*:
  - Like Option 1, provides industry sustainability and greater consumer choice, but only if the new caps are adequate to cover costs, initially and over time. Equity outcomes are likely to be better than under Option 1 since the Accommodation Supplement is increased.
- *Disadvantages*:
  - Not revenue-neutral for Government.
  - Open to errors of miscalculation of the new cap (base period) and of indexation, potentially compromising industry sustainability.

- Errors may compromise consumer choice and equity outcomes (for the reasons identified above), but will not be as large as currently.

- *Assessment*: Superior to the current situation. Fiscal sustainability is compromised for the sake of equity (and possibly, political palatability).

6.4 OPTION 3: UNCAPPING THE ACCOMMODATION CHARGE

- *Description/impacts*: The Accommodation Supplement would stay at current levels ($0-$26.88 now increasing as scheduled to $0-$32.38 by Sep 2011), for the same, albeit indexed, thresholds for assets at entry and individual assets assessment. The Accommodation Charge would be uncapped, so that providers could charge whatever the market would bear.

- *Advantages*:
  - Guarantees industry sustainability, since the market is able to equate supply and demand.
  - Uncapping the accommodation charge under Option 3 or 4b would ultimately solve the issue of cost differences due to location or other factors as removing the cap allows true market forces to dictate cost recovery of the capital elements of care accommodation.
  - Revenue-neutral for Government.

- *Disadvantages*:
  - In areas where competition is weak, there may be potential for price gouging (extracting super-normal profits where no alternatives are available, from essential services), from less ethical providers.
  - Difficult to design so that equity gains from increased industry sustainability will be more than offset by equity losses from higher prices to consumers. If new safety nets are introduced (eg, regulatory safety nets, such as a higher mandated proportion of subsidised beds), this compromises the fiscal sustainability objective.

- *Assessment*: Some equity may be traded for long term industry sustainability and enhanced choice.

6.5 OPTION 4: INTRODUCING FLEXIBILITY FOR THE (A) INCREASED OR (B) UNCAPPED ACCOMMODATION CHARGE

- *Description/impacts*: The Accommodation Charge would be increased to a level that covers costs (as calculated in Chapter 3). The Accommodation Supplement would stay at current levels ($0-$26.88 now increasing as scheduled to $0-$32.38 by Sep 2011) for the same, albeit indexed, thresholds for assets at entry and individual assets assessment. Accommodation charges could be paid in a variety of forms, including as a daily charge (rent, as currently occurs), refundable lump sum or a charge against the resident's estate.

- The essential difference between Option 4a and Option 4b is that 4b provides no cap (as per Option 3) while 4a provides a cap (as per Option 1). The new elements are that there is more scope for flexibility in how the Charge is able to be paid (ie, upfront rather than as a rent) and, in our more open interpretation of this option, in how the Supplement can be devised also.

- *Advantages*:
  - 4b guarantees industry sustainability, while 4a provides industry sustainability if the new cap is adequate to cover costs, initially and over time (but 4a is nonetheless greater industry sustainability than currently).
  - Both options provide greater consumer choice, not just in choice of facility standards relative to willingness to pay, but also choice of payment mechanism. Some consumers may prefer not have to manage an asset (generally the family home, liquidated or rented) but rather to pay a refundable up-front lump sum (a 'Government guaranteed aged care annuity'). More flexibility may permit benefits to the consumer in respect of taxation and/or pension offsets. Others may prefer to retain their home/estate but draw down a balance against it using financial vehicles such as reverse mortgages from banks, other financial services providers or the care provider. Others may prefer to retain the current rental provisions. Over time, long term financing vehicles such as HASAs might be introduced as general reforms, potentially grandfathered as with the introduction of superannuation, to provision for a higher consumer contribution to aged care over the long term (this is a corollary of the fiscal sustainability goal). The ability to choose between options would mitigate against consumer concerns and hence improve popularity from a political risk perspective. There may also be a case for introducing similar choice into low care financing, bearing in mind Hogan recommendations that a 'bond system' is fair, efficient and sustainable, and the principle that low and high care should ideally be identically financed to avoid distortions. However, the bond system in its current form can be disadvantageous because it creates a disincentive for self-funded retirees to save their assets until old age because the payment is dependent on assets. Tax incentives in HASAs (on a level playing field to super) would overcome this weakness and could be designed to be budget-neutral. One-off fiscal stimulus measures would also help ensure equity – such as contributions for new residents to meet their up-front capital obligations, gradually phased out as economic recovery proceeds and HASA balances start to build up.
  - Both options provide fiscal sustainability, by retaining the current level of the Supplement (or designing a similar but possibly more flexible vehicle to be budget neutral).
- *Disadvantages*:
  - Because Option 4b is uncapped, like Option 3 in areas where competition is weak, there may be potential for price gouging and potentially negative equity impacts on balance. A high cap may thus be preferable to avoid such behaviour.
- *Assessment*: For Option 4b, some equity may be traded for long term industry sustainability and enhanced choice.

6.6 OPTION 5: INTRODUCING FLEXIBILITY FOR THE (A) INCREASED OR (B) UNCAPPED ACCOMMODATION CHARGE AND A HIGHER ACCOMMODATION SUPPLEMENT

- *Description/impacts*: *Description/impacts*: The Accommodation Charge would be increased to a level that covers costs (as calculated in Chapter 3). The Accommodation Supplement would stay at current levels ($0-$26.88 now increasing as scheduled to $0-$32.38 by Sep 2011) for the same, albeit indexed, thresholds for assets at entry and individual assets assessment. Accommodation charges could be paid in a variety of forms, including as a daily charge (rent, as currently occurs), refundable lump sum or a charge against the resident's estate. In addition, a higher accommodation supplement would be provided (as per Option 2).

- Options 5a and 5b mirror Options 4a and 4b except that more of the increase is paid by the Government (as per Option 2).
- *Advantages*:
  - Advantages are the same as per Options 4a and 4b, with the additional advantage of greater equity.
- *Disadvantages*:
  - Not revenue-neutral for Government.
  - Because Option 5b is uncapped, like Option 3 and 4b in areas where competition is weak, there may be potential for price gouging and potentially negative equity impacts on balance. A high cap may thus be preferable to avoid such behaviour.
- *Assessment*: For option 5b, some equity may be traded for long term industry sustainability and enhanced choice relative to Option 5a. Fiscal sustainability is reduced for the sake of equity (and possibly, political palatability) under both variants.

6.7 COMPARISON OF OPTIONS

The options are illustrated and compared graphically in Figure 6-2. The example is hypothetical in that amounts depicted are based on raising the total cap to a level determined by the formula:

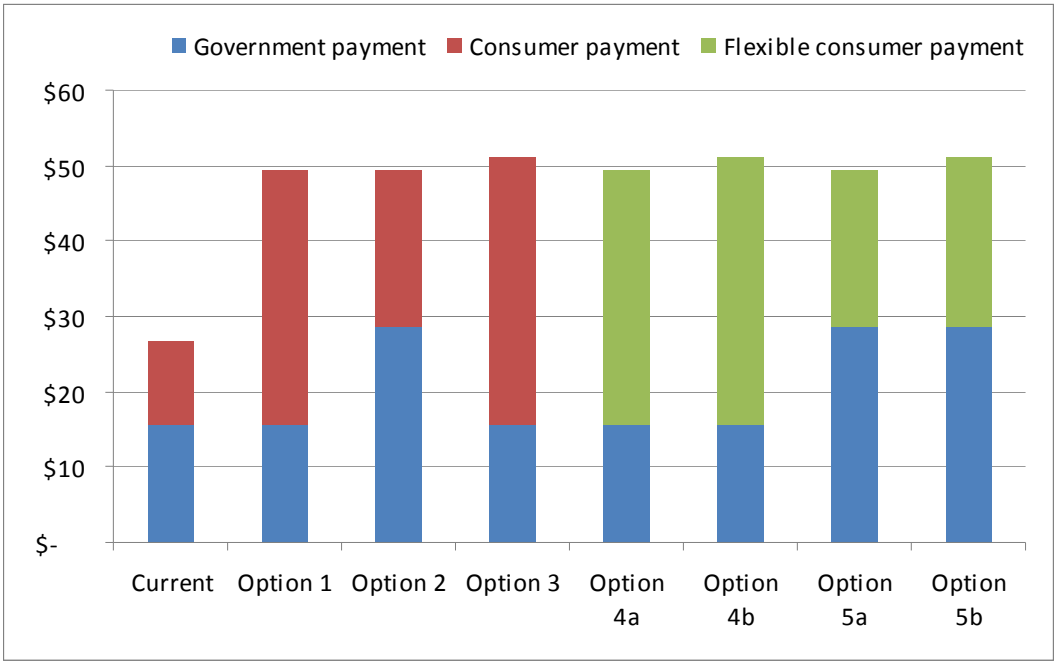
$$\$40.32 = 40\% * 26.88 + 60\% * \text{new cap} \qquad \text{ie, new cap} = \$49.27^{10}$$

This new cap level would enable the base case break-even point to be obtained while retaining 40% concessional residents at the current $26.88/bed-day rate. The hypothetical example is based on average government payments of $15.69 (the average of lower and upper bounds of the Accommodation Supplement for the different means-test groups) and consumer payments of $11.20 (ie, the residual from $26.88) as the current case start-point.

Options 2 and 5a are presented in the hypothetical example as maintaining the consumer share in the same proportion as per the current share. In options 3, 4b and 5b, uncapping the options results in a hypothetical average consumer payment that is $2/bed-day higher on average than in an uncapped case. This increment is fairly small since it is unknown but, with a high new cap, should not be large. The 'flexible consumer payment' could be any combination of rent and Government guaranteed aged care annuity. The chart is not intended to be precise and the absolute amounts and shares may vary depending on the details of how any change was designed.

[10] This increases to $49.95 if it is assumed that 15% of places only receive $20.16 as per Section 1.2.

FIGURE 6-2: HYPOTHETICAL EXAMPLE OF OPTIONS



Note: Based on 20/03/2009 levels.

Industry sustainability: All options improve industry sustainability, since this was the intent of this analysis and, arguably, the greatest issue currently in the high care RAC sector. Removing the cap on the Accommodation Charge completely (Options 3, 4b and 5b) is likely to increase the IRR the most. It is assumed that total accommodation payments under Options 1, 2, 4a and 5a would be the same (ie, increased to the new cap level). It is assumed that industry sustainability would be around the same under 4b and 5b compared to 3 and under 4a and 5a compared to 1 and 2, because the rent should be equivalent to the risk-adjusted return from the Government guaranteed aged care annuity.

Fiscal sustainability: Options 2 and 5 worsen the fiscal position by increasing the Accommodation Supplement. The other options retain the current budgeted outcomes. They may also improve fiscal sustainability relative to the status quo because, without gradually increasing private contributions in an incrementally managed way, the Government may be compelled to intervene through further emergency measures in coming years.

Efficiency: It is difficult to ascertain the efficiency impacts of the options. By increasing industry sustainability, there is likely to be greater competition and hence enhanced efficiency. However, by increasing or removing caps cost minimisation will be less of a driver and, while most of the impact of this will likely be improvements in quality for higher prices, it cannot be ruled out that there may be less efficiency over time also. Since increased competition and reduction in the cost minimisation driver work in opposite directions and are not likely to be major impacts, there is unlikely to much difference relative to the current policy.

Consumer choice: Consumer choice is enhanced in all options since a greater range of quality and location of facilities is likely to result. Moreover, for Options 4 and 5 there are also additional consumer choice benefits since residents are able to make choices about the form their payment will take.

Equity: Locational equity is likely to improve under all options, since high-cost areas will become more viable to build. Many prospective residents in remote areas will not qualify for

paying any Accommodation Charge under the options. Socioeconomic equity may worsen under all options (since people of middle as well as high means will be required to pay more) but least under Options 2 and 5. These options could even be designed to keep the Accommodation Charge constant so overall equity would be enhanced relative to currently, but this would have a very large fiscal impact. In Options 1, 4a and 5a the locational and socioeconomic impacts may cancel out and overall there may be little or no change in access/demand. In Option 3 and 4b, the equity impacts are potentially worse than for the current situation. Over time, if there is a gradual phase-in of new reforms, there may need to be fiscal support in other areas (eg, one-off payments to new high care residents for capital contributions) until new long term measures, such as HASAs, kick in.

- Also, a high cap rather than no cap is selected at this time since in some areas where competition may currently be limited, gouging might occur, compromising equity. However, it should be noted that there is no strong evidence that this is a significant problem under the bond system that currently applies to low care facilities and over time with higher payments industry sustainability would be expected to increase competition and reduce the scope for gouging. Hence it may be possible to move towards an uncapped option in the longer term. Overall, equity could be protected in various ways including keeping a high cap as a protection measure initially, keeping a mandated ratio for concessional residents (per region/jurisdiction per provider, perhaps, rather than per facility) and also introducing disclosure statements (eg, publishing bed-rentals).

Figure 6-3 summarises the options in relation to the evaluation criteria.

FIGURE 6-3: SCORE CARD OF OPTIONS RELATIVE TO CURRENT SITUATION

Relative to current	Industry sustainability	Fiscal sustainability	Efficiency	Consumer choice	Equity
Option 1	✓	✓	-	✓	✓
Option 2	✓	×	-	✓	✓✓
Option 3	✓✓	✓	-	✓	×
Option 4a	✓	✓	-	✓✓	✓
Option 4b	✓✓	✓	-	✓✓	×
Option 5a	✓	×	-	✓✓	✓✓
Option 5b	✓✓	×	-	✓✓	✓✓

7. INDEXATION

Currently, many government payments are indexed although methods of indexation differ. Table 7–1 summarises the indexation arrangements currently in place for a selection of Government payments from the Department of Families, Housing, Community Services and Indigenous Affairs, the Department of Veterans' Affairs and DoHA.

TABLE 7–1: INDEXATION ARRANGEMENTS FOR SELECTED GOVERNMENT PAYMENTS

Government payment	Benchmark	Frequency
Age Pension	CPI plus 25% of MTAWE check	20 March and 20 September
Service Pension	CPI plus 25% of MTAWE check	20 March and 20 September
Carer Payment	CPI plus 25% of MTAWE check	20 March and 20 September
Newstart Allowance	CPI	20 March and 20 September
Mature Age Allowance	CPI	20 March and 20 September
Family Tax Benefit (Part A and Part B)	CPI	1 July
Remote Area Allowance	Adjusted by change in legislation	N/A
Baby Bonus	CPI	1 July
Child Care Benefit	CPI	1 July
Pharmaceutical Benefits Scheme subsidy	CPI	1 January
Medicare Benefit Schedule fees	WCI_5[(a)(b)]	1 July
Residential Aged Care Basic Subsidy	WCI_9	1 July
Home and Community Care Program	WCI_3[(a)]	1 July
Community Aged Care Packages Program	WCI_9	1 July
Extended Aged Care at Home Program	WCI_9	1 July

(a) WCI_3 and WCI_5 comprise 60% wage growth and 40% non-wage growth.

(b) Around 60% of Medicare Benefit Schedule fees are indexed to WCI_5. The remainder are subject to other policy arrangements, and most are not indexed.

Source: Centrelink (includes FaHCSIA), DoHA and Department of Veterans' Affairs websites, and the Department of Finance and Deregulation.

In most cases, payments are adjusted once or twice each year in line with the Consumer Price Index (CPI) to reflect changes in the cost of living. Some payments are also adjusted due to changes in legislation or due to particular 'checks' eg, ensuring that the maximum single rate of pension did not fall below 25% of Male Total Average Weekly Earnings (MTAWE).

Commonwealth Own Purpose Outlay payments including RAC and community care programs were indexed annually in line with movements in the relevant Wage Cost Index (WCI) applicable to the program. With different weightings for wage and non-wage costs, there was debate on the adequacy of existing indexation arrangement in particular relating to RAC payments (Access Economics, 2008).

In a submission made by Access Economics on behalf of Baptist Care Australia, Catholic Health Australia and Uniting Care Ageing NSW & ACT on the Review of Conditional Adjustment Payment, it was found that the RAC subsidy was inadequately indexed. It was shown that WCI_9 has not kept pace with wage and general price pressures (Access Economics, 2008).

To ensure long term sustainability for the capital financing of aged care facilities, the method of indexation set forth by the Australian Government on accommodation charges and supplements would be critical. Appropriate indexation would ensure that accommodation payment caps could keep pace with changing cost levels such that charges and supplements would remain sufficient for aged care operators to maintain investments in new facilities.

In the modeling in this report, adjustments to accommodation charges and supplements from 20 March 2008 would be made twice a year and in stages. From March 2012, both charges and supplements were inflated by 3% - the upper bound of the Government's target rate for the CPI (see Section 3.2). Naturally, there are questions regarding the adequacy of such an index in the long run. To investigate this issue, trends of past accommodation payments and/or supplements and the industry average construction costs were examined.

7.1 TRENDS - ACCOMMODATION CHARGES AND SUPPLEMENTS

Table 7–2 presents past data on increases in charges and pensioner supplements from 2000 to 2011 (noting the rolling together as at 20 March 2008) while Figure 7-1 depicts trends.

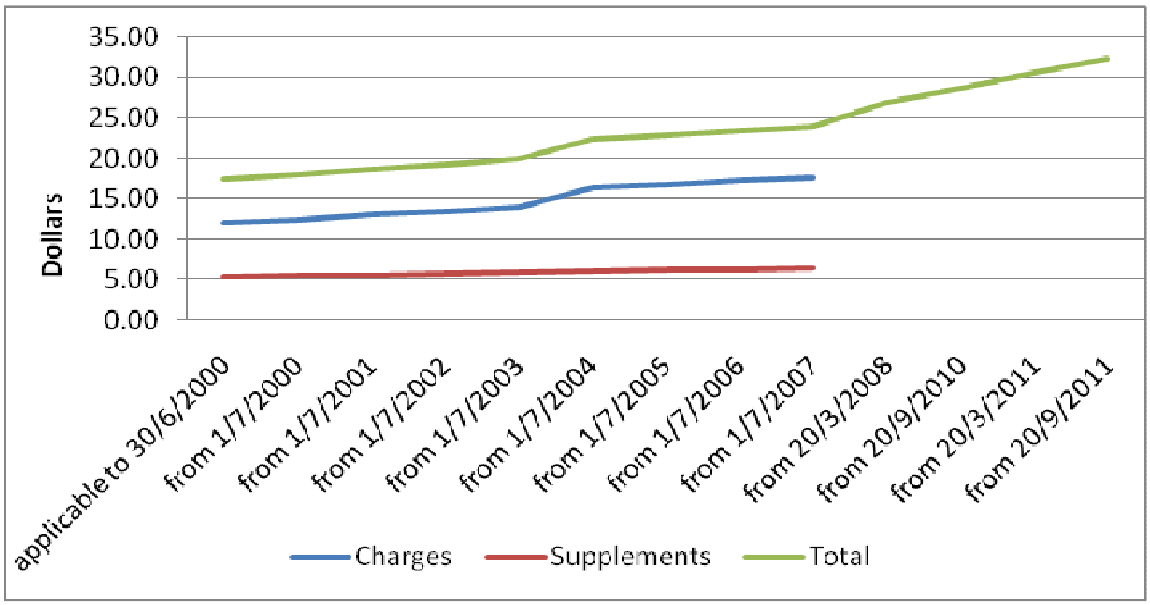
TABLE 7–2: DATA ON ACCOMMODATION CHARGES AND PENSIONER SUPPLEMENTS, 2000-2011

Dates	Accommodation charges	Pensioner supplements	Total
applicable to 30/6/2000	12.00	5.45	17.45
from 1/7/2000	12.33	5.56	17.89
from 1/7/2001	13.07	5.69	18.76
from 1/7/2002	13.45	5.83	19.28
from 1/7/2003	13.91	5.96	19.87
from 1/7/2004	16.25	6.08	22.33
from 1/7/2005	16.63	6.20	22.83
from 1/7/2006	17.13	6.32	23.45
from 1/7/2007	17.55	6.45	24.00
from 20/3/2008			26.88
from 20/9/2010			28.72
from 20/3/2011			30.55
from 20/9/2011			32.38

Notes: (a) The charges applied to 'other' residents (not 'concessional' or 'assisted' residents). (b) Prior to 1/7/2004, there was no distinction between 'new' entrant and existing residents. From 20/3/2008, the rates applied for 'self funded' retirees. (c) Information on concessional supplements is not available except for 2003 where the daily supplement was $13.49 for services with more than 40% of total residents concessional/assisted. The supplement was $7.87 for services with less than 40% concessional/assisted residents (Hogan, 2004). (d) As of 20/3/2008, pensioner/concessional supplements were removed to form accommodation supplements.

Source: DoHA (2008).

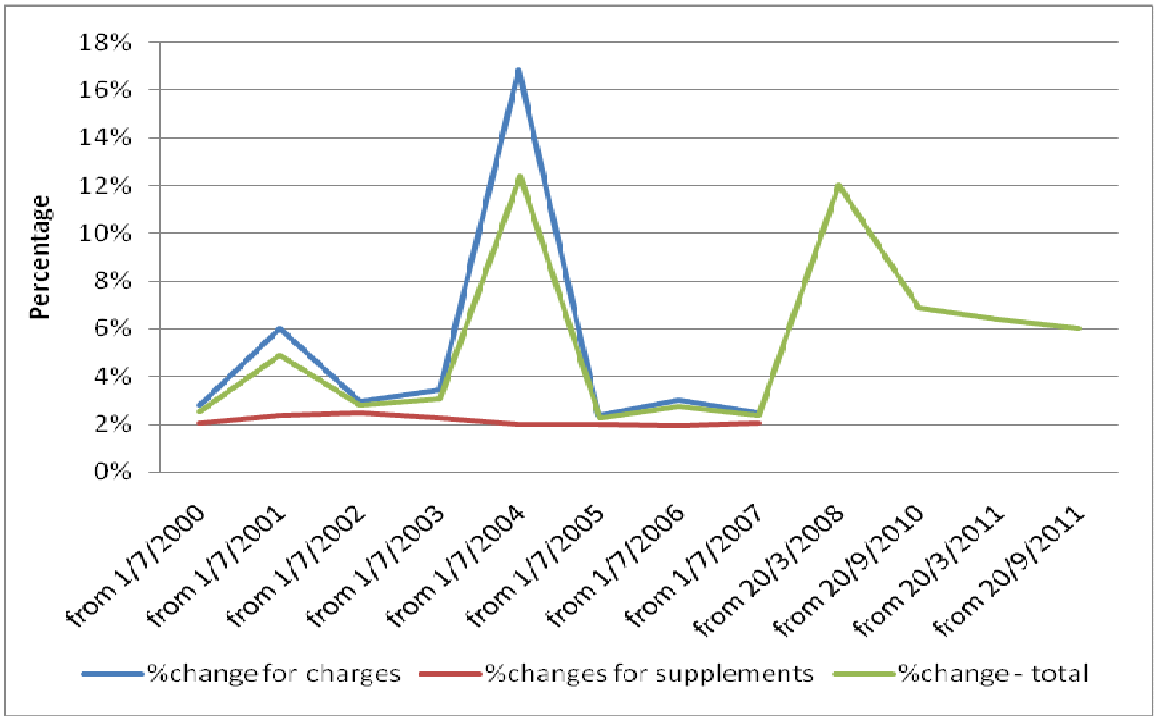
FIGURE 7-1: TRENDS – ACCOMMODATION CHARGES AND SUPPLEMENTS



Source: DoHA (2008).

Figure 7-2 depicts the rate of increase in the charges and supplements historically. Distinctively, there was a sharp spike in the rate of increase in 2004 for accommodation charges (and hence the total), coinciding with the Government's responses to recommendations made in the Hogan report. There was relatively constant but low growth of around 2% per annum (ie, below the inflation rate) in the pensioner supplement prior to the rolling together of the two payments. The average rate of increase in the combined amounts prior to 2008 was **4.1% per annum**.

FIGURE 7-2: RATES OF CHANGE – ACCOMMODATION CHARGES AND SUPPLEMENTS



Source: DoHA (2008).

7.2 COMPARISON OF CAP INCREASES WITH CPI AND COSTS

While an average increase of 4.1% was higher than the average increase in CPI over 2000 to 2007, the average rate of increase in average building cost per sqm in aged care industry between 2001 and 2008 was much higher, at 5.8% (Rawlinsons, 2001-08). The Rawlinsons cost increase excluded the change between 2000 and 2001 due to a change of definition in the variables included in that year. (If the 2000-01 change was included, the rate of increase of average building cost per sqm would have been 8.1%.) Rawlinsons exclude various cost components including:

- parking areas;
- land;
- furniture, fittings and equipment;
- legal and professional fees;
- covered ways;
- external services outside 3.0m from the outside face of the building; and
- external works other than those immediately adjacent to the building.

There are no data publicly available on the rate of increase in these elements but it is possible that some elements (eg, land, legal and professional fees) may have increased at more than 5.8% per annum over the period, while other elements may have increased at a lesser rate. Overall, it is not possible to speculate on what the increase including all or some of these items may have been, and it is in any case not unreasonable to exclude them.

In conclusion, indexation to CPI may be inadequate to reflect cost drivers in, and a more appropriate index may need to be investigated if caps are still to apply.

8. CONCLUDING COMMENTS

A number of issues have not been included in this paper, but would require resolution as options are being consolidated. For example, the phase in of transitional arrangements has not been discussed in detail. As with previous accommodation payment reforms, it is common to 'grandparent' current residents at existing payment rates and, as such, it can take many years for the impact of higher payments to flow through and improve industry sustainability. This is a particular problem in relation to upgrading an existing older building, where new residents are not admitted (apart from natural replacement). Yet it is often these buildings which are in most need of capital replacement. Moreover, it might be possible to introduce Option 4a or 5a initially, with a phase-in plan to move to Option 4b or 5b in the longer term when there is likely to be more depth in the market and hence less likelihood of negative equity impacts such as price gouging. A staged approach may have more political appeal. Inter-temporal impacts would require further detailed modelling, which is outside the scope of this project, but which would be recommended as a next step.

There has also been little discussion of Extra Service facilities in this report, since Extra Services are only 6% of places and are capped at 15%. Currently the Accommodation Supplement is not provided in Extra Service facilities and there may be merit in a uniform approach that includes these facilities. As a result of the current anomaly, there is a perverse incentive to exclude concessional residents, who are then likely to end up in other facilities. Since they receive the Accommodation Supplement elsewhere, there is unlikely to be much fiscal impact – just simply greater consumer choice if this anomaly is corrected.

Another option that has not been discussed is differential Accommodation Charges eg, a higher rate for single room with ensuite than for shared accommodation. Uncapping the payment would lead to differential payments and so this is embedded in Options 3, 4b and 5b. Under the other options, if the cap is high enough competition may also lead to differential outcomes reflecting cost differences. If the cap is not high enough, differential payments (perhaps no more than two or three tiers to preserve simplicity and avoid perverse incentives from getting the differential caps wrong) has economic merit, but is not first-best due to the dangers of imposing yet more regulation that is unlikely to perfectly estimate market clearing rates.

Furthermore, this report has also not investigated the current means testing of the payments (out of scope). Rather, the analysis assumes that current means testing continues as is. Next steps for further modelling should desirably also look in more detail at quantifying equity impacts where possible, in particular comparing new charge rates with consumer's ability to pay (based on assets and income), in a post-GFC world and in the longer term.

A final very recent issue is the recommendation of the Health and Hospital Reform Commission[11], which tentatively proposed that government assistance for residential Accommodation Charges should be set at 80% of the market average of a deregulated charge. It is not exactly clear how the 80% figure has been derived or whether and in what form means testing and safety nets would be applied, but on the surface this appears to move in the direction proposed in this analysis. The Commission recognises the key issue of this report – the need for a higher (deregulated) payment/cap in order to improve industry sustainability. The Commission also suggested that if current restrictions on supply are removed, the quest for residents would lead to sufficient competitive pressure on

[11] http://www.nhhrc.org.au/internet/nhhrc/publishing.nsf/Content/interim-report-december-2008

Accommodation Charges to bring growth into line with growth in general construction costs. Under these circumstances they state that it would be reasonable to give consumers the choice of the charge or a bond, as per our Option 4a, 4b, 5a or 5b.

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