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Potential Measures to Encourage Provision of Nursing Home & Community Nursing Unit Facilities

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EXECUTIVE SUMMARY

Introduction

The team incorporating DKM Economic Consultants, AECOM, RDJ Solicitors and Rose McHugh (Former Head of Corporate Finance in Merrion Capital) has been tasked by the Department of Health to provide an analysis of ***Potential Measures to Encourage the Provision of Nursing Home and Community Nursing Unit Facilities***. Specifically, four questions were to be addressed:

1. What are the current and future requirements for facilities for the period 2015- 2035 by geographic area and what is the likely gap in the absence of additional measures to encourage provision?
2. What are the reasons for the current lack of investment in facilities and what reasons have the most significant effect?
3. What are the potential policy options for addressing the problem and how do the different options perform against key criteria?
4. How does a preferred set of options perform under cost benefit analysis?

The findings of our analysis are summarised here. Note that data are presented at a national level in the Executive Summary, while they are broken down to Local Health Office (LHO) level in the main body of the report.

Future Supply Gap

Supply

There are circa 29,600 residential care beds operational in Ireland at present, as follows:

Estimated National Residential Care Private/Public Mix

Private/Public Mix	Private 2014	Public 2015	Total
Number of Units	448	129	577
Number of Residential Beds	22,405	7,180	29,585
% of Residential Beds	76%	24%	100%

Sources: Public Bed Register April 2015 and NHI Bed Register June 2014

These beds are a mix of long stay and short stay beds. Some 1,866 out of 7,180 public beds (26%) are short-stay, while the number of short stay beds in the private sector is approximately 1,800. We have taken 95% as full occupancy for the purposes of this report.

We estimate that approximately 700 private sector beds will be added in both 2016 and 2017, mostly in the Dublin area. Thereafter, forecasts are speculative, but on the basis of no change in the policy context, we assume an additional 400 private beds per annum thereafter. Assuming public bed capacity remains constant, future supply would be as follows:

National Residential Care Long and Short-Stay Bed Supply Forecasts 2016-2036

Year	Private Bed Provision	Public Bed Provision	Total	@ 95% Occupancy
2016	23,105	7,180	30,285	28,771
2021	25,405	7,180	32,585	30,956
2026	27,405	7,180	34,585	32,856
2031	29,405	7,180	36,585	34,756
2036	31,405	7,180	38,585	36,656

Demand

Our forecasts of demand are based on the population of 65+, and the assumption that 4% of that population will require long term nursing home care, while a further 0.85% will require rehabilitation, assessment or respite beds (these percentages incorporate the relevant population under 65).

Nationally, the population of 65+ is expected to grow from 624,000 to over 1.13 million between 2016 and 2036. The implied demand for long stay beds (@ 4% of the 65+ population) will increase from just under 25,000 in 2016 to 45,000 by 2036. The demand for short stay beds is predicted to increase from 5,300 in 2016 to 9,600 in 2036. This forecast is based on the premise that 4% of the 65+ population will require long term care. Since the current population of over 65's in long term care is 4.6%, it is clear that there is also a need for investment in alternative care supports in the future.

Supply Vs Demand

Comparing supply and demand, it is clear that a significant gap will open up over the coming years. Under the base case scenario it is estimated that the private sector will supply an additional 700 beds in 2016 and 2017, and thereafter a supply of 400 beds per annum is assumed. Under this scenario and assuming 4% of the 65+ population require care, a supply gap of over 18,000 beds would arise by 2036. Assuming average capacity per nursing home of 100 beds, at a 95% occupancy rate this equates to almost 200 additional nursing homes.

In the event that 4.5% of the 65+ population require long term care the gap would increase to circa 24,000 beds. A scenario whereby private sector supply will continue to grow by 700 beds per annum from 2018 onwards would see the supply gap grow to 13,000 beds by 2036 assuming the 4% target, or over 18,000 in the event that 4.5% of the 65+ population require long term residential care. The base case and alternative scenarios are presented in the following table:

Nursing Home Supply Gap, Alternative Scenarios, 2036

Demand*/Supply	+ 400 Beds per annum	+ 700 Beds per annum
Beds		
4% of 65+ population in Long Stay	-18,200	-12,800
4.5% of 65+ population in Long Stay	-23,860	-18,440
Nursing Homes**		
4% of 65+ population in Long Stay	-192	-135
4.5% of 65+ population in Long Stay	-251	-194

* A further 0.85% of the 65+ population will be accommodated in various short-term beds, and are included in these numbers. **100-bed units at 95% occupancy.

Key Barriers to Investment

Both public and private sector investment has been subdued across the economy for a number of years, and the nursing home sector has been no exception. That this has been the case with the public sector is understandable, given the constraints under which the Exchequer has been forced to operate in recent years.

Likewise, it is hardly surprising that there has been limited investment in new private sector capacity over the last number of years, given the state of the economy, the general strain on private balance sheets, and the problems in the banking sector. That said, the circumstances underlying this situation are changing, and we would envisage acceleration in investment over the coming years, independent of any new policy initiatives that might be implemented. Notably:

- The economy is returning to growth, increasing confidence in general;
- Rising property prices are causing an improvement in private sector and bank balance sheets, leading to greater appetite to both lend to and invest in the sector, encouraged by the inescapable demographic pressures;
- There are now sufficient funders in the market (particularly from abroad);
- The sector is consolidating and professionalising, with larger Irish concerns (some backed by overseas capital) becoming more active in the market;
- UK operators are – we understand – “keeping a close eye” on the market, and might be persuaded to invest in the coming years.

All the indications are that new private investment is flowing, particularly where higher rates are being earned (via the Nursing Homes Support Scheme – Fair Deal - or from private patients) and there is excess demand. Other areas are not seeing investment however, and while many do not exhibit a substantial supply gap currently, our analysis indicates that this will not remain the case. The following observations can be seen in this context.

Our consultations and analysis indicate that the main barrier to new investment in nursing homes is how the pricing model of the Fair Deal Scheme is operated with regard to private nursing homes. This manifests itself in terms of:

1. Uncertainty around future income streams;

2. Inadequate income levels to enable a return on investment in many parts of the country outside Dublin;
3. Lack of reference to dependency levels of residents.

A number of other barriers have been identified during our consultations and analysis of the sector, notably:

- Availability of suitably qualified staff, both in terms of nurses and management.
- Sector fragmentation.
- Lack of available sites.
- Inconsistency in the application of standards by HIQA.
- Reputational risk, which results in a premium being required from funders, compared to investment in other sectors.

It is noteworthy that our consultations have indicated that lack of tax incentives is not a barrier to entry in the nursing home sector. In particular, there is no appetite from any quarter, including existing Irish and International operators, the banking sector and healthcare consultancies, for property-based tax incentives similar to those in place during the 2000s. This scheme is indeed widely seen as having been a contributory factor in some of the quality problems that arose in the sector at that time.

Potential Policy Options & Performance Against Key Criteria

The consultants undertook an informal Multi-Criteria Analysis (MCA) of a set of policy options for addressing the emerging supply gap in the market, in view of the lack of investment. This analysis aided and informed the client in deciding on the options to proceed to full Cost Benefit Analysis. As part of this analysis, the following selection criteria were decided upon in conjunction with the client, to evaluate the ability of each potential option to address the objectives of this report.

Criteria for use in the Multi-Criteria Analysis

Criterion	Description
A.	Cost to the Exchequer, including the timing of such costs.
B.	Total cost, including the timing of such costs.
C.	Complexity and administrative burden for the State and operators.
D.	Financeability for private operators.
E.	Timeframe for the roll-out of necessary infrastructure, and the ability to prioritise the most critical needs.
F.	Risk to the State including uncertainty regarding the effective cost, plus operational and HR risks.
G.	Risk to private sector developers/ operators including reputational risk and uncertainty regarding revenues.
H.	Impact on health policy goals in relation to the geographic/social spread of facilities, the optimum public/private mix of facilities, the balance of short-term/long-term stay beds, and the blend of facilities dealing with higher dependency cases.
I.	Quality regarding HIQA infrastructural standards.

In our analysis it is clear that the problem of nursing home capacity can be divided into two: (1) Public nursing home capacity, and (2) Private nursing home capacity. Each has very different issues. Notably, while both the private and public sector have invested significantly in recent years, many public facilities still do not meet HIQA infrastructural requirements. The inability of a proportion of the public sector stock to meet HIQA infrastructural requirements is now coming to a head, as HIQA has indicated that it may start imposing conditions on registration, including "no new admissions" requirements on non-compliant homes. It is clear also that the cost of (i) providing nursing home capacity and (ii) operating nursing homes is significantly higher in the public sector than in the private sector, for a number of reasons, including staff costs, resident dependency levels, and in some cases facility size.

With regard to existing private sector capacity, while our consultations point to an inherent stability, there may be areas of the country currently served by smaller private nursing homes, which need to expand in order to reach efficient size, but either (a) lack equity to invest in increased capacity, or (b) are in areas where the market cannot justify the larger size.

Consultations as part of this study indicate that the minimum efficient nursing home size, given the regulatory requirements now in effect in the sector, appears to be approximately 60 beds, though some consultees are of the opinion that it is higher. HIQA data indicates that over 70% of private nursing homes are below this size. This indicates that there may be some areas where existing private capacity is under stress.

Taking into consideration the aforementioned issues, we initially worked on the basis that the public sector will retain its current capacity but will not add capacity around the country. This is reflective of on the one hand the policy commitment to maintain 20% of capacity in the public sector, but on the other the significant deficit in public nursing home infrastructure quality currently, and the higher cost of public nursing home services provision. This assumption was relaxed for some of the options included in the MCA and subsequent CBA.

Options Short-List for CBA

From the MCA of the options for the existing public stock, the option of public sector provision performed best. In terms of the options available to provide additional capacity, private sector provision with the assistance of a fund similar to ISIF but lending at lower than commercial rates scored best. In consultation with the client and informed by the MCA, the following options were agreed to go forward to CBA:

1. **Counterfactual**

- “Continue as is” option.
- Private sector will add 700 beds per annum in 2016 and 2017, and 400 per annum thereafter. This implicitly assumes that there will be no reform to the pricing model being deployed under Fair Deal or any other relevant policy.

- The State continues to spend €20 million per annum, which will lead to a reduction in capacity by 2020, with this loss of capacity gradually made good as €20 million per annum continues to be spent over the period 2020 to 2035.
- A significant capacity deficit opens up over time under this option.

2. Direct Exchequer investment to bring the existing stock up to HIQA infrastructural standards and to provide all necessary additional capacity

- Private sector will be as in the counterfactual; implicitly assumes no reform to the pricing mechanism under the Fair Deal scheme.

3. Extension of the Employment and Investment Incentive Scheme (EIIS)

- Public sector provision will remain stable, which will require additional public investment on top of the current level of €20 million per annum, to meet HIQA infrastructural standards; this is assumed to be delivered via extensions to existing facilities.
- Private sector will deliver the supply gap, incentivised by access to the EIIS, an existing scheme which grants relief to investors at a rate of 75% of the investment amount in year one and 25% in year four.
- Implicitly assumes that the Fair Deal pricing model is reformed, to provide all suppliers with a return on efficient investment and operations.

4. Accelerated capital allowances for expenditure on plant & machinery by nursing home companies

- Public sector provision will remain stable, which will require additional public investment on top of the current level of €20 million per annum, to meet HIQA infrastructural standards; this is assumed to be delivered via extensions to existing facilities.
- Private sector will deliver the supply gap, incentivised by accelerated capital allowances on investment in plant & machinery whereby, instead of being applied over an eight year period, a one year allowance up to a capped amount would be permitted.
- Implicitly assumes that the Fair Deal pricing model is reformed, to provide all suppliers with a return on efficient investment and operations.

5. Public Private Partnership

- Private sector delivers additional capacity as per Counterfactual, and public sector continues to spend €20 million per annum directly on its own facilities.
- PPP is used to (i) make good the resultant public sector deficit, and (ii) deliver all the additional required nursing home capacity.
- The private partner builds and maintains the facilities and the public sector operates them (possibly on public sector sites).

6. Private sector provides all additional nursing home facilities with the assistance of a State fund

- A revolving fund (akin to the Irish Strategic Investment Fund) borrowed at sovereign rates and lent on at a margin to cover risk and administration, i.e. lending at lower than commercial rates, to the private nursing home sector.
- Private sector will deliver the supply gap; implicitly assumes that Fair Deal pricing model is reformed, to provide all suppliers with a return on efficient investment and operations.
- Similar to the EIIS but with three important differences –
  - it would not be a tax-based scheme, and therefore would be potentially less controversial and less of a burden on the taxpayer,
  - the timeframe could be longer than the minimum under EIIS, and
  - it could potentially be used for new nursing homes.
- Public sector provision will remain stable, which will require additional public investment on top of the current level of €20 million per annum, assumed to be delivered via extensions to existing facilities.

Cost Benefit Analysis

The Options for CBA are listed above. In reality, it is likely that future nursing home capacity will be delivered using a range of approaches, given the numbers involved and differing circumstances. However, for tractability, the CBA was undertaken on the basis that each of the options above is mutually exclusive.

Exchequer Cashflow Analysis/Financial Analysis

In the Exchequer Cashflow Analysis/financial appraisal we are concerned with the financial costs and benefits of the project to its promoter, the Exchequer. The main quantifiable benefit is the avoidance of the usage of acute hospital capacity to cater for the residents in question. The results of the Exchequer Cashflow Analysis are as follows. While Internal Rates of Return and Benefit/Cost Ratios are also presented, Net Present Value (NPV) is considered the best measure for comparing competing options.

Exchequer Cashflow Analysis/Financial Appraisal

Option		NPV € Million	Internal Rate of Return	Benefit/ Cost Ratio	NPV Rank
1	Counterfactual/Do Minimum	10,494	656%	5.3	6
2	Direct Exchequer Provision	41,657	1093%	4.2	4
3	Extension of EIIS	44,038	1975%	6.7	3
4	Accelerated Capital Allowances	44,138	2085%	6.8	2
5	Public Private Partnership	41,182	1865%	4.2	5
6	State Fund	44,142	2102%	6.8	1

As can be seen, Options 2 to 6 generate a significantly superior return for the Exchequer than the Counterfactual, which effectively sees a significant proportion of older people who ideally would be accommodated in nursing homes being delayed and maintained in an acute hospital setting. In financial terms all the options have a highly positive Net Present Value (NPV) over the evaluation period, while Option 6 ("State Fund") emerges as the most positive. This reflects the fact

that there is no cost to the State in operating the fund, as it lends on the money at a margin to cover risk and administration, but at lower than commercial rates.

Socio-Economic Analysis

In the Exchequer Cashflow Analysis/Financial Analysis we were concerned with the financial costs and benefits of the project to its promoter, i.e. the Exchequer. The economic appraisal takes these figures and includes the external/unpaid for costs and benefits of the project, evaluated from the perspective of society as a whole, including shadow prices (true economic costs of resources), and the social cost of capital. The results of this analysis are presented in the following table:

Socio-Economic Cost Benefit Analysis Results

Option		NPV € Million	Internal Rate of Return	Benefit/ Cost Ratio	NPV Rank
1	Counterfactual/Do Minimum	9,205	776%	6.2	6
2	Direct Exchequer Provision	37,965	1389%	5.0	4
3	Extension of EIIS	40,473	2297%	8.2	3
4	Accelerated Capital Allowances	40,588	2425%	8.3	2
5	Public Private Partnership	37,905	1981%	5.2	5
6	State Fund	40,596	2444%	8.4	1

As with the Exchequer Cashflow Analysis, under the socioeconomic CBA analysis, all options deliver a highly positive NPV, and thus are considered worthwhile from a socioeconomic point of view. Option 6 – "State Fund" - once again delivers the highest return, based on our estimates. However, it should be noted that there is a question mark over whether the borrowing for such a fund could be excluded from the State balance sheet (i.e. would not be included in the State's debt:GDP ratio). In addition, the differences in NPV between options 3, 4 and 6, and between options 2 and 5, are modest.

It is important to note that with Options 3, 4 and 6 we see **reform of the Fair Deal pricing model as the main means by which the private sector will deliver the required capacity**, with the EIIS, accelerated capital allowances and State Fund respectively assisting in this regard. The private sector has been the main source of new capacity in recent years, and during the 2000s was adding capacity at a rate more than adequate to meet future requirements as estimated in this study. Nonetheless, a key difference between options 2 and 5 (where the public sector directly intervenes to deliver capacity) and options 3, 4 and 6 (where the private sector is incentivised to deliver capacity) is that there is no guarantee that the latter options will deliver the required additional capacity in areas where it is needed. Also, when comparing Options 2 and 5, PPP does have benefits in terms of impact on the State balance sheet, which are not taken into account in the CBA.

Finally, it is worth keeping in mind also that the significant benefits for residents and their families (as opposed to the Exchequer) of accommodation in nursing homes instead of elsewhere in the healthcare system, as well as the benefits for users of the acute hospital system due to freed-up acute system capacity, have

only been qualitatively assessed, and this further enhances the worthwhileness of the project.

In our scenario analysis we tested the robustness of the above results to significantly more negative outturns than the base case, including cost of capital 50% higher, capital expenditure 50% higher and benefits 50% lower. All the options are robust to these more negative scenarios. The analysis gives comfort around the robustness of our results. Option 6 remains the preferred option throughout.

Conclusions & Recommendations

Conclusions

The conclusions from our analysis can be summarised as follows:

- A supply gap in nursing home capacity is emerging, particularly in the larger urban areas, and this will grow over time unless there is a significant acceleration in new capacity provision.
- The public sector, despite investment in its built stock in recent years in a constrained Exchequer position, has found it challenging to meet HIQA's infrastructural standards. This situation is now coming to a head, as HIQA has indicated that it may start imposing conditions on registration, including "no new admissions" requirements on non-compliant homes. Retaining a 20% presence in the sector, in line with policy, will involve a significant cost for the State (whether capital or revenue via a PPP or similar) over the coming years.
- Public sector nursing homes are significantly more expensive to operate than private sector facilities, mainly because of greater staff costs, perhaps linked in some degree to greater dependency levels, and also exacerbated by challenges in rationalising existing facilities. This carries a further price tag, which must be acknowledged.
- A recurring theme throughout this study has been **how prices are currently set under the Fair Deal Scheme**, and the impact this has on the private sector. As indicated in Section 3, the price-setting model of the scheme has been identified as the single biggest barrier to investment in the sector.
- There is no appetite from any quarter, including existing and prospective Irish and International operators, the banking sector and healthcare consultancies, for a **property-based tax scheme** similar to the one that was in place during the last decade. Accelerated capital allowances on plant and machinery investment may however, have potential.
- An **extension of the current EIIS scheme** to cover expansion by existing nursing home operators, or a **State fund** for the same purpose, would appear to have value in bridging the equity gap for some operators.
- Tax-based schemes such as the EIIS in particular or capital allowances involve a cost to the Exchequer, whereas a fund could be structured so as to be cost neutral (while lending at lower than commercial rates). The fund has a further advantage in that it may be possible to target it to particular parts of the country or to reflect public policy, and it can facilitate newbuilds.

Recommendations

The Cost Benefit Analysis evaluated a range of options to deliver the required capacity, all of which generated highly positive returns to the Exchequer and society compared to the counterfactual of continuing as is. This points to the substantial benefits of providing for the required nursing home capacity going forward.

In reality, the set of solutions is likely to involve a range of options being implemented in different parts of the country, reflecting local circumstances. Further, the options which primarily rely on the private sector all implicitly assume that reform of the pricing model under the Fair Deal scheme will be undertaken, and in our view this will be the most important factor in addressing the supply gap.

Review of the Fair Deal Scheme is beyond the scope of this study; a separate study has been undertaken to address this. However, it would be remiss of us not to comment on the scheme given its importance to the operation of the sector, and the fact that our consultations and analysis have identified the scheme's pricing mechanism as the major barrier to investment. The following observations should be seen in this context.

The Nursing Home sector in Ireland is a very substantial sector of the economy. Through the Fair Deal Scheme the State procures several hundred million Euros worth of services annually from private nursing homes. While the scheme has delivered many benefits and is a significant advance on what was in place heretofore, its current pricing model operates in an ad hoc manner, lacks rationale, consistency and fairness, only applies to the private sector, and in the long run is unsustainable. These points are expanded on in Section 3 of this report but importantly, the system leads to uncertainty on future income, payments do not reflect efficient cost levels in many areas outside Dublin, and do not reflect the degree of dependency of residents.

In summary it is our view that the following set of policies will best address the challenges facing the sector going forward:

- With respect to the private sector, we are of the belief that the proper structuring of the pricing model in the Fair Deal Scheme will greatly reduce barriers to investment.
- With respect to the public sector, rationalisation combined with increased investment (possibly via a PPP scheme) to upgrade/replace the public stock will be required to maintain a 20% presence in the market. PPPs have the advantage of being off the State balance sheet.
- There is an element of the private sector, mostly standalone homes in rural locations, for which the EIIS scheme or a State investment or lending fund, lending at lower than commercial rates, could be of assistance. These homes may be of sub-optimal size from a commercial viewpoint, and their operators

may lack equity for investment. Inevitably a proportion of these homes will close, or be sold to larger operators.

These homes, apart from the direct service they provide, are sizeable economic entities and provide substantial direct and indirect employment. Access to equity via EIIS or a State fund could enable them to upgrade to an optimal size. EIIS is an expensive option for the State, but has the advantage that it is already in place. A State fund can be structured to have no cost to the State, although there is a question mark as to whether the related State borrowing could be excluded from the State's debt:GDP ratio. It can facilitate newbuilds, and it may also be possible to target it to reflect public policy requirements.

1. INTRODUCTION

The team incorporating DKM Economic Consultants, AECOM, RDJ Solicitors and Rose McHugh (Former Head of Corporate Finance in Merrion Capital) has been tasked by the Department of Health to provide an analysis of ***Potential Measures to Encourage the Provision of Nursing Home and Community Nursing Unit Facilities***. Specifically, four questions were to be addressed:

1) What are the current and future requirements for facilities for the period 2015- 2035 by geographic area and what is the likely gap in the absence of additional measures to encourage provision?
2) What are the reasons for the current lack of investment in facilities and what reasons have the most significant effect?
3) What are the potential policy options for addressing the problem and how do the different options perform against key criteria?
4) How does a preferred set of options perform under cost benefit analysis?

This report presents our findings on these matters. It is laid out as follows:

Section 2	analyses the future supply gap.
Section 3	deals with barriers to investment.
Section 4	presents a long list of options for tackling the problem, and submits them to an informal Multi-Criteria Analysis (MCA).
Section 5	is the Executive Summary of a separate Cost Benefit Analysis report, which analyses the short list of options that emerged from the informal MCA process.
Section 6	presents our conclusions and recommendations.

Our findings are summarised in the Executive summary at the start of the report.

2. FUTURE SUPPLY GAP

2.1 CURRENT SUPPLY

Residential care beds in Ireland are supplied by both the public and private sectors. Voluntary sector beds are provided under either Section 38 of the Health Act 2004, in which case they are classified as public beds, or under Section 39 Assistance, in which case they are classified as private sector beds.

According to the Public Bed Register, there were a total of 7,180 public residential care beds as of April 2015. The Private Bed Register available from Nursing Homes Ireland (NHI), indicates there were a total of 22,125 private sector beds, including Section 39 beds, as of June 2014[1]. In addition, there are 280 private beds provided by Welfare Homes which would bring the total number of private sector beds to 22,405[2].

Thus there are circa 29,600 residential care beds operational in Ireland at present. On this basis, the private sector accounts for 76 per cent of residential care beds with the public sector accounting for 24 per cent.

Table 2.1: Estimated National Residential Care Private/Public Mix

Private/Public Mix	Private 2014	Public 2015	Total
Number of Units	448	129	577
Number of Residential Beds	22,405	7,180	29,585
% of Residential Beds	76%	24%	100%

Sources: Public Bed Register April 2015 and NHI Private Bed Register June 2014

These beds are a mix of long stay and short stay beds. According to the Public Bed Register, 1,866 out of 7,180 public beds (26%) were short-stay. Research undertaken by Nursing Homes Ireland indicates that 92 per cent of all residents were long stay. Assuming this implies that 92 per cent of beds are also long stay, the implication is that the number of short stay beds in the private sector is close to 1,800, while private long stay beds are approximately 20,600.

It is possible to further break down the national public and private residential care bed figures across the regions as set out in Table 2.2. These estimates indicate the relative proportion of public provision to private provision is highest in the South region at 27 per cent, while Dublin North East has the lowest at 19 per cent.

[1] Data available from HIQA as of January 2015 indicates that total private bed provision including section 39 is 21,878.

[2] The 280 private beds in welfare homes are registered with HIQA, however they are not subject to the same requirements as nursing homes. Nevertheless, it was decided that they should be incorporated into the private sector numbers for this analysis. Not all welfare homes were registered with Nursing Homes Ireland.

Table 2.2: ESTIMATED REGIONAL RESIDENTIAL CARE PUBLIC /PRIVATE MIX

Region		Private 2014	Public 2015
Dublin Mid Leinster	Bed numbers	6,280	1,842
	%age split	77%	23%
Dublin North East	Bed numbers	4,314	1,043
	%age split	81%	19%
West	Bed numbers	5,969	2,086
	%age split	74%	26%
South	Bed numbers	5,842	2,209
	%age split	73%	27%
Total		**22,405**	**7,180**

Sources: Public Bed Register April 2015 and NHI Bed Register June 2014.

A breakdown of the public and private beds at Local Health Office (LHO) area level within the HSE regions provides more detailed insights into the supply profile. This LHO area data, compiled from the Public Beds Register as of April 2015, the NHI Private Bed Register as of June 2014 and the HIQA data on Welfare Homes is set out in Table 2.3. As expected the key areas of supply across the various regions relate to urban LHO areas. In the South, the South Lee and North Lee areas together account for 27% of supply, while in the West, the MidWest LHO which incorporates Limerick accounts for 35%, followed by Galway at 23%. In Dublin Mid Leinster supply is concentrated in Dublin South East /Wicklow (37%) while in Dublin North East, it is focused in Dublin North Central (22%) and Dublin North (21%) areas.

Table 2.3: LHO Area Breakdown of Nursing Home Beds

		Public 2015	Private* 2014	Total Beds
Dublin Mid Leinster	Dublin South Central	430	989	1,419
	Dublin South East /Wicklow	565	2,439	3,004
	Kildare West Wicklow/Dublin South West	356	1,613	1,969
	Midlands	491	1,239	1,730
	Sub-Total	**1,842**	**6,280**	**8,122**
Dublin North East	Cavan/Monaghan	207	673	880
	Dublin North	190	946	1,136
	Dublin North Central	105	1,052	1,157
	Dublin North West	277	345	622
	Louth	170	420	590
	Meath	94	878	972
	Sub-Total	**1,043**	**4,314**	**5,357**
West	Donegal	398	533	931
	Galway	288	1,584	1,872
	Mayo	386	723	1,109
	MidWest	530	2,268	2,798
	Roscommon	163	482	645
	Sligo/Leitrim/West Cavan	321	379	700
	Sub-Total	**2,086**	**5,969**	**8,055**
South	Carlow/Kilkenny	206	779	985
	Kerry	314	742	1,056
	North Cork	138	685	823
	North Lee	212	760	972
	South Lee	428	777	1,205
	South Tipperary	182	425	607
	Waterford	245	608	853
	West Cork	276	341	617
	Wexford	208	725	933
	Sub-Total	**2,209**	**5,842**	**8,051**
	Total	**7,180**	**22,405**	**29,585**

Sources: Public Bed Register April 2015, NHI Bed Register June 2014 and HIQA.
*Incorporates 280 beds in welfare homes.

2.1.2 Occupancy Rates

The Fair Deal Occupancy Report for May 2015 indicates that at a national level, public long stay units have a 92 per cent occupancy rate. However, some homes are operating at in excess of 98% capacity while oversupply in other regions has the effect of reducing the overall national figure. From the perspective of the

NHSS Fair Deal scheme, 95% occupancy in public facilities is considered full capacity for the purposes of funding under the scheme. Thus, public nursing homes must achieve at least 95% occupancy in order to maximise their funding under the scheme[3].

According the Nursing Homes Ireland, the average occupancy rate nationally in private nursing homes in 2014 was 90%. Nursing Homes Ireland notes that low occupancy in some homes has been the result of delays in processing applications for the Fair Deal Scheme[4].

Table 2.4: Occupancy Rates – Public Long Stay Residential Beds May 2015

Occupancy Levels	Public
Number of Beds Days in May 2015	163,277
Number of Bed Days Paid in Period	149,586
% of Beds occupied	92%

Source: Fair Deal Occupancy Report for May 2015

2.2 Future Supply

It is challenging to estimate the future supply of nursing homes from both a public and private perspective.

In relation to public bed provision, it has been established that a number of public units will never be compliant with HIQA infrastructural standards. Some of these homes are protected buildings and are unsuitable for refurbishment works. A large number of other public units will require significant capital investment in order to achieve compliance with HIQA infrastructural standards. While some works are underway, others have yet to commence and in many instances a reduction in bed numbers may result due to configuration of building layout in order to meet standards.

In relation to private bed provision, NHI estimates that on average close to 340 extra beds have been provided per annum since the Fair Deal scheme commenced in 2009. Given that that period coincided with severe recession during which balance sheets were under stress and access to finance was curtailed, it likely that this figure is below the future new supply potential. NHI indicates that some 1,500 beds are in the process of being delivered at the moment, mostly in North Dublin, and other sources confirm this.

In order to project an initial estimate of future supply, a number of assumptions were made in relation to the provision of public and private beds:

(i) In the first instance it is assumed that the public bed provision will remain unchanged. This is based on the premise that while the HSE will continue to invest in some new units, reconfiguring of some buildings, along with the fact that older units may have to close, will result in an overall neutral effect on

[3] HSE West Viability Plan 2012
[4] Nursing Homes Ireland. Annual Private Nursing Homes Survey 2014/2015

public bed numbers going forward. We are also mindful of the stated policy of maintaining 20% of beds in the public sector.

(ii) Secondly it is assumed that private bed provision will increase by 700 per annum in the years 2016 and 2017, based on information from NHI and other sources. This recognises the fact that a significant number of private beds are due to come on-stream in key locations such as the northern areas of Dublin.

(iii) Thirdly, it is assumed that private bed provision will increase by an average of 400 beds per annum from 2018 onwards, which is slightly higher than the average of 340 per annum since 2009.

On this basis the number of private beds would reach approximately 31,400 by 2036 while public beds would remain unchanged at 7,180. On this basis, public beds would account for 19 per cent of the total bed provision by 2036, just below its 20% stated policy market share.

Table 2.5: National Residential Care Bed Forecasts 2016-2036

Year	Private Bed Provision	Public Bed Provision	Total	@ 95% Occupancy
2016	23,105	7,180	30,285	28,771
2021	25,405	7,180	32,585	30,956
2026	27,405	7,180	34,585	32,856
2031	29,405	7,180	36,585	34,756
2036	31,405	7,180	38,585	36,656

Source: DKM Economic Consultants

Table 2.6 sets out our forecasts of the supply of private and public nursing home beds to 2036, at regional and LHO level. To produce this, it is necessary to allocate the projected future supply across LHOs. This has been done as follows:

- For 2016 and 2017, it is assumed that 300 beds will come on-stream in Dublin North, 200 beds in Dublin North West, 50 beds each in Dublin South Central and Kildare/West Wicklow/Dublin South West, and 100 beds in North Lee.
- For each year thereafter, the we have allocated 25 beds each in Dublin North and Dublin North West, 50 beds in Dublin South Central, 75 in Kildare/West Wicklow/Dublin South West, 25 in Dublin South East/Wicklow, 50 beds in North Lee and 25 in South Lee, with the remaining 125 in the other LHO areas, spread pro rata with their capacity in 2017.

While we have some visibility on new capacity coming on-stream in the next two years, thereafter the allocation is more speculative, but reflects where capacity shortages exist as well as where better Fair Deal prices are being earned.

Table 2.6: HSE Regional & LHO Area Residential Care Beds Forecast 2016-2036

HSE Region	LHO Area	2016	2021	Private 2026	2031	2036	Public 2016-36
Dublin Mid Leinster	Dublin South Central	1,039	1,289	1,539	1,789	2,039	430
	Dublin South East/Wicklow	2,439	2,539	2,664	2,789	2,914	565
	Kildare/West Wicklow/Dublin South West	1,663	2,013	2,388	2,763	3,138	356
	Midlands	1,239	1,282	1,335	1,388	1,441	491
	Subtotal	**6,380**	**7,123**	**7,926**	**8,729**	**9,532**	**1,842**
Dublin North East	Cavan/Monaghan	673	696	725	754	783	207
	Dublin North	1,246	1,646	1,771	1,896	2,021	190
	Dublin North Central	1,052	1,088	1,133	1,179	1,224	105
	Dublin North West	545	845	970	1,095	1,220	277
	Louth	420	434	453	471	489	170
	Meath	878	908	946	984	1,021	94
	Subtotal	**4,814**	**5,618**	**5,998**	**6,378**	**6,758**	**1,043**
West	Donegal	533	551	574	597	620	398
	Galway	1,584	1,638	1,707	1,775	1,843	288
	Mayo	723	748	779	810	841	386
	MidWest	2,268	2,346	2,444	2,541	2,639	530
	Roscommon	482	499	519	540	561	163
	Sligo/Leitrim/West Cavan	379	392	408	425	441	321
	Subtotal	**5,969**	**6,174**	**6,431**	**6,688**	**6,944**	**2,086**
South	Carlow/Kilkenny	779	806	839	873	906	206
	Kerry	742	768	799	831	863	314
	North Cork	685	709	738	767	797	138
	North Lee	860	1,160	1,410	1,660	1,910	212
	South Lee	777	877	1,002	1,127	1,252	428
	South Tipp	425	440	458	476	494	182
	Waterford	608	629	655	681	707	245
	West Cork	341	353	367	382	397	276
	Wexford	725	750	781	812	843	208
	Subtotal	**5,942**	**6,490**	**7,050**	**7,610**	**8,170**	**2,209**
	Total	**23,105**	**25,405**	**27,405**	**29,405**	**31,405**	**7,180**
	Total Private & Public	**30,285**	**32,585**	**34,585**	**36,585**	**38,585**	

Source: DKM projections.

Table 2.7 then presents the effective capacity, based on 95% occupancy levels. This indicates that, based on the assumptions outlined above, the total effective residential care capacity (private plus public) will be just under 36,700 by 2036.

Table 2.7: HSE Regional & LHO Area Residential Care Bed Effective Capacity Forecasts 2016-2036 (@ 95% Occupancy)

HSE Region	LHO Area	Private 2016	Private 2021	Private 2026	Private 2031	Private 2036	Public 2016-2036
Dublin Mid Leinster	Dublin South Central	987	1,225	1,462	1,700	1,937	409
	Dublin South East/Wicklow	2,317	2,412	2,531	2,650	2,768	537
	Kildare/West Wicklow/Dublin South West	1,580	1,912	2,269	2,625	2,981	338
	Midlands	1,177	1,218	1,268	1,319	1,369	466
	Subtotal	**6,061**	**6,766**	**7,530**	**8,293**	**9,056**	**1,750**
Dublin North East	Cavan/Monaghan	639	661	689	716	744	197
	Dublin North	1,184	1,564	1,682	1,801	1,920	181
	Dublin North Central	999	1,034	1,077	1,120	1,163	100
	Dublin North West	518	803	922	1,040	1,159	263
	Louth	399	413	430	447	464	162
	Meath	834	863	899	935	970	89
	Subtotal	**4,573**	**5,337**	**5,698**	**6,059**	**6,420**	**991**
West	Donegal	506	524	546	567	589	378
	Galway	1,505	1,557	1,621	1,686	1,751	274
	Mayo	687	710	740	770	799	367
	MidWest	2,155	2,229	2,321	2,414	2,507	504
	Roscommon	458	474	493	513	533	155
	Sligo/Leitrim/West Cavan	360	372	388	403	419	305
	Subtotal	**5,671**	**5,866**	**6,109**	**6,353**	**6,597**	**1,982**
South	Carlow/Kilkenny	740	766	797	829	861	196
	Kerry	705	729	759	790	820	298
	North Cork	651	673	701	729	757	131
	North Lee	817	1,102	1,340	1,577	1,815	201
	South Lee	738	833	952	1,071	1,189	407
	South Tipp	404	418	435	452	470	173
	Waterford	578	597	622	647	672	233
	West Cork	324	335	349	363	377	262
	Wexford	689	712	742	772	801	198
	Subtotal	**5,645**	**6,166**	**6,698**	**7,230**	**7,762**	**2,099**
	Total	**21,950**	**24,135**	**26,035**	**27,935**	**29,835**	**6,821**
	Total Private & Public	**28,771**	**30,956**	**32,856**	**34,756**	**36,656**	

Source: DKM projections.

This can also be translated into new nursing home numbers, making the simplistic assumption that all new capacity will be in the form of 100 bed facilities. In reality there is likely to be a mix of extensions to existing facilities and new standalone facilities. Our projections imply seven new 100-bed nursing homes "equivalents" in 2016 compared to 2015, 23 in the five years to 2021, and so on, indicating a cumulative net increase of 90 new homes between 2015 and 2036.

Table 2.8: Projected Additional New Private Nursing Homes, 2016-2036

HSE Region	LHO Area	Additional Private Nursing Homes per Period to					Cumulative
		2016*	2021	2026	2031	2036	2016-2036
Dublin Mid Leinster	Dublin South Central	0.50	2.50	2.50	2.50	2.50	10.50
	Dublin South East/Wicklow	0.00	1.00	1.25	1.25	1.25	4.75
	Kildare/West Wicklow/Dublin South West	0.50	3.50	3.75	3.75	3.75	15.25
	Midlands	0.00	0.43	0.53	0.53	0.53	2.02
	Subtotal	**1.00**	**7.43**	**8.03**	**8.03**	**8.03**	**32.52**
Dublin North East	Cavan/Monaghan	0.00	0.23	0.29	0.29	0.29	1.10
	Dublin North	3.00	4.00	1.25	1.25	1.25	10.75
	Dublin North Central	0.00	0.36	0.45	0.45	0.45	1.72
	Dublin North West	2.00	3.00	1.25	1.25	1.25	8.75
	Louth	0.00	0.14	0.18	0.18	0.18	0.69
	Meath	0.00	0.30	0.38	0.38	0.38	1.43
	Subtotal	**5.00**	**8.04**	**3.80**	**3.80**	**3.80**	**24.44**
West	Donegal	0.00	0.18	0.23	0.23	0.23	0.87
	Galway	0.00	0.54	0.68	0.68	0.68	2.59
	Mayo	0.00	0.25	0.31	0.31	0.31	1.18
	MidWest	0.00	0.78	0.98	0.98	0.98	3.71
	Roscommon	0.00	0.17	0.21	0.21	0.21	0.79
	Sligo/Leitrim/West Cavan	0.00	0.13	0.16	0.16	0.16	0.62
	Subtotal	**0.00**	**2.05**	**2.57**	**2.57**	**2.57**	**9.75**
South	Carlow/Kilkenny	0.00	0.27	0.33	0.33	0.33	1.27
	Kerry	0.00	0.26	0.32	0.32	0.32	1.21
	North Cork	0.00	0.24	0.29	0.29	0.29	1.12
	North Lee	1.00	3.00	2.50	2.50	2.50	11.50
	South Lee	0.00	1.00	1.25	1.25	1.25	4.75
	South Tipp	0.00	0.15	0.18	0.18	0.18	0.69
	Waterford	0.00	0.21	0.26	0.26	0.26	0.99
	West Cork	0.00	0.12	0.15	0.15	0.15	0.56
	Wexford	0.00	0.25	0.31	0.31	0.31	1.18
	Subtotal	**1.00**	**5.48**	**5.60**	**5.60**	**5.60**	**23.28**
	Total	**7.00**	**23.00**	**20.00**	**20.00**	**20.00**	**90.00**

*2016 compared to 2015. Source: DKM projections.

2.3 Projecting Demand to 2036

The next step is to derive an estimate of future demand for residential care beds. This is achieved by generating population projections, in particular of the 65 plus age groups, and by assuming that a certain proportion of this age cohort will require residential care.

The CSO *Regional Population Projections* were published in 2013 and give population projections by NUTS III Planning Region to 2031, based on the 2011 Census. As these are the only official regional population projections available they were utilised in this report.

The CSO *Regional Population Projections M2F2*[5] were used to project the 65+ populations for the HSE's four regions and the constituent LHO areas. In order to derive the projections for each LHO area it was assumed that over the forecast period to 2016, each area

- retains its population share of the Planning Region it is part of, and
- shares the age distribution of the Planning Region it is part of.

To derive estimates of the demand for residential care, it is assumed that 4% of the population aged 65 and over ('65+') will require long term residential care. In addition, for other categories of residential care (short stay), it was assumed that there would be a requirement of:

Rehabilitation Beds:	3	beds per 1,000 65+ years population
Assessment Beds:	2.5	beds per 1,000 65+ years population
Respite Beds:	3	beds per 1,000 65+ years population

These benchmarks are derived from the 1988 *Years Ahead* report. It is recognised in the various HSE area viability plans that there is an urgent need for more up-to-date research on these benchmarks, given developments over the past number of years, in particular the move towards supporting older people to remain in the community. The *National HSE Public Residential Long Stay Units Viability Plan 2013 – 2015* notes that if the 'Specialist Geriatric-Model of Care' is rolled out, there will be a further increase in the demand for short stay beds on top of that identified in the *Years Ahead* report. However the targets as set out in the *Years Ahead* report are the best available at present.

The *National Viability Plan* also notes that the 4% target for long stay beds was based on the premise that there would be continued development of community supports. It must be noted that there have been cuts to community care programmes, notably, a decrease in Home Help funding of circa €11 million between 2010 and 2012, albeit there was an increase of circa €8 million in funding to the Home Care Package Scheme in 2011/2012. More recently, under the Delayed Discharge Initiative, there was an additional €5 million allocated to Home Care Packages, and €2 million to Community Intervention Teams. Nevertheless, the proportion of the population 65+ in care reached 4.6% in 2012[6].

[5] The underlying assumptions are summarised in Appendix A.

[6] Separately, the 2008 *Prospectus Report* estimated that 4.5% of the 65+ population was living in a residential care setting. The *National Viability Plan* also notes that the Clinical Care – Ambulatory Model for long term care suggests a norm of 10 beds per 1,000 population 65+ years.

The tables that follow give the projected populations and the implied demand for long stay and short stay beds for the regions for the years 2016 to 2036. The projections on an LHO basis are contained in Appendix A[7].

Table 2.9: CSO-Based Projected Populations of Persons 65+ by HSE Region

HSE Regions	2016	2021	2026	2031	2036
Dublin Mid Leinster	163,933	194,406	230,272	271,352	309,325
Dublin North East	130,856	153,457	179,814	209,777	239,293
South	169,803	198,401	230,715	266,415	304,344
West	159,503	185,514	213,991	243,407	278,098
Total	**624,095**	**731,778**	**854,792**	**990,951**	**1,131,061**

Source: Based on CSO Regional Population Projections

Nationally, the population of 65+ is expected grow from 624,000 to over 1.13 million between 2016 and 2036. The implied demand for long stay beds (@ 4% of the 65+ population) is predicted to increase from just under 25,000 in 2016 to 45,000 by 2036.

In addition, as outlined above, it is assumed that there would be a combined requirement of 8.5 rehabilitation/assessment/respite beds per 1,000 65+ population. The implied demand for short stay beds is predicted to increase from 5,300 in 2016 to 9,600 in 2036. The table overleaf gives the details by HSE region.

Previous estimates produced by the HSE have been reviewed and compared with CSO Population Estimates and Projections and implied bed requirements in Appendix B.

[7] In order to facilitate the estimation of the supply gap in care beds, the LHO areas were amalgamated in such a way that they matched the LHO areas used for the HIQA Bed Register. This is only relevant for the Dublin Mid Leinster region.

Table 2.10: Implied Demand for Long Stay and Short Stay Beds, 2016 to 2036

	2016			2021			2026			2031			2036		
	Long Stay	Short Stay	Total	Long Stay	Short Stay	Total	Long Stay	Short Stay	Total	Long Stay	Short Stay	Total	Long Stay	Short Stay	Total
Dublin Mid Leinster	6,557	1,393	7,950	7,776	1,652	9,428	9,211	1,957	11,168	10,854	2,306	13,160	12,373	2,629	15,002
Dublin North East	5,234	1,112	6,346	6,138	1,304	7,442	7,193	1,528	8,721	8,391	1,783	10,174	9,572	2,034	11,606
South	6,792	1,443	8,235	7,936	1,686	9,622	9,229	1,961	11,190	10,657	2,265	12,922	12,174	2,587	14,761
West	6,380	1,356	7,736	7,421	1,577	8,998	8,560	1,819	10,379	9,736	2,069	11,805	11,124	2,364	13,488
Total	**24,964**	**5,305**	**30,269**	**29,271**	**6,220**	**35,491**	**34,192**	**7,266**	**41,458**	**39,638**	**8,423**	**48,061**	**45,242**	**9,614**	**54,856**

Note: the 2016 demand level is based on a rate of 4% of the 65+ population, although the current actual rate is 4.6%. To that degree the 2016 forecast demand is understated.

2.4 SUPPLY VS DEMAND

2.4.1 Base Case

Previous sub-sections have assessed the prospects for future supply of nursing home beds, and the implied demand based on the demographics. Comparing supply and demand on a national and regional basis gives the table below and graph overleaf.

Table 2.11: NURSING HOME LONG- & SHORT-STAY BED SUPPLY* VS DEMAND 2016-2036

	2016	2021	2026	2031	2036
Supply					
Dublin Mid Leinster	7,811	8,516	9,279	10,043	10,806
Dublin North East	5,564	6,328	6,689	7,050	7,411
South	7,743	8,264	8,796	9,328	9,860
West	7,652	7,847	8,091	8,335	8,579
Total	**28,771**	**30,956**	**32,856**	**34,756**	**36,656**
Demand					
Dublin Mid Leinster	7,951	9,429	11,168	13,161	15,002
Dublin North East	6,347	7,443	8,721	10,174	11,606
South	8,235	9,622	11,190	12,921	14,761
West	7,736	8,997	10,379	11,805	13,488
Total	**30,269**	**35,491**	**41,457**	**48,061**	**54,856**
Gap ('-' indicates Deficit)					
Dublin Mid Leinster	-140	-912	-1,889	-3,118	-4,197
Dublin North East	-782	-1,115	-2,032	-3,124	-4,195
South	-492	-1,358	-2,393	-3,593	-4,900
West	-84	-1,150	-2,287	-3,470	-4,909
Total	**-1,498**	**-4,535**	**-8,602**	**-13,305**	**-18,201**

*@ 95% occupancy rate. Note: Columns may not add due to rounding.

Note: the 2016 demand level is based on a rate of 4% of the 65+ population, although the current actual rate is 4.6%. To that degree the 2016 forecast demand and gap are understated.

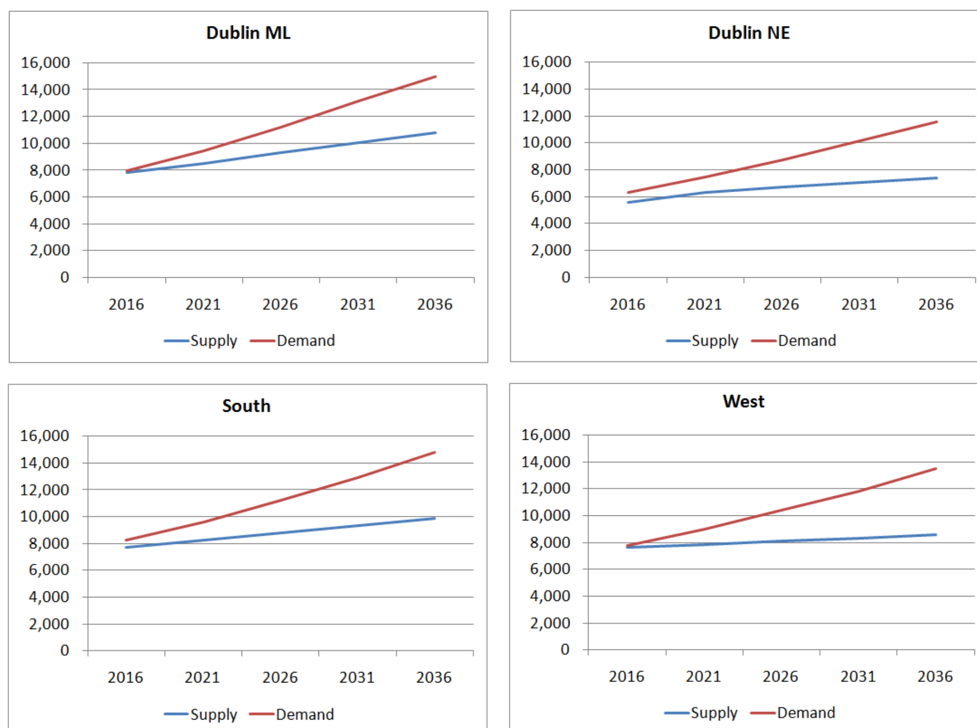
At a national level, our analysis indicates a supply deficit of circa 1,500 beds, which over the course of the next two decades grows to over 18,000. This deficit is additional to capacity of 7,885 beds coming on-stream over the period 2016 to 2036. Likewise, for each of the regions, the current deficit grows quite significantly over the course of the next two decades.

While Dublin North East has the largest deficit - 780 beds - in 2016, the new supply coming on-stream in 2016-2017 and subsequent years improves the situation so that by 2036 its deficit is marginally lower than any of the other regions. This is based on a number of assumptions as to the extent and location of

new nursing home capacity post 2017, which must be kept in mind when considering the projections.

It must also be borne in mind that for a properly working market there needs to be some excess capacity; otherwise the suppliers in aggregate form a monopoly and this will be reflected in prices and relative market power. That said, the assumption that 95% occupancy is equivalent to full capacity does give some scope to flex.

Figure 2.1: Supply* Vs Demand 2016-2036



*@ 95% occupancy rate.

These four regions are large, and therefore it is of value to consider the position at the more disaggregated LHO level. Within each region there are likely to be areas with deficits. However, a number of provisos must be made:

1. The further into the future forecasts extend the less certainty can be attached to them, and this is accentuated when dealing with smaller areas.
2. In particular, while we have some visibility on where new nursing home capacity will come on-stream in the short term, over the medium to longer term we are forced to assume that new capacity will come on-stream proportionally to existing capacity. This may not turn out to be accurate.
3. In Dublin there are a number of geographically small, densely developed, contiguous LHO areas. There should be scope for deficits in one to be made good by surpluses in another. This may apply along the borders of some other LHO areas also.

Comparing the supply and demand side of each LHO, we note some amalgamation in the Action and Viability Plans for Dublin Mid Leinster, namely:

Action and Viability Plans		**Demographic Data**
Dublin South Central	=	Dublin South City & Dublin West
Dublin South East /Wicklow	=	Dublin South East, Dun Laoghaire & Wicklow
Kildare West Wicklow/Dublin South West	=	Kildare West Wicklow & Dublin South West
Midlands	=	Laois/Offaly/Longford/Westmeath

We thus present the LHO level analysis on the same basis as in the Action and Viability Plans, in Table 2.12 overleaf. As before, this can also be presented in terms of 100 bed nursing home "equivalents", bearing in mind our **assumption of 95% occupancy rates**[8]. See Table 2.13 overleaf, which only presents numbers for areas which have a deficit.

This analysis indicates that in the absence of a change in policy, and based on our assumptions, Ireland will have a supply deficit of 192 x 100-bed nursing homes or the equivalent, by 2036. This is on top of the 90 additional homes that we expect to be delivered under the "Counterfactual" option. Some of the notable implications, based on our assumptions, are:

- Unsurprisingly, a number of Dublin LHO areas are already problematic.
- Over time, the deficit in a number of LHO areas outside Dublin becomes problematic.
- Over the coming decades, all LHO areas will develop capacity deficits.

This analysis, which can be considered the Base Case, is predicated on:

- no net changes in public sector capacity,
- future demand for long term beds of 4% of the 65+ population,
- future demand for short term beds of 0.85% of the 65+ population,
- future net addition of 400 beds per annum by the private sector post 2017, allocated as per our assumptions.
- It can also be seen as assuming that there are no changes in the wider policy context, including how the pricing model of the Fair Deal scheme is administered (see discussion in Section 3).

It is this scenario which is brought forward to further analysis in the subsequent sections of this report. However, it is based on a range of assumptions and in that context it is worthwhile considering alternative scenarios that might arise.

[8] This assumption is relaxed in the Cost Benefit Analysis as summarised in Section 5.

Table 2.12: Nursing Home Long- & Short-Stay Bed Supply* minus Demand at LHO Level, 2016-2036

LHO	2016	2021	2026	2031	2036
Dublin South Central	-375	-419	-516	-653	-805
Dublin South East /Wicklow	700	397	48	-375	-755
Kildare West Wicklow / Dublin South West	-289	-415	-594	-871	-1,047
Midlands	-176	-476	-827	-1,219	-1,590
Dublin Mid Leinster	**-140**	**-912**	**-1,889**	**-3,118**	**-4,197**
Cavan/Monaghan	-71	-193	-327	-479	-649
Dublin North	-122	22	-140	-335	-543
Dublin North Central	226	122	-0	-142	-291
Dublin North West	-396	-298	-402	-532	-672
Louth	-300	-423	-559	-712	-882
Meath	-120	-345	-603	-925	-1,157
Dublin North East	**-782**	**-1,115**	**-2,032**	**-3,124**	**-4,195**
Carlow/Kilkenny	2	-133	-283	-452	-630
Cork North	147	63	-27	-130	-243
Cork North Lee	-454	-414	-452	-519	-608
Cork South Lee	23	-69	-159	-272	-403
Cork West	169	110	46	-26	-105
Kerry	-19	-165	-326	-506	-703
South Tipperary	-98	-200	-314	-441	-576
Waterford	-106	-243	-396	-568	-750
Wexford	-155	-310	-483	-677	-882
South Total	**-492**	**-1,358**	**-2,393**	**-3,593**	**-4,900**
Donegal	-261	-426	-609	-813	-1,041
Galway	-21	-262	-520	-779	-1,105
MidWest	-46	-422	-809	-1,206	-1,701
Mayo	116	-13	-152	-291	-465
Roscommon	153	94	31	-32	-112
Sligo/Leitrim/West Cavan	-24	-121	-229	-349	-484
West Total	**-84**	**-1,150**	**-2,287**	**-3,470**	**-4,909**
National Net Total	**-1,498**	**-4,535**	**-8,602**	**-13,305**	**-18,201**
Sum of Deficits	**-3,033**	**-5,345**	**-8,727**	**-13,305**	**-18,201**

*@ 95% occupancy rate. Note: Columns may not add due to rounding

Note: the 2016 demand level is based on a rate of 4% of the 65+ population, although the current actual rate is 4.6%. To that degree the 2016 forecast demand and gap are understated.

Table 2.13: Cumulative Nursing home Supply Gap* at LHO Level, 2016-2036

LHO	2016	2021	2026	2031	2036
Dublin South Central	-3.95	-4.41	-5.43	-6.87	-8.47
Dublin South East /Wicklow				-3.95	-7.94
Kildare West Wicklow / Dublin South West	-3.05	-4.37	-6.25	-9.17	-11.03
Midlands	-1.85	-5.01	-8.70	-12.83	-16.73
Dublin Mid Leinster	**-8.84**	**-13.79**	**-20.39**	**-32.82**	**-44.17**
Cavan/Monaghan	-0.75	-2.03	-3.45	-5.04	-6.83
Dublin North	-1.28		-1.47	-3.53	-5.72
Dublin North Central				-1.49	-3.06
Dublin North West	-4.17	-3.14	-4.23	-5.60	-7.07
Louth	-3.16	-4.45	-5.89	-7.49	-9.29
Meath	-1.26	-3.63	-6.35	-9.74	-12.18
Dublin North East	**-10.61**	**-13.25**	**-21.39**	**-32.89**	**-44.16**
Carlow/Kilkenny		-1.40	-2.98	-4.76	-6.64
Cork North			-0.29	-1.37	-2.56
Cork North Lee	-4.78	-4.36	-4.76	-5.46	-6.40
Cork South Lee		-0.72	-1.68	-2.87	-4.24
Cork West				-0.27	-1.10
Kerry	-0.20	-1.74	-3.43	-5.33	-7.40
South Tipperary	-1.03	-2.10	-3.30	-4.65	-6.06
Waterford	-1.11	-2.55	-4.17	-5.98	-7.89
Wexford	-1.63	-3.26	-5.09	-7.13	-9.29
South Total	**-8.76**	**-16.13**	**-25.68**	**-37.82**	**-51.58**
Donegal	-2.75	-4.48	-6.41	-8.55	-10.96
Galway	-0.22	-2.75	-5.47	-8.20	-11.64
MidWest	-0.48	-4.45	-8.52	-12.70	-17.91
Mayo		-0.14	-1.60	-3.07	-4.90
Roscommon				-0.34	-1.18
Sligo/Leitrim/West Cavan	-0.25	-1.27	-2.41	-3.67	-5.09
West Total	**-3.71**	**-13.09**	**-24.40**	**-36.53**	**-51.67**
Sum of Deficits	**-31.93**	**-56.26**	**-91.86**	**-140.06**	**-191.59**

*@ 95% occupancy rate. Note: Assumes all additional nursing home capacity will be in the form of 100-bed facilities. Columns may not add due to rounding.

Note: the 2016 demand level is based on a rate of 4% of the 65+ population, although the current actual rate is 4.6%. To that degree the 2016 forecast demand and gap are understated.

2.4.2 Alternative Scenarios

Two alternative scenarios present themselves:

(i) The level of net capacity addition (400 per annum) may prove conservative; an alternative may be where the level of capacity addition expected for 2016 and 2017 (700 per annum) is maintained each year thereafter.

(ii) The level of demand for long stay beds (4% of the 65+ population) may prove conservative; a higher demand rate of say 4.5% of the relevant population might actually emerge.

The first of these would obviously reduce the projected supply gap, while the second would exacerbate it. The outcomes of running these scenarios are as follows:

Table 2.14: NURSING HOME SUPPLY GAP, ALTERNATIVE SCENARIOS, 2036

Demand*/Supply	+ 400 Beds per annum	+ 700 Beds per annum
Beds		
4% of 65+ population in Long Stay	-18,200	-12,800
4.5% of 65+ population in Long Stay	-23,860	-18,440
Nursing Homes**		
4% of 65+ population in Long Stay	-192	-135
4.5% of 65+ population in Long Stay	-251	-194

* A further 0.85% of the 65+ population will be accommodated in various short-term beds.
**100-bed units at 95% occupancy.

A more positive supply scenario reduces the deficit significantly, though it remains substantial; the less positive demand scenario on the other hand exacerbates the deficit. A combination of more positive supply and more negative demand more or less neutralise each other, leaving the deficit approximately the same as in the Base Case.

3. KEY BARRIERS TO INVESTMENT

3.1 CONTEXT

A substantial stakeholder consultation process was undertaken as part of this study, incorporating –

- relevant sections of the Department of Health and HSE,
- domestic and overseas nursing home operators,
- Nursing Homes Ireland,
- the National Treatment Purchase Fund,
- domestic and overseas current and potential future investors,
- the main banks operating in the market,
- the Departments of Finance and Public Expenditure & Reform,
- HIQA,
- the National Development Finance Agency and the Ireland Strategic Investment Fund, and
- a number of consultancy firms active in the sector.

Extensive insights, inputs and information were also obtained via the project Steering Committee.

Based on our consultations, review of the literature and our own analysis, we set out in this section of the report what in our view are the key barriers to investment in the nursing home sector in Ireland.

The title of this section implies that the current level of investment in the sector is inadequate, and some context is required. Both public and private sector investment has been subdued across the economy for many years, and the nursing home sector has been no exception.

That this has been the case with the public sector is understandable, given the constraints under which the Exchequer has been forced to operate in recent years.

It must be said also that it is hardly surprising that there has been limited investment in new private sector capacity over the last number of years, given the state of the economy, the general strain on private balance sheets, and the problems in the banking sector. NHI indicates that, while approximately 1,000 beds were added per annum in the 2000s (albeit with the assistance of tax reliefs), this has fallen to approximately 340 beds per annum so far this decade.

That said, the circumstances underlying this situation are changing, and we would envisage acceleration in investment over the coming years, independent of any new policy initiatives that might be implemented. Notably:

- The economy is returning to growth, increasing confidence in general;

- Rising property prices are causing an improvement in private sector and bank balance sheets, leading to greater appetite to both lend to and invest in the sector, encouraged by the inescapable demographic pressures;
- There are now sufficient funders in the market (particularly from abroad);
- The sector is consolidating and professionalising, with larger Irish concerns (some backed by overseas capital) becoming more active in the market;
- UK operators are – we understand – "keeping a close eye" on the market, and might be persuaded to invest in the coming years.

All the indications are that new investment is flowing, particularly where higher rates are being earned (via the NHSS or from private patients) and there is excess demand. Notably, we understand that 1,200 to 1,500 new beds are coming on-stream in North Dublin in the coming years. This will go a long way to addressing the current capacity shortages in the relevant LHO areas.

Other areas are not seeing investment however, and while some do not exhibit a significant supply gap currently, the analysis in the previous section indicates that growing supply gaps will emerge across the country over time. The following observations can be seen in this context.

3.2 THE NURSING HOMES SUPPORT SCHEME (FAIR DEAL SCHEME)

Our consultations and analysis indicate that the main barrier to new investment in nursing homes is how the pricing model of the Fair Deal Scheme is operated with regard to private nursing homes. This manifests itself in terms of:

1. Uncertainty around future income streams;
2. Inadequate income levels to enable a return on investment in many parts of the country outside Dublin;
3. Lack of reference to dependency levels of residents.

3.2.1 Uncertainty

Lack of visibility and certainty around income from the Fair Deal Scheme in the medium to long term increases financial risk for the operator, which in turn increases financial risk for the provider of the property (if separate from the operator). This increased financial risk translates into:

(i) reluctance to invest in existing or new homes, and
(ii) higher cost of capital when investment is made.

Certainty would significantly increase investor appetite. Operators require relatively limited capital for the operations but much more capital for the property. The operator (and its investors) will not commit capital unless there is clear visibility on a future income stream that will:

a. cover the operating costs,
b. provide a return on the property investment (or a rent to the property provider, if separate), and
c. deliver a return on the operating investment.

Uncertainty arises from, *inter alia*:

- The fact that the scheme was **under review** at the time of the consultations[9].
- The fact that:
  - the budget for the scheme is **decided annually** by the Oireachtas, and was **cut mid-year** during 2013,
  - the **HSE and not the NTPF** manages the fund by releasing it "at an appropriate rate" throughout the year, and **deals with budget shortages by allowing waiting lists** to lengthen.
- There is **no standard objective assessment basis** for setting the price, related to either efficient capital and operating costs or the level of dependency of residents; while the NTPF does use some benchmarks, in the final analysis the rate for each nursing home is a matter for ad hoc negotiation. The most important factor appears to be the "going rate" in the particular county.
- The current approach means there are **limitations on agreeing rates for concerns operating multiple facilities**, and the efficiencies that could generate, because of the impact on "local" rates and thus price expectations.
- Because the scheme does not address **different levels of dependency in patient care,** it increases risk for operators with respect to deterioration of residents subsequent to their admittance, and discourages some of the more sophisticated financing options.
- **Long term price deals are difficult to negotiate**. The NTPF has indicated that there are no constraints from their perspective on agreeing long term price deals, and indeed has agreed terms for as long as nine years. However, because the prices struck don't reflect dependency levels or nursing home costs, operators are reluctant to enter into long term deals, as they hope to negotiate a better deal in the future. Our understanding is that any longer term deals entered into to date have been in Dublin, where prices are much higher than in the rest of the country.
- It has been indicated to us that large UK operators are cautious of the fact that the **State has such significant control over the price paid**, as this reduces their flexibility in terms of quality and price differentiation in the market.

3.2.2 Inadequate Income Levels to Enable a Return on Investment in Many Parts of the Country Outside Dublin

There is a very significant range in Fair Deal weekly payment rates geographically, from below €600 to in excess of €1,300. We know of no other area of State procurement of services where such price variation exists.

The higher rates are paid in Dublin, reflecting historic differences and the market power of Dublin operators given supply shortage in the capital. This is not justified by any difference in quality of care or cost of service provision. Our consultations and analysis indicate that rates paid in many parts of the country outside Dublin are insufficient to provide an adequate return on capital. By the same token, we suspect that that the State is overpaying for services in Dublin, which is potentially costly given the dominance of Dublin in the national market.

[9] The Review of the scheme has since been published and recommends a review of the pricing model.

The lack of reference to efficient cost levels and return on efficient capital in the Fair Deal negotiations represents a disconnect from the reality that the State expects the private sector to potentially provide 80% of nursing home capacity going forward. It is unsustainable in terms both of rational market operation and enabling new investment in areas of the country where payments rates are lower.

3.2.3 Lack of Reference to the Level of Dependency of Residents

Lack of reference to the level of dependency of residents:
(i) discourages the development of more specialised facilities (for dementia, etc.) where more expensive care is required, and
(ii) creates an incentive to actively discourage acceptance of high-dependency residents by nursing homes.

We can understand the NTPF's reluctance to introduce payment differentiation related to levels of dependency up to a point. However, there is a range of well-established objective tools for evaluating dependency levels, and HIQA assesses resident dependency levels in determining whether nursing home staffing levels, among other things, are adequate. The latter has direct implications for nursing homes' costs.

In short, it is untenable that the State quality regulator can assess differentiated dependency levels and in doing so impose costs on nursing homes, while the State price regulator claims it is unable to reflect the same factor in its pricing decisions.

In summary, given the level of services the Exchequer procures from the private nursing home sector, several hundred million Euros per annum, the pricing model for doing so has developed in an ad hoc way, and lacks rationale, consistency and fairness.

3.3 Other Barriers to Investment

A number of other barriers have been identified during our consultations and analysis of the sector, and are discussed below.

3.3.1 Suitably Qualified Staff

The availability of suitably qualified staff appears to be an increasingly important issue for the private sector, both in terms of nurses and management.

With respect to **nurses**, issues include:

- dependence on overseas recruitment;
- the process of adaptation of overseas recruits in order to gain registration in Ireland, which is dependent on the public hospital system and NMBI; it is noted that registration is significantly slower than in the UK, taking months instead of weeks;
- competition for staff with the HSE, now that the latter has recommenced hiring. We note that the HSE itself is experiencing difficulties in recruiting staff in the care of older persons area at the moment.

With regard to **management**, it has been stated to us in confidence that investors looking at consolidation or expansion in nursing homes in Ireland may not see current management in the industry as sufficiently experienced to run larger groups of homes to very high standards. Likewise, parties looking at consolidation or expansion may need to bring in experienced management from abroad.

3.3.2 Sector Fragmentation

Relatedly, development of new nursing home capacity must be led by competent operators, aiming for scale in the market. Currently the sector is fragmented, with a lot of single home operators, many of whom lack the equity (and perhaps entrepreneurship) to drive significant additional capacity, or are tied into legacy issues around previous tax schemes. Consolidation is occurring but will take time.

The equity requirement by the banks for lending to the nursing home sector (in the region of 30%) is a barrier for some operators, although it must be acknowledged that the requirement is not out of line with that required of other sectors the banks lend to.

3.3.3 Lack of Available Sites

The lack of available sites in areas where nursing homes are required (especially in Dublin) is an issue for new development. Nursing home developers are finding it increasingly difficult to compete with the high prices being paid by residential developers in key urban locations (nursing homes are zoned residential). Residents prefer to live close to their family, but it is becoming increasingly difficult to source affordable sites in Dublin.

3.3.4 Inconsistency in Standards

It has been noted by a number of consultees that there can be inconsistency in the applications of standards and regulations by HIQA across the country, albeit we understand HIQA is taking steps to address this. This comes into sharp relief where nursing home groups, applying standardised systems consistently across their facilities, have these systems approved in some cases and rejected in others. It has been indicated to us that the HIQA system as it stands is not best suited to regulating groups of nursing homes as opposed to individual operations.

3.3.5 Reputational Risk

There is an irreducible reputational risk in operating nursing homes, which results in a premium being required from funders, compared to investment in other sectors.

3.4 Key Barriers

Our consultations and analysis indicate that the key barrier to investment in the sector is the lack of a transparent and consistent pricing model, which enables a return on efficient capital employed, under the Nursing Homes Support Scheme.

Of the other barriers discussed in this section, our analysis would indicate that the most significant ones are supply of nurses and sectoral fragmentation.

As a final point, our consultations have indicated that lack of tax incentive is not a barrier to entry in the nursing home sector. In particular, there is no appetite from any quarter, including existing Irish and International operators, banking sector representatives and healthcare consultancies, for property-based tax incentives similar to those in place during the 2000s. This scheme is indeed widely seen as having been a contributory factor in some of the quality problems that arose in the sector at that time.

4. POTENTIAL POLICY OPTIONS & PERFORMANCE AGAINST KEY CRITERIA

In this section we set out an informal Multi-Criteria Analysis (MCA) of a set of policy options for addressing the emerging supply gap in the market, in view of the lack of investment. This analysis aided and informed the client in deciding on the options to proceed to full Cost Benefit Analysis.

4.1 Selection Criteria

In order to conduct a Multi-Criteria Analysis (MCA), the key characteristics of favoured project options must be identified to inform the decision-making process. Each criterion must be measurable, which means that it must be possible to assess, at least in a qualitative sense. As part of this analysis of the nursing home sector, the following selection criteria were decided upon in conjunction with the client to conduct an MCA of the possible options:

Table 4.1: Criteria for use in the Multi-Criteria Analysis

Criterion	Description
A.	Cost to the Exchequer, including the timing of such costs
B.	Total cost, including the timing of such costs
C.	Complexity and administrative burden for the State and operators
D.	Financeability for private operators
E.	Timeframe for the roll- out of necessary infrastructure, and the ability to prioritise the most critical needs
F.	Risk to the State including uncertainty regarding the effective cost, plus operational and HR risks.
G.	Risk to private sector developers/ operators including reputational risk and uncertainty regarding revenues
H.	Impact on health policy goals in relation to the geographic/social spread of facilities, the optimum public/private mix of facilities, the balance of short-term/long-term stay beds, and the blend of facilities dealing with higher dependency cases.
I.	Quality regarding HIQA infrastructural standards

The above criteria were then used to evaluate the ability of each suggested option to address the objectives of this report.

4.2 Options to Encourage the Provision of Nursing Home Facilities

In our analysis it is clear that the problem of nursing home capacity can be divided into two:

1. Public nursing home capacity, and
2. Private nursing home capacity.

Each has very different issues. Notably the public sector, despite investment in its built stock in recent years in a constrained Exchequer position, has found it

challenging to meet HIQA's infrastructural standards. This situation is now coming to a head, as HIQA has indicated that it may start imposing conditions on registration, including "no new admissions" requirements on non-compliant homes[10].

Also, it is clear that the cost of (i) providing nursing home capacity and (ii) operating nursing homes, is significantly higher in the public sector than in the private sector (see Box).

Box: Differences in the Cost of Public & Private Sector Provision

A number of reasons are identified as to why the cost of both nursing home capacity and nursing home operations are higher in the public sector than in the private sector.

With regard to capacity provision, reasons include:

- Requirements to provide a greater degree of ancillary services, leading to higher square meterage per bed;
- A bias towards the upper end of equipping costs, closer to those of a hospital than of a nursing home *per se*, because of requirements to provide a greater level of operational flexibility (many public nursing home facilities share a campus with other healthcare facilities).

With respect to operating costs, reasons include:

- Skill mix – the private sector employs a higher proportion of Health Care Assistants and a lower proportion of registered nurses.
- Lower pay rates and conditions – the private sector pays lower rates than the public sector.
- Anecdotally, there has been a reluctance to rationalise public sector facilities which have fallen below efficient activity levels, which has driven up average costs in the public sector. The prospect of the imposition of "no new admissions" requirements by HIQA will tend to add to this phenomenon.
- Higher dependency levels of residents in the public sector than in the private sector. The Department of Health's *Long Term Activity Statistics 2013* (http://health.gov.ie/wp-content/uploads/2015/04/long_stay_2013.pdf) appear to corroborate this (p.23), although it must be acknowledged that this is not universally accepted by the private sector.

With regard to existing private sector capacity, our consultations point to an inherent stability, reflecting investment in facilities in order to meet HIQA infrastructural standards, coupled with the steady replacement of operators when nursing homes come to the market.

[10] By contrast, the private sector has been able to make more substantial progress in meeting HIQA infrastructural standards. Exchequer capital expenditure in recent years has been €15-20 million per annum. The recently published NHI *Annual Private Nursing Home Survey 2014/2015* indicates an average of €84 million per annum by the private nursing home sector in the last three years. Given that the public sector represents approximately 25% of the total stock, these numbers indicate a somewhat higher level of investment in the private sector than in the public sector.

That said, there may be areas of the country currently served by smaller private nursing homes, which need to expand in order to reach efficient size, but either (a) lack equity to invest in increased capacity, having spent money on meeting HIQA infrastructural standards in recent years, or (b) are in areas where the market cannot justify the larger size.

Consultations as part of this study indicate that the minimum efficient nursing home size, given the regulatory requirements now in effect in the sector, appears to be approximately 60 beds, though some consultees are of the opinion that it is higher. HIQA data indicates that the range of nursing home sizes in Ireland currently is as follows:

Table 4.2: Split of Nursing Homes by Bed Numbers, 2015

	1-40	40-60	60-80	80-100	101+	Total
Private	158	164	68	18	20	428
HSE & Section 38	69	23	9	12	16	129
Section 39	3	2	2	1	1	9
Welfare Homes	9	2				11
Grand Total	**239**	**191**	**79**	**31**	**37**	**577**
%age Split	**41%**	**33%**	**14%**	**5%**	**6%**	**100%**

Source: Public Bed Register April 2015 and NHI Private Beds 2014 and HIQA, May 2015.

This indicates that there may be some areas where existing private capacity is under stress.

Taking account of the aforementioned issues, we have taken as the default position for the purposes of the MCA that the public sector will retain its current capacity (in some cases by converting long stay beds to short stay beds) but will not add capacity around the country. This is reflective of on the one hand the policy commitment to maintain 20% of capacity in the public sector, but on the other the significant deficit in public nursing home infrastructure quality, currently, and the higher cost of public nursing home services provision. The implication is that all additional capacity will be provided by the private sector going forward. This assumption is relaxed in the subsequent CBA (see next section).

In terms of translating the foregoing into a range of possible solutions, one set of options relating to the existing public stock was identified. These are aimed at maintaining and improving the quality of the existing stock, as opposed to delivering additional capacity.

A further set of options is presented with respect to the provision of new, additional capacity. As indicated in Section 2, we have assumed a net increase of 400 beds per annum by the private sector, in the absence of policy change, so we are concerned with additional net capacity on top of that. Section 2 indicated a deficit which over the coming two decades grows to over 18,000 beds nationwide.

A more positive flow of 700 additional beds per annum would reduce the deficit to approximately 13,000 beds.

In the first instance, six options relating to the existing public stock were identified. These are aimed at improving the quality of the existing stock, as opposed to delivering additional capacity.

Table 4.3: Options to deal with Existing Public Sector Nursing Home Capacity

Option	Description
1.	Counterfactual: continue as is which will, in the course of time, lead to a reduction in capacity as facilities fail to meet HIQA infrastructural requirements and stop admitting new residents.
2.	Direct Exchequer investment to bring the existing stock up to HIQA infrastructural standards
3a.	Sell and leaseback the best public stock, with the proceeds used to upgrade/replace the remaining stock to the degree possible
3b.	Establish a Public-Private Partnership (PPP) to take over the best public stock (similar to sale and leaseback) with the proceeds used to upgrade/replace the remaining stock to the degree possible
4.	Privatise the viable existing public sector stock with the proceeds used to upgrade/replace the remaining stock to the degree possible
5.	Private sector development on public sector sites

In addition to the above, eight options to encourage the provision of new, additional nursing home capacity were formulated, as per the following table.

Table 4.4: Options to Increase Nursing Home Capacity

Option	**Description**
6a.	Public sector provides all additional nursing home facilities
6b.	Public sector builds additional nursing home facilities and the private sector operates them
7.	PPP: private sector builds and maintains the additional nursing home facilities and the public sector operates them
8.	PPP: Private sector builds and maintains the additional nursing home facilities, with a separate private sector contract for operating the facilities
9a.	Private sector provides all additional nursing home facilities with no State incentives
9b.	Private sector provides all additional nursing home facilities with tax incentives
9c.	Private sector provides all additional nursing home facilities with the assistance of a State fund (akin to the Irish Strategic Investment Fund but lending at lower than commercial rates)
10.	Private sector development on public sector sites

4.3 Methodology

The next step in conducting an MCA is to decide on the relative importance (**weighting**) of the criteria set out above. The weights to be attached to criteria were devised by the consultants having regard to discussions with the client and consultations with stakeholders. The weightings applicable in this MCA analysis are as per Table 4.5.

Table 4.5: Weightings of Criteria for the Multiple-Criteria Analysis

Criterion	Description	Weight
A.	Cost to the Exchequer	0.15
B.	Total cost	0.15
C.	Complexity	0.05
D.	Financeability	0.15
E.	Timeframe	0.05
F.	Risk to the State	0.12
G.	Risk to developers/operators	0.15
H.	Impact on health policy goals	0.08
I.	Quality regarding HIQA infrastructural standards	0.10
	Total	**1.00**

The **scoring** of each option with respect to each criterion is the next stage in the MCA process. A clear understanding of the criteria and of the nature of the option in question helps to minimise the potential subjectivity of this step. The established methodology is to set up a scoring range for each criterion from 0 (completely fails to meet criterion) to 100 (fully meets criterion).

The weighted score for each option is then applied as follows:

$$S_i = \sum_{k=1}^{n} s_{ik} w_k$$

Where

S_i	=	Aggregate MCA score of option *i*
k	=	one of *n* criteria
s_{ik}	=	Score achieved by option *i* for criterion *k*, where $0 \leq s \leq 100$
w_k	=	weighting of criterion *k*, where $\sum w = 1$

4.4 Results of the Multi-Criteria Analysis

Scores were applied to each option on each criterion in the MCA, and then weighted by reference to the weights set out in Table 4.5. This produced the results outlined in Figures 4.1 and 4.2, and Tables 4.6 to 4.9 overleaf.

Figure 4.1: Weighted MCA Score of Options to Improve Existing Public Sector Nursing Home Capacity

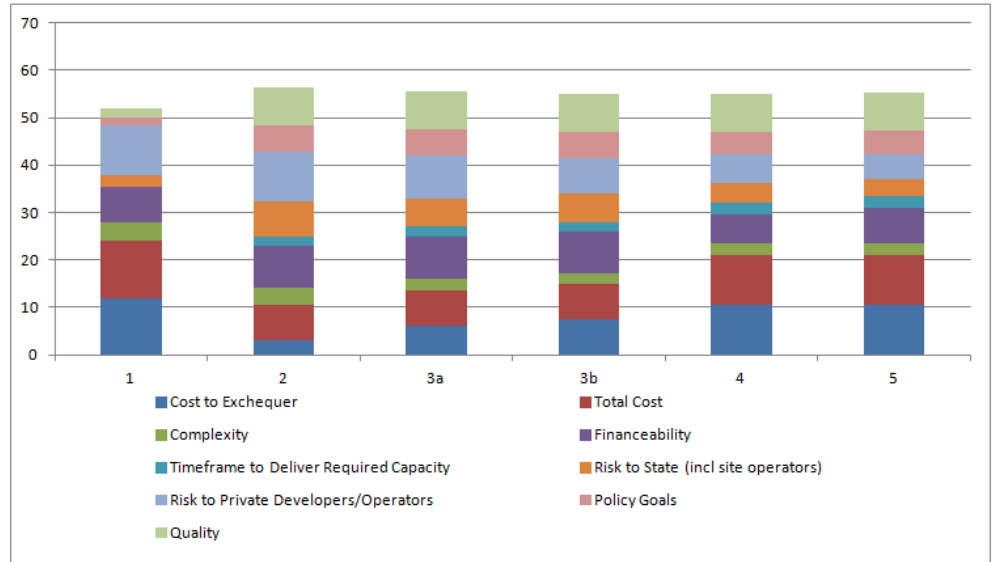


Figure 4.2: Weighted MCA Score of Additional Capacity Options to Increase Nursing Home Capacity

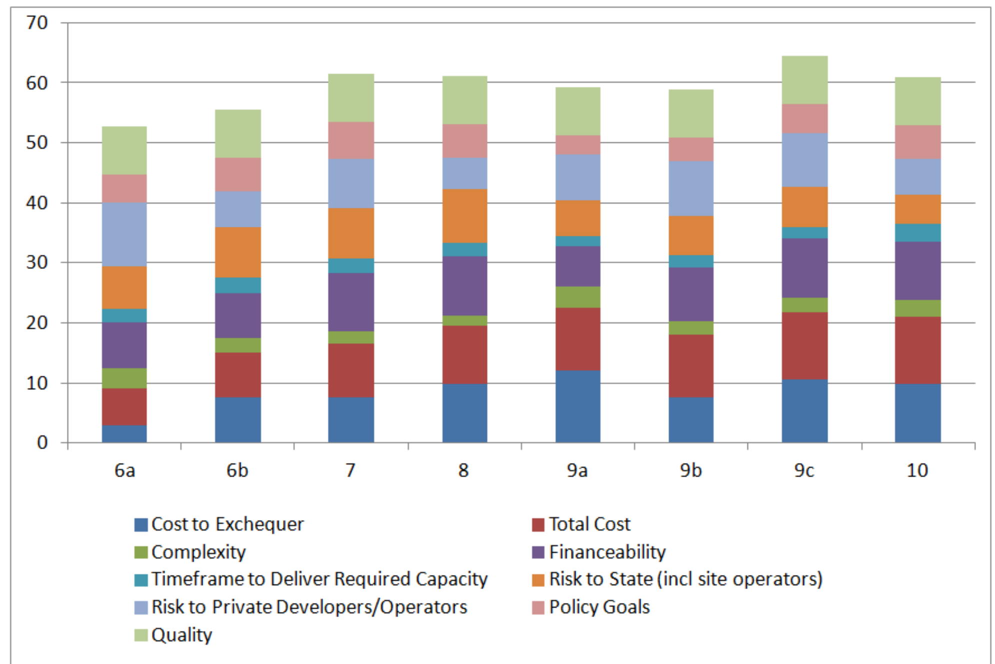


Table 4.6: Unweighted MCA Score of Options to Improve Existing Public Sector Nursing Home Capacity

OPTION	CRITERIA							
	Cost to Exchequer	Total Cost	Complexity	Financeability	Timeframe	Risk to State	Risk to Developers/ Operators	Policy Goals	Quality
1.	80	80	80	50	0	20	70	20	20
2.	20	50	70	60	40	60	70	70	80
3a.	40	50	50	60	40	50	60	70	80
3b.	50	50	40	60	40	50	50	70	80
4.	70	70	50	40	50	35	40	60	80
5.	70	70	50	50	50	30	35	60	80

Table 4.7: Weighted MCA Score of Options to Improve Existing Public Sector Nursing Home Capacity

OPTION	CRITERIA								
	Cost to Exchequer	Total Cost	Complexity	Financeability	Timeframe	Risk to State	Risk to Developers/ Operators	Policy Goals	Quality	Total
1.	12.0	12.0	4.0	7.5	0.0	2.4	10.5	1.6	2.0	**52.0**
2.	3.0	7.5	3.5	9.0	2.0	7.2	10.5	5.6	8.0	**56.3**
3a.	6.0	7.5	2.5	9.0	2.0	6.0	9.0	5.6	8.0	**55.6**
3b.	7.5	7.5	2.0	9.0	2.0	6.0	7.5	5.6	8.0	**55.1**
4.	10.5	10.5	2.5	6.0	2.5	4.2	6.0	4.8	8.0	**55.0**
5.	10.5	10.5	2.5	7.5	2.5	3.6	5.3	4.8	8.0	**55.2**

Table 4.8: Unweighted MCA Score of Additional Capacity Options to Increase Nursing Home Capacity

OPTION	CRITERIA							
	Cost to Exchequer	Total Cost	Complexity	Financeability	Timeframe	Risk to State	Risk to Developers/ Operators	Policy Goals	Quality
6a.	20	40	70	50	45	60	70	60	80
6b.	50	50	50	50	50	70	40	70	80
7.	50	60	40	65	50	70	55	75	80
8.	65	65	35	65	45	75	35	70	80
9a.	80	70	70	45	35	50	50	40	80
9b.	50	70	45	60	40	55	60	50	80
9c.	70	75	50	65	40	55	60	60	80
10.	65	75	55	65	60	40	40	70	80

Table 4.9: Weighted MCA Score of Additional Capacity Options to Increase Nursing Home Capacity

OPTION	CRITERIA								
	Cost to Exchequer	Total Cost	Complexity	Financeability	Timeframe	Risk to State	Risk to Developers/ Operators	Policy Goals	Quality	Total
6a.	3.00	6.00	3.50	7.50	2.25	7.20	10.50	4.80	8.00	**52.75**
6b.	7.50	7.50	2.50	7.50	2.50	8.40	6.00	5.60	8.00	**55.50**
7.	7.50	9.00	2.00	9.75	2.50	8.40	8.25	6.00	8.00	**61.40**
8.	9.75	9.75	1.75	9.75	2.25	9.00	5.25	5.60	8.00	**61.10**
9a.	12.00	10.50	3.50	6.75	1.75	6.00	7.50	3.20	8.00	**59.20**
9b.	7.50	10.50	2.25	9.00	2.00	6.60	9.00	4.00	8.00	**58.85**
9c.	10.50	11.25	2.50	9.75	2.00	6.60	9.00	4.80	8.00	**64.40**
10.	9.75	11.25	2.75	9.75	3.00	4.80	6.00	5.60	8.00	**60.90**

4.5 TENTATIVE CONCLUSIONS & OPTIONS SHORT-LIST FOR CBA

From the MCA of the options for the existing public stock, the option of direct Exchequer provision performs best. In terms of the options available to provide additional capacity, Private sector provision with the assistance of a fund similar to ISIF (but lending at lower than commercial rates) scored best.

These must be seen as tentative conclusions, given the subjective nature of MCA, and in advance of a full CBA being undertaken. In consultation with the client the following options have been agreed to go forward to CBA:

1. Counterfactual

- "Continue as is" option. Inclusion of this is a requirement of the *Public Spending Code*.
- Under this option, private sector will add 700 beds per annum in 2016 and 2017, and 400 per annum thereafter. This implicitly assumes that there will be no reform of the pricing model of the Fair Deal scheme or any other relevant policy.
- Assumes the State continues to spend €20 million per annum throughout the period under review, which will, in the course of time, lead to a reduction in capacity as a proportion of public facilities fail to meet HIQA infrastructural standards and stop admitting new residents. HSE Estates indicates "another 49 units and 2,776 long stay beds (will be) non compliant in 2020."
- We assume that the subsequent €20 million per annum capital expenditure by the public sector will make good this loss of capacity by the end of the period under review, i.e. 2036[11].

2. Direct Exchequer investment to bring the existing stock up to HIQA infrastructural standards and to provide all necessary additional capacity

- Private sector will be as in counterfactual; implicitly assumes no reform of the pricing model of the Fair Deal scheme.
- Public sector will make good its current deficit (via extensions to existing facilities) and provide all new required capacity, through direct procurement.

3. Extension of the Employment and Investment Incentive Scheme (EIIS)

- This option implicitly assumes that the pricing model of the Fair Deal scheme is reformed to provide all suppliers with a market return on their investment, assuming investment is made efficiently and operations are conducted efficiently.
- This along with the policy change incorporated in the option (i.e. extending the EIIS), will deliver the required capacity over the course of the timeframe we are looking at. The EIIS is an existing scheme which grants relief to investors at a rate of 75% of the investment amount in year one and 25% in year four.

[11] AECOM costings (discussed in more detail in subsequent sections) indicate that the €20 million per annum would more than recover this shortfall by 2036, but it can be expected that less expensive works would be undertaken initially and more expensive works undertaken in later years.

- Likewise for this option, public sector provision will remain stable, which will require additional public investment to meet HIQA infrastructural standards, assumed to be delivered via extensions to existing facilities.
- We assume that the EIIS will run until 2020[12].
- Cost to the State versus benefit to the private operator is an issue to be investigated as is potential deadweight loss.

4. Accelerated capital allowances for expenditure on plant and machinery by nursing home companies

- This option involves accelerating existing allowances in respect of plant and machinery so that, instead of being applied over an eight year period, the benefits could be claimed in Year one up to a capped amount.
- As for Option 3, this option implicitly assumes reform of the Fair Deal pricing model and that public sector provision will remain stable, with similar consequences.
- Accelerated capital allowances can be seen as compensation for non-recoverability of VAT in the sector (reform of VAT regulations are seen as impractical).
- The benefit to the private operator is in terms of timing.
- Potential deadweight loss is an issue.

5. Public Private Partnership

- Private sector delivers additional capacity as per the Counterfactual; implicitly assumes no reform of the pricing model of the Fair Deal scheme, and the public sector continues to spend €20 million per annum directly on its own facilities.
- PPP is used to (i) make good the resultant public sector deficit, and (ii) deliver all the additional required nursing home capacity, i.e. the deficit as per Table 2.12.
- Under the PPP the private partner builds and maintains the facilities and the public sector operates them (possibly on public sector sites).
- There will be a cost premium over private sector provision (and indeed direct public sector provision) for buildings under PPP, compensated by lower Facilities Management (FM) costs and better maintenance standards.

6. Private sector provides all additional nursing home facilities with the assistance of a State fund

- This would be a revolving fund (akin to the Irish Strategic Investment Fund but lending at lower than commercial rates) set up by the Government and operated by the NTMA or similar, borrowed at sovereign rates and lent on at a margin to cover risk and administration, to the private nursing home sector.
- The term could be reflective of nursing homes' usual timeframe to earn a return on capital. It could potentially be restricted to smaller nursing homes

[12] Note the maximum EIIS funds that a company can raise in any one year are €5 million, subject to a lifetime maximum of €15 million. Where the necessary investment exceeds €5 million we assume that the investment takes place over more than one year.

that have difficulty raising finance/equity, to enable them to reach the efficient operational level.

- As for Option 3, this option implicitly assumes reform of the Fair Deal pricing model and that public sector provision will remain stable, with similar consequences.
- The fund is similar to the EIIS but with three important differences –
  - it would not be a tax-based scheme, and therefore would be potentially less controversial and less of a burden on the taxpayer,
  - the timeframe could be longer than the minimum under EIIS,
  - it could be designed to meet other policy requirements, such as targeting at particular parts of the country where deficits have been identified, and
  - it could potentially be used for new nursing homes.
- Depending on structure it could potentially be excluded from the calculation of the State's debt:GDP ratio, although this point requires further investigation, and is beyond the scope of the current study.

5. COST BENEFIT ANALYSIS

The following is drawn from the Executive Summary of the CBA undertaken on the list of options that proceeded from the MCA described in Section 4. See separate document for the full CBA report.

5.1 OPTIONS FOR ANALYSIS

In carrying out a CBA of an investment project or programme, it is important to consider alternative means of delivering the sought-after benefits. The *Public Spending Code* requires that all realistic alternative ways of achieving the stated objectives are examined critically, and that in particular the "Do Nothing"/"Do Minimum" option be considered.

Part (iii) of the assignment listed above in effect generated a 'long list' of options, which were subject to an informal Multi-Criteria Analysis (MCA), to generate a short list of options to be subjected to CBA, as follows:

1. **Counterfactual**
2. **Direct Exchequer investment to bring the existing stock up to HIQA infrastructural standards and to provide all necessary additional capacity**
3. **Extension of the Employment and Investment Incentive Scheme (EIIS)**
4. **Accelerated capital allowances for expenditure on plant & machinery by nursing home companies**
5. **Public Private Partnership**
6. **Private sector provides all additional nursing home facilities, with the assistance of a State fund** lending at lower than commercial rates**.**

In reality, it is likely that the future network of Nursing Homes will be delivered using a range of approaches, given the numbers involved and the range of circumstances. However, for tractability, we work on the basis that each of the options above is mutually exclusive.

5.2 EXCHEQUER CASHFLOW ANALYSIS/FINANCIAL ANALYSIS

In the Exchequer Cashflow Analysis/Financial analysis we are concerned with the financial costs and benefits of the project to its promoter, the Exchequer. On the cost side we incorporate:

- the additional direct capital and revenue expenditure by the Exchequer on its own facilities;
- tax revenues foregone where these are relevant;

- payments to PPP private partners, where relevant;
- payments to private nursing homes under the NHSS, but not the actual expenditure by these nursing homes.

The main benefit is the avoidance of the usage of acute hospital capacity to cater for a large proportion of the residents in question. Other benefits include:

- contributions recoverable from residents of public nursing homes under the Fair Deal Scheme,
- repayments recoverable from residents (or their estates) of contributions paid under the Ancillary State Support scheme,
- reversion of land and buildings to the State at the end of PPP contracts, where relevant.

The results of the Exchequer Cashflow Analysis are as follows. While Internal Rates of Return and Benefit/Cost Ratios are also presented, Net Present Value (NPV) is considered the best measure for comparing competing options.

Table 5.1: Exchequer Cashflow Analysis/Financial Appraisal

Option		NPV € Million	Internal Rate of Return	Benefit/ Cost Ratio	NPV Rank
1	Counterfactual/Do Minimum	10,494	656%	5.3	6
2	Direct Exchequer Provision	41,657	1093%	4.2	4
3	Extension of EIIS	44,038	1975%	6.7	3
4	Accelerated Capital Allowances	44,138	2085%	6.8	2
5	Public Private Partnership	41,182	1865%	4.2	5
6	State Fund	44,142	2102%	6.8	1

In financial terms all the options have a highly positive Net Present Value (NPV) over the evaluation period, while Option 6 ("State Fund") emerges as the most positive. This reflects the fact that there is no cost to the State in operating the fund, as it lends on the money at a margin to cover risk and administration, but at lower than commercial rates. It should be noted however that there is a question mark over whether the borrowing for such a fund could be excluded from the State balance sheet (i.e. would not be included in the State's debt:GDP ratio). It is also fair to point out that the differences in NPV between options 3, 4 and 6, and between options 2 and 5, are modest. With regard to the latter, PPP does have benefits in terms of impact on the State balance sheet, which are not taken into account in the CBA.

A positive financial return for the Exchequer is unusual for health-related projects, but is driven by the estimated savings in the acute hospital system. Savings grow rapidly over time to very large sums, given the cost of accommodating residents elsewhere in the healthcare system, and the large numbers of residents involved. A key message to take from this is that, based on the expected savings elsewhere in the healthcare system, the roll-out of adequate nursing home capacity is highly worthwhile financially, whatever the configuration of the service.

More important than the Exchequer Cashflow analysis is the socio-economic analysis, which takes into account the broader socio-economic costs and benefits.

5.3 SOCIO-ECONOMIC ANALYSIS

In the Exchequer Cashflow/Financial Appraisal we were concerned with the financial costs and benefits of the project to its promoter, i.e. the Exchequer. The economic appraisal takes these figures and includes the external/unpaid for costs and benefits of the project, evaluated from the perspective of society as a whole, including shadow prices (true economic costs of resources), and the social cost of capital. The results of this analysis are presented in the following table:

Table 5.2: SOCIO-ECONOMIC COST BENEFIT ANALYSIS RESULTS

Option		NPV € Million	Internal Rate of Return	Benefit/ Cost Ratio	NPV Rank
1	Counterfactual/Do Minimum	9,205	776%	6.2	6
2	Direct Exchequer Provision	37,965	1389%	5.0	4
3	Extension of EIIS	40,473	2297%	8.2	3
4	Accelerated Capital Allowances	40,588	2425%	8.3	2
5	Public Private Partnership	37,905	1981%	5.2	5
6	State Fund	40,596	2444%	8.4	1

As with the Exchequer Cashflow Analysis, under the socioeconomic CBA analysis, all options deliver a highly positive NPV, and thus are considered worthwhile from a socioeconomic point of view. Option 6 – “State Fund” - once again delivers the highest return, based on our estimates. However, it should be noted that there is a question mark over whether the borrowing for such a fund could be excluded from the State balance sheet (i.e. would not be included in the State’s debt: GDP ratio). In addition, it may be noted that the differences in NPV between options 3, 4 and 6, and between options 2 and 5, are modest.

It is important to note that with Options 3, 4 and 6 we see **reform of the Fair Deal pricing model as the main means by which the private sector will deliver the required capacity**, with the EIIS, accelerated capital allowances and State Fund respectively assisting in this regard. The private sector has been the main source of new capacity in recent years, and during the 2000s was adding capacity at a rate more than adequate to meet future requirements as estimated in this study. Nonetheless, it should be highlighted that a key difference between options 2 and 5 (where the public sector directly intervenes to deliver capacity) and options 3, 4 and 6 (where the private sector is incentivised to deliver capacity) is that there is no guarantee that the latter options will deliver the required additional capacity in areas where it is needed. Also, when comparing Options 2 and 5, PPP does have benefits in terms of impact on the State balance sheet, which are not taken into account in the CBA.

It is worth keeping in mind also that the significant benefits for residents and their families (as opposed to the Exchequer) of accommodation in nursing homes

instead of elsewhere in the healthcare system, as well as the benefits for users of the acute hospital system due to freed-up acute system capacity, have only been qualitatively assessed and this further enhances the worthwhileness of the project.

In our scenario analysis we tested the robustness of the above results to significantly more negative outturns than the base case, including cost of capital 50% higher, capital expenditure 50% higher and benefits 50% lower. All the options are robust to these more negative scenarios. The analysis gives comfort around the robustness of our results. Option 6 remains the preferred option throughout.

Based on our analysis, this is a highly worthwhile project, which generates a significantly positive return for both the Exchequer and for society. We tested a range of procurement options, all of which generated highly positive returns. In reality it is likely that a range of approaches will be used to deliver the nursing home system, and our analysis confirms that these other approaches all generate positive returns.

6. CONCLUSIONS & RECOMMENDATIONS

6.1 CONCLUSIONS

The conclusions from our analysis can be summarised as follows:

- It is well-established that a supply gap in nursing home capacity is emerging, particularly in the larger urban areas, and this will grow over time unless there is a significant acceleration in new capacity provision.
- Nursing home services are currently provided by the public and private sectors, roughly in the ratio 25:75. The public sector, despite investment in its built stock in recent years in a constrained Exchequer position, has found it challenging to meet HIQA's infrastructural standards. This situation is now coming to a head, as HIQA has indicated that it may start imposing conditions on registration, including "no new admissions" requirements on non-compliant homes. Retaining a 20% presence in the sector, in line with policy, will involve a significant cost for the State (whether capital or revenue via a PPP or similar) over the coming years.
- Public sector nursing homes are significantly more expensive to build and operate than private sector facilities, mainly because of greater staff costs, perhaps related to higher dependency levels and exacerbated by reluctance to rationalise existing facilities. Because of this, the State's policy of a continued presence in the sector carries a further price tag, which must be acknowledged.
- A recurring theme throughout this study has been **how the pricing mechanism of the Fair Deal Scheme operates**, and the impact it has on the private sector. As indicated in Section 3, this has been identified as the single biggest barrier to private sector investment in the sector.
- There is no appetite from any quarter, including existing Irish and International operators and investors, the banking sector and healthcare consultancies, for a **property-based tax scheme** similar to the one that was in place during the last decade. Accelerated capital allowances on plant and machinery investment may however, have potential.
- An **extension of the current EIIS scheme** to cover expansion by existing nursing home operators, or a **State fund** for the same purpose, would appear to have value in bridging the equity gap for some operators.
- Tax-based schemes such as the EIIS in particular or capital allowances involve a cost to the Exchequer, while a fund could be structured so as to be cost neutral. The fund has a further advantage in that it may be possible to target it to particular parts of the country or to reflect public policy, and it can apply to newbuilds.

6.2 RECOMMENDATIONS

6.2.1 CBA

Following an informal Multi-Criteria Analysis (MCA), a Cost Benefit Analysis of a short-list of options for addressing the identified supply gap was undertaken, the options considered were:

1. Counterfactual/Do Minimum – continue as is.
2. Direct Exchequer Provision – the public sector addresses the supply gap.
3. Extension of EIIS – the private sector addresses the supply gap with the aid of an extension of the EIIS scheme.
4. Accelerated Capital Allowances – the private sector addresses the supply gap with the aid of accelerated capital allowances on plant and machinery investment.
5. Public Private Partnership - the public sector addresses the supply gap through PPP contracts.
6. State Fund - the private sector addresses the supply gap with the aid of a State fund to provide finance at lower than commercial interest rates.

The CBA indicates that options 2 to 6 all generate very considerable benefits for the Exchequer and the economy, reflecting the importance of providing adequate nursing home capacity (the alternative being a significant proportion of residents delayed or maintained in an acute hospital setting). The optimal approach to tackling the capacity issue in the Nursing Home and Community Nursing Unit sector is via a State Fund, although there is relatively little difference between options 3, 4 and 6 and between options 2 and 5.

In reality, the set of solutions is likely to involve a range of options being implemented in different parts of the country, reflecting local circumstances. Further, Options 3, 4 and 6 all implicitly assume reform of the pricing model of the Fair Deal scheme will be undertaken, and in our view this will be the most important factor in addressing the supply gap (see discussion below).

6.2.2 The Fair Deal Scheme

Review of the Fair Deal Scheme is beyond the scope of this study; a separate study has been undertaken to address this. However, it would be remiss of us not to comment on the scheme given its importance to the operation of the sector, and the fact that our consultations and analysis have identified the scheme's pricing mechanism as the major barrier to investment in the sector. The following observations should be seen in this context.

The Nursing Home sector in Ireland is a very substantial sector of the economy. Through the Fair Deal Scheme the State procures several hundred million Euros worth of services annually from private nursing homes. While the scheme has delivered many benefits and is a significant advance on what was in place heretofore, its current pricing model operates in an ad hoc manner, lacks

rationale, consistency and fairness, only applies to the private sector, and in the long run is unsustainable. These points are expanded on in Section 3 of this report but importantly, the system leads to uncertainty on future income, payments do not reflect efficient cost levels in many areas outside Dublin, and do not reflect the degree of dependency of residents.

6.2.3 Summary

In summary it is our view that the following set of policies will best address the challenges facing the sector going forward:

- With respect to the private sector, we are of the belief that the proper structuring of the pricing model in the Fair Deal Scheme will greatly reduce barriers to investment.
- With respect to the public sector, rationalisation combined with increased investment (possibly via a PPP scheme) to upgrade/replace the public stock will be required to maintain a 20% presence in the market. PPPs have the advantage of being able to be kept off the State balance sheet.
- There is an element of the private sector, mostly standalone homes in rural locations, for which the EIIS scheme or a State investment or lending fund could be of assistance. These homes may be of sub-optimal size from a commercial viewpoint, and their operators may lack equity for investment. Inevitably a proportion of these homes will close, or be sold to larger operators.
  These homes, apart from the direct service they provide, are sizeable economic entities and provide substantial direct and indirect employment. Access to equity via EIIS or a State fund could enable them to upgrade to an optimal size. EIIS is an expensive option for the State, but has the advantage that it is already in place. A State fund can be structured to have no cost to the State, although there is a question mark as to whether the related State borrowing could be excluded from the State's debt:GDP ratio. It can facilitate newbuilds, and it may also be possible to target it to reflect public policy requirements.

APPENDIX A: DETAILED POPULATION PROJECTIONS

The population projections in this report are based on the CSO's M2F2 Regional Population Projections[13]. A summary of the assumptions underlying these projections is given below.

Summary of Assumptions underlying CSO M2F2 Regional Population Projections

Fertility

F2: Total Fertility Rate to decrease from its 2010 level of 2.1 to 1.8 by 2026 and remain constant thereafter.

Mortality

Mortality rates will decrease (by 3.5% p.a. for men and 2.5% p.a. for women) consistent with gains in life expectancy at birth from:

- 78.3 years in 2011 to 83.0 years in 2031 for males.
- 82.9 years in 2011 to 86.6 years in 2031 for females.

Migration

International migration

The following migration assumptions were used reflecting assumed average annual net migration:

	2011-2016	2016-2021	2021-2031
M2	-21,600	+4,700	+10,000

Internal Migration

Traditional internal migration: A gradual reversal to the 1996 pattern of inter-regional flows by 2021 is applied and kept constant thereafter.

[13] http://www.cso.ie/en/releasesandpublications/er/rpp/regionalpopulationprojections2016-2031/#.VWc1A89VhHw

LHO Demand Estimates

Table A1: CSO-Based Population Projections & Implied Long & short Stay Bed Demand 2016, 2021

	2016			2021		
HSE Regions	**Population 65+**	**Long Stay Beds**	**Short Stay Beds**	**Population 65+**	**Long Stay Beds**	**Short Stay Beds**
Dublin South Central	36,509	1,460	310	42,306	1,692	360
Dublin South East /Wicklow	44,402	1,776	377	52,607	2,104	447
Kildare West Wicklow / Dublin South West	45,513	1,821	387	54,963	2,199	467
Midlands	37,510	1,500	319	44,529	1,781	378
Total Dublin Mid Leinster	**163,933**	**6,557**	**1,393**	**194,406**	**7,776**	**1,652**
Dublin North	30,637	1225	260	35,503	1,420	302
Dublin North Central	18,002	720	153	20,861	834	177
Dublin North West	24,266	971	206	28,119	1,125	239
Meath	21,506	860	183	26,750	1,070	227
Louth	17,744	710	151	20,557	822	175
Cavan/Monaghan	18,701	748	159	21,667	867	184
Total Dublin North East	**130,856**	**5,234**	**1,112**	**153,457**	**6,138**	**1,304**
Carlow/Kilkenny	19,257	770	164	22,552	902	192
South Tipperary	13,911	556	118	16,291	652	138
Waterford	18,887	755	161	22,118	885	188
Wexford	21,474	859	183	25,149	1,006	214
Cork North	13,095	524	111	15,273	611	130
Cork North Lee	30,366	1,215	258	35,417	1,417	301
Cork South Lee	23,128	925	197	26,976	1,079	229
Cork West	8,606	344	73	10,037	401	85
Kerry	21,080	843	179	24,586	983	209
Total South	**169,803**	**6,792**	**1,443**	**198,401**	**7,936**	**1,686**
Clare	16,516	661	140	19,271	771	164
Limerick	23,810	952	202	27,781	1,111	236
Nth Tipperary/E. Limerick	15,421	617	131	17,993	720	153
Donegal	23,627	945	201	27,374	1,095	233
Sligo/Leitrim/West Cavan	14,209	568	121	16,462	658	140
Galway	37,100	1,484	315	43,131	1,725	367
Mayo	19,336	773	164	22,479	899	191
Roscommon	9,483	379	81	11,024	441	94
Total West	**159,503**	**6,380**	**1,356**	**185,514**	**7,421**	**1,577**
Total	**624,095**	**24,964**	**5,305**	**731,778**	**29,271**	**6,220**

Source: As above

TABLE A2: CSO-BASED POPULATION PROJECTIONS AND IMPLIED LONG & SHORT STAY BEDS 2026, 2031

	2026			2031		
HSE Regions	**Population 65+**	**Long Stay Beds**	**Short Stay Beds**	**Population 65+**	**Long Stay Beds**	**Short Stay Beds**
Dublin South Central	49,213	1,969	418	56,927	2,277	484
Dublin South East /Wicklow	62,261	2,490	529	73,431	2,937	624
Kildare West Wicklow / Dublin South West	65,990	2,640	561	79,050	3,162	672
Midlands	52,809	2,112	449	61,944	2,478	527
Total Dublin Mid Leinster	**230,272**	**9,211**	**1,957**	**271352**	**10,854**	**2,306**
Dublin North	41,298	1,652	351	47,772	1,911	406
Dublin North Central	24,266	971	206	28,070	1,123	239
Dublin North West	32,709	1,308	278	37,837	1,513	322
Meath	32,806	1,312	279	40,183	1,607	342
Louth	23,726	949	202	27,222	1,089	231
Cavan/Monaghan	25,007	1,000	213	28,692	1,148	244
Total Dublin North East	**179,814**	**7,193**	**1,528**	**209,777**	**8,391**	**1,783**
Carlow/Kilkenny	26,308	1,052	224	30,448	1,218	259
South Tipperary	19,004	760	162	21,995	880	187
Waterford	25,802	1,032	219	29,862	1,194	254
Wexford	29,337	1,173	249	33,954	1,358	289
Cork North	17,718	709	151	20,424	817	174
Cork North Lee	41,086	1,643	349	47,361	1,894	403
Cork South Lee	31,294	1,252	266	36,072	1,443	307
Cork West	11,644	466	99	13,422	537	114
Kerry	28,522	1,141	242	32,877	1,315	279
Total South	**230,715**	**9,229**	**1,961**	**266,415**	**10,657**	**2,265**
Clare	22,201	888	189	25,189	1,008	214
Limerick	32,005	1,280	272	36,313	1,453	309
Nth Tipperary/E. Limerick	20,729	829	176	23,519	941	200
Donegal	31,593	1,264	269	36,249	1,450	308
Sligo/Leitrim/West Cavan	19,000	760	161	21,799	872	185
Galway	49,789	1,992	423	56,471	2,259	480
Mayo	25,949	1,038	221	29,432	1,177	250
Roscommon	12,726	509	108	14,434	577	123
Total West	**213,991**	**8,560**	**1,819**	**243,407**	**9,736**	**2,069**
Total	**854,792**	**34,192**	**7,266**	**990,951**	**39,638**	**8,423**

Source: As above

TABLE A3: CSO-BASED POPULATION PROJECTIONS AND IMPLIED LONG & SHORT STAY BEDS DEMAND, 2036

	2036		
HSE Regions	**Population 65+**	**Long Stay Beds**	**Short Stay Beds**
Dublin South Central	64,959	2,598	552
Dublin South East /Wicklow	83,703	3,348	711
Kildare West Wicklow / Dublin South West	90,035	3,601	765
Midlands	70,629	2,825	600
Total Dublin Mid Leinster	**309,325**	**12,373**	**2,629**
Dublin North	54,512	2,180	463
Dublin North Central	32,031	1,281	272
Dublin North West	43,175	1,727	367
Meath	45,714	1,829	389
Louth	31,092	1,244	264
Cavan/Monaghan	32,770	1,311	279
Total Dublin North East	**239,293**	**9,572**	**2,034**
Carlow/Kilkenny	34,783	1,391	296
South Tipperary	25,127	1,005	214
Waterford	34,114	1,365	290
Wexford	38,788	1,552	330
Cork North	23,331	933	198
Cork North Lee	54,103	2,164	460
Cork South Lee	41,208	1,648	350
Cork West	15,333	613	130
Kerry	37,558	1,502	319
Total South	**304,344**	**12,174**	**2,587**
Clare	28,782	1,151	245
Limerick	41,492	1,660	353
Nth Tipperary/E. Limerick	26,873	1,075	228
Donegal	41,401	1,656	352
Sligo/Leitrim/West Cavan	24,898	996	212
Galway	64,528	2,581	548
Mayo	33,632	1,345	286
Roscommon	16,493	660	140
Total West	**278,098**	**11,124**	**2,364**
Total	**1,131,061**	**45,242**	**9,614**

Source: As above.

APPENDIX B: HSE PROJECTIONS V CSO POPULATION ESTIMATES

B1 Demographic Analysis per Action & Viability Plans

The population projections employed in each of the regional Action and Viability Plans have been obtained from the HSE Health Intelligence Unit, although this is only sourced in some of the plans.

The HSE Health Intelligence Unit projections worked from a 2011 Census baseline in respect of the population over 50 years and assumed that no migration takes place. Death rates were supplied by the CSO at a Local Authority level for 2009, 2010 and 2011, with the average across the three year period being used for future projections. The death rates by local authority were aggregated and applied to Electoral Divisions (EDs) in each local authority.

The population projections were calculated from the EDs making up each LHO area. The HSE Health Intelligence Unit generated yearly projections for the years 2012-2016, while for the period 2017-2023, it assumed that the relevant population (65+) would increase by circa 8 per cent each year.

As the Action and Viability Plans were completed in October 2012 and May 2013 respectively, the population projections employed would not have made use of the December 2013 CSO Regional Population Projections.

B2 Comparing HSE Projections to CSO Population Estimates 2012-2023

B.2.1 2012 to 2016

The population projections generated by the HSE Health Intelligence Unit for the years 2012 to 2014 were compared to the CSO's *Annual Population & Migration Estimates* for those years. For 2016, they were compared with the CSO's Regional Population Projections.

This exercise indicates that the HSE projections significantly overestimated the 65+ population for 2012 to 2016. This is summarised in the next table, including the related overestimation of long stay bed demand, and described in detail in Table B2. Over time, the level of over-estimation increases: for 2016 the implied long stay demand has been overestimated by close to 4,300 beds.

TABLE B1: COMPARING HSE PROJECTIONS WITH CSO ESTIMATES

Year	HSE Overestimate of National 65+ Population	Implied Overestimation of Long Stay Bed Demand (@4%)
2012	7,531	301
2013	32,198	1,288
2014	57,160	2,286
2016	106,593	4,264

Source: HSE, CSO

Table B2: Comparing IHO Population Projections and CSO Population Estimates over 50s & 65+

Age Cohort	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total 50+	Total 65+
2012										
Total IHO	279806	249174	222463	180409	137224	103971	72242	62985	1308274	556831
Total CSO Pop Estimate	278200	248000	220000	181500	132700	103600	71000	60500	1295500	549300
Difference	**1606**	**1174**	**2463**	**-1091**	**4524**	**371**	**1242**	**2485**	**12774**	**7531**
2013										
Total IHO	285969	255292	227610	189638	145714	110162	78629	76155	1369169	600298
Total CSO Pop Estimate	283100	251100	223600	189400	138200	105800	72600	62100	1325900	568100
Difference	**2869**	**4192**	**4010**	**238**	**7514**	**4362**	**6029**	**14055**	**43269**	**32198**
2014										
Total IHO	292130	261412	232757	198865	154202	116356	85009	89328	1430059	643760
Total CSO Pop Estimate	289600	255300	226400	196300	143300	108300	74900	63800	1357900	586600
Difference	**2530**	**6112**	**6357**	**2565**	**10902**	**8056**	**10109**	**25528**	**72159**	**57160**
2016										
Total IHO	304448	273651	243053	217316	171183	128737	97783	115669	1551840	730688
Total CSO Reg Pop Proj	300902	267846	235278	205666	157715	112234	78613	69867	1428121	624095
Difference	**3546**	**5805**	**7775**	**11650**	**13468**	**16503**	**19170**	**45802**	**123719**	**106593**

Source: HSE, CSO Annual Population and Migration Estimates, CSO (2013) Regional Population Projections 2016 - 2031

B.2.2 Comparison of Regional Projections for 2016

The data for the LHO areas supplied by the HSE were assembled by matching them to the CSO's Electoral Divisions (ED) for 2011.

The 2016 CSO *Regional Population Projections* predict 106,593 fewer persons in the 65+ age bracket than the HSE projections, nationally. The next table shows these differences for the four HSE Regions, while Table B5 sets out the details for the constituent LHOs.

TABLE B3: COMPARISON OF CSO AND HSE POPULATION 65+ PROJECTIONS, 2016

HSE Region	HSE	CSO	Difference
Dublin Mid Leinster	195,672	163,933	31,739
Dublin North East	145,744	130,856	14,888
South	198,255	169,803	28,452
West	191,017	159,503	31,514
Total	**730,688**	**624,095**	**106,593**

Sources: CSO, HSE HIU.

In order to derive estimates of the demand for residential care, the HSE assumes that 4% of the population over the age of 65 years would require long term residential care. In addition, for other categories of residential care (short stay); it was assumed that there would be a requirement of:

Rehabilitation Beds: 3 beds per 1,000 65+ years population
Assessment Beds: 2.5 beds per 1,000 65+ years population
Respite Beds: 3 beds per 1,000 65+ years population

Applying these guidelines to the differences found in the projected populations 65+ years of age has implications for long stay and short stay beds as summarised in the next table. Table B5 gives details for each LHO area.

TABLE B4: IMPLICATIONS OF DIFFERENCES IN CSO VS. HSE POPULATION PROJECTIONS FOR PREDICTED BED DEMAND, 2016

HSE Region	HSE Population Over-estimate	Long Stay Beds	Rehab Beds	Assess Beds	Respite Beds
Dublin Mid Leinster	31,739	1,270	95	79	95
Dublin North East	14,888	596	45	37	45
South	28,452	1,138	85	71	85
West	31,514	1,261	95	79	95
Total	**106,593**	**4,264**	**320**	**266**	**320**

Sources: CSO, HSE HIU.

TABLE B5: COMPARISON OF HSE & CSO-BASED 65+ POPULATION PROJECTIONS BY LHO AND IMPLICATIONS FOR BED DEMAND, 2016

HSE Region/LHO Area	Population 65+			Implied Overestimate of Bed Demand by HSE			
	HSE	CSO	Difference	Long Stay Beds	Rehab Beds	Assess beds	Respite Beds
Dublin South Central	35,425	36,509	-1,084	-43	-3	-3	-3
Dublin South East /Wicklow	64,908	44,402	20,506	820	62	51	62
Kildare West Wicklow / Dublin South West	52,117	45,513	6,604	264	20	17	20
Midlands	43,222	37,510	5,712	228	17	14	17
Dublin Mid Leinster Total	**195,672**	**163,933**	**31,739**	**1,270**	**95**	**79**	**95**
Dublin North	36,779	30,637	6,142	246	18	15	18
Dublin North Central	21,487	18,002	3,485	139	10	9	10
Dublin North West	23,982	24,266	-284	-11	-1	-1	-1
Meath	23,275	21,506	1,769	71	5	4	5
Louth	18,392	17,744	648	26	2	2	2
Cavan/Monaghan	21,829	18,701	3,128	125	9	8	9
Dublin North East Total	**145,744**	**130,856**	**14,888**	**596**	**45**	**37**	**45**
Carlow/Kilkenny	21,387	19,257	2,130	85	6	5	6
South Tipperary	16,970	13,911	3,059	122	9	8	9
Waterford	21,831	18,887	2,944	118	9	7	9
Wexford	24,914	21,474	3,440	138	10	9	10
North Cork	15,750	13,095	2,655	106	8	7	8
North Lee - Cork	27,574	30,366	-2,792	-112	-8	-7	-8
South Lee - Cork	29,444	23,128	6,316	253	19	16	19
West Cork	11,895	8,606	3,289	132	10	8	10
Kerry	28,490	21,080	7,410	296	22	19	22
South Total	**198,255**	**169,803**	**28,452**	**1138**	**85**	**71**	**85**
Clare	20,293	16,516	3,777	151	11	9	11
Limerick	26,913	23,810	3,103	124	9	8	9
Nth Tipperary/E. Limerick	17,629	15,421	2,208	88	7	6	7
Donegal	28,985	23,627	5,358	214	16	13	16
Sligo/Leitrim/West Cavan	18,766	14,209	4,557	182	14	11	14
Galway	39,569	37,100	2,469	99	7	6	7
Mayo	26,363	19,336	7,027	281	21	18	21
Roscommon	12,499	9,483	3,016	121	9	8	9
West Total	**191,017**	**159,503**	**31,514**	**1261**	**95**	**79**	**95**
Total	**730,688**	**624,095**	**106,593**	**4264**	**320**	**266**	**320**

Source: As above

B.2.3 Comparison of Projections for 2023

HSE projections beyond 2016 "are based on an average population increase of 8% year on year"[14]. It is not clear whether these growth rates apply to the total national population or to the population 65+. In any case, these are extremely strong growth rates compared to those of the CSO as the next table demonstrates.

TABLE B6: ANNUAL AVERAGE GROWTH RATES PREDICTED BY CSO (M2F2)

	2016	2021	2026	2031
Total Population	0.5%	0.8%	0.7%	0.6%
65 plus	3.3%	3.2%	3.2%	3.0%

Source: CSO (2013), Population and Labour Force Projections 2016 to 2046

The table shows that while the population of 65+ is predicted to grow much more strongly than the total population, the average growth expectation is about 3%. If one applies the 8% annual average growth rates to the HSE's 2016 projections, the population of 65+ would reach 1,352,452 by 2023. This compares to the CSO Projections of 778,703. **This is almost double the CSO projection.**

[14] HSE (2013), Dublin North East Region Public Residential Long Stay Units Viability Action Plan, page 3.

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