An Roinn Caiteachais Phoiblí
agus Athchóirithe
Department of Public
Expenditure and Reform

Staff Paper 2015

Nursing Homes Support Scheme

The Fair Deal, affordable and sustainable

Labour Market & Enterprise Policy Division

Tomás Campbell and Jenny Connors

August 2015

** This paper has been prepared by the Labour Market and Enterprise Policy Division of the Department of Public Expenditure and Reform. The views presented in this paper are those of the authors alone and do not represent the official views of the Department of Public Expenditure and Reform or the Minister for Public Expenditure and Reform. The paper was prepared in the context of an on-going budget negotiation process and reflects the data available to the authors at a given point in time.*

Abstract

The Nursing Homes Support Scheme (NHSS) is a central piece of Government's commitment to support the most vulnerable in our society, as evidenced by the allocation of an additional €54 million in funding to the scheme in 2015, and will continue to be so in the years ahead. As such, projections of the future size and cost of the NHSS play an important role in realising this commitment by ensuring that adequate funding is set aside to assist those in long-term care. This paper will project annual numbers in payment and net cost to the end of 2022 and, in doing so, demonstrate the scheme's inherent long-term sustainability. The key findings are set out below.

Summary of key findings

- As the population ages, the average monthly number in the NHSS receiving funding is projected to grow from 22,300 in 2014 to just over 25,500 in 2022 – an increase of around 400 a year;
- Concurrently, with a declining number of legacy patients and future NHSS clients expected to contribute more to the cost of their care, the average net cost per person is expected to decline from €39,180 to €34,270;
- The net effect of these opposing pressures is that the overall cost of the NHSS to the Exchequer will rise to €935 million in 2017 before going into decline;
- The net funding requirement in 2022 is projected to be €876 million, a slight reduction on 2015 in real terms.

Figure 0.1: Average number in payment and net cost per person, 2015 to 2022

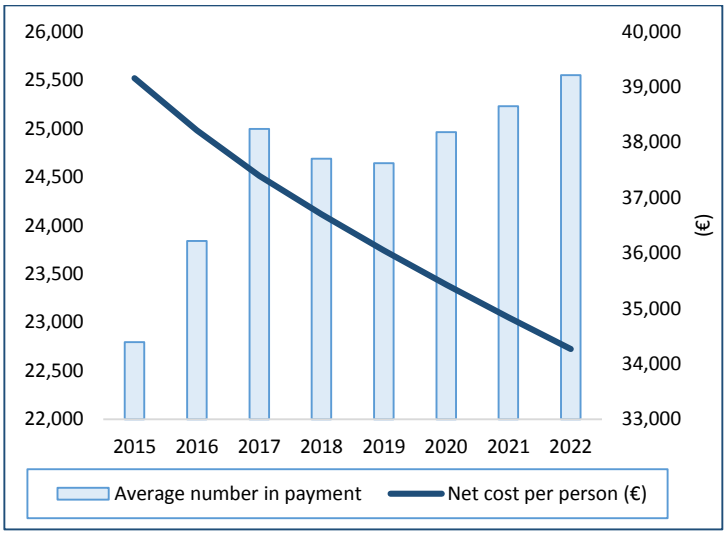
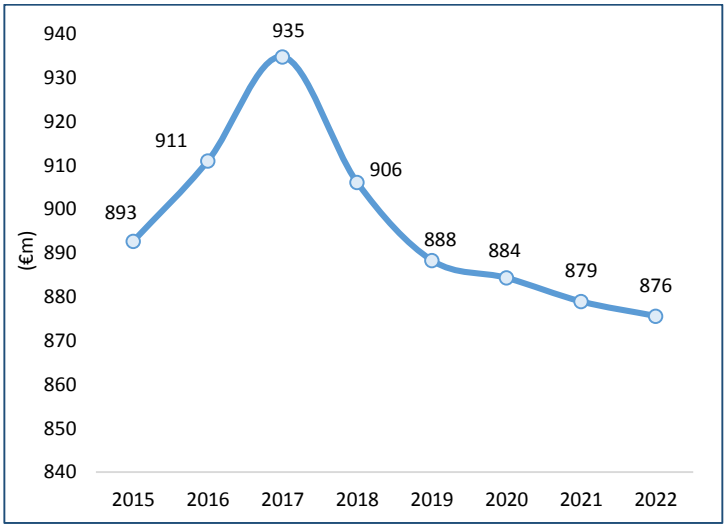


Figure 0.2: Net Exchequer funding requirement, 2015 to 2022



Introduction

The Nursing Homes Support Scheme was established in 2009 to ensure equitable access to long-term residential care for all those who require it, regardless of means. Once an individual is deemed to require residential care their income and assets are assessed and their level of contribution calculated. The balance of their accommodation costs are subsidised by the Health Service Executive (HSE).

The elderly population in Ireland has steadily grown in recent years, from 10.8% of the total in 2007 to 12.7% in 2014 according to the latest OECD figures – though it should be noted that this is still the lowest rate in the European Union. This rise, which is projected to continue, has prompted concern that the NHSS in its present form may not be sustainable in the long run. However, there is no reason to think that an increase in the elderly population will lead to a proportional increase in the number of people claiming NHSS funding. Illustrating this point, from 2012 to 2014 the population aged 80 and over grew by about 6.2% while the number of people supported by the NHSS grew by just 2.0%. Even adjusting the 2014 figures to take account of the significant amount of unmet demand, the number of people who might have been supported had the scheme been fully-funded would have risen by 4.9% – still a lesser increase than the 80 and over population.

Adding to the sense of the scheme's sustainability, the average net cost per person to the Exchequer declined substantially during the same period, from approximately €41,000 in 2012 to just over €39,000 in 2014. Average costs should continue to fall in the coming years as relatively expensive legacy patients leave long-term care and are replaced by NHSS patients who, due to rising income and wealth, will be able to make increasing contributions towards the cost of their care.

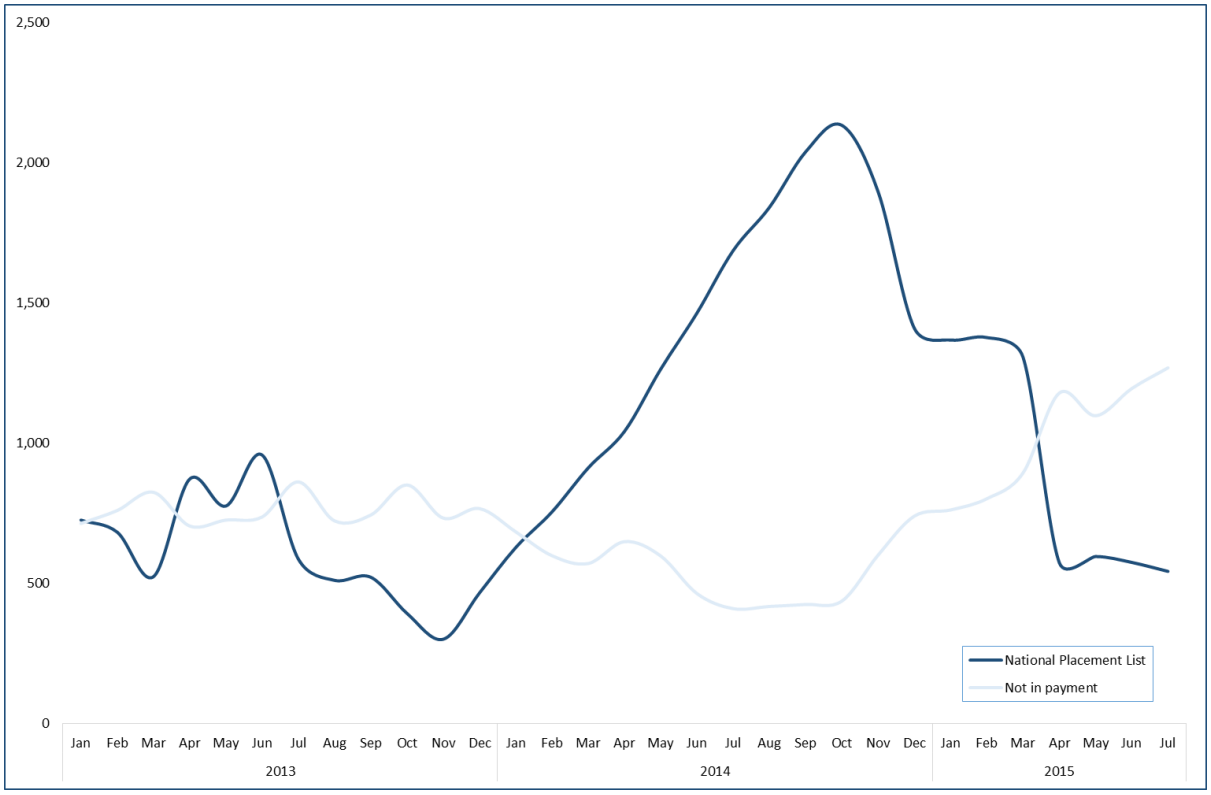
The Government has committed to delivering a demand-led NHSS and adjustments to its funding allocation will be made in the annual estimates process to reflect this. Its primary impact on citizens at a vulnerable time and secondary impact on the acute hospital sector in terms of bed use and emergency department overcrowding ensure that it remains a priority. Maintaining expenditure on the scheme is critical in terms of addressing these twin challenges.

To this end, the objective of this paper is to project forward the size and cost of the scheme to 2022. In doing so, the scheme's long-term viability shall also be demonstrated. For a complete summary of the paper's findings, please see the Conclusion.

Section 1: Projecting the number in support

In 2015, Government took the decision to deliver a fully-funded, demand-led Nursing Homes Support Scheme. This commitment fundamentally changes the nature of projecting the future number of people in the scheme. Whereas before the number in support was limited by the number of beds in the system, and the scheme therefore supply-led, Government will now provide funding to ensure that all those who require a bed can be accommodated. In practice this should prevent a situation arising where beds cannot be found for a large number of new applicants, with the National Placement List then escalating as a consequence. Prior to Government's decision to fully fund the NHSS this had happened during 2014, as Figure 1.1 shows.

Figure 1.1: Evolution of the National Placement List and number approved for funding and not in payment, January 2013 to July 2015



Source: HSE

Clients not in payment

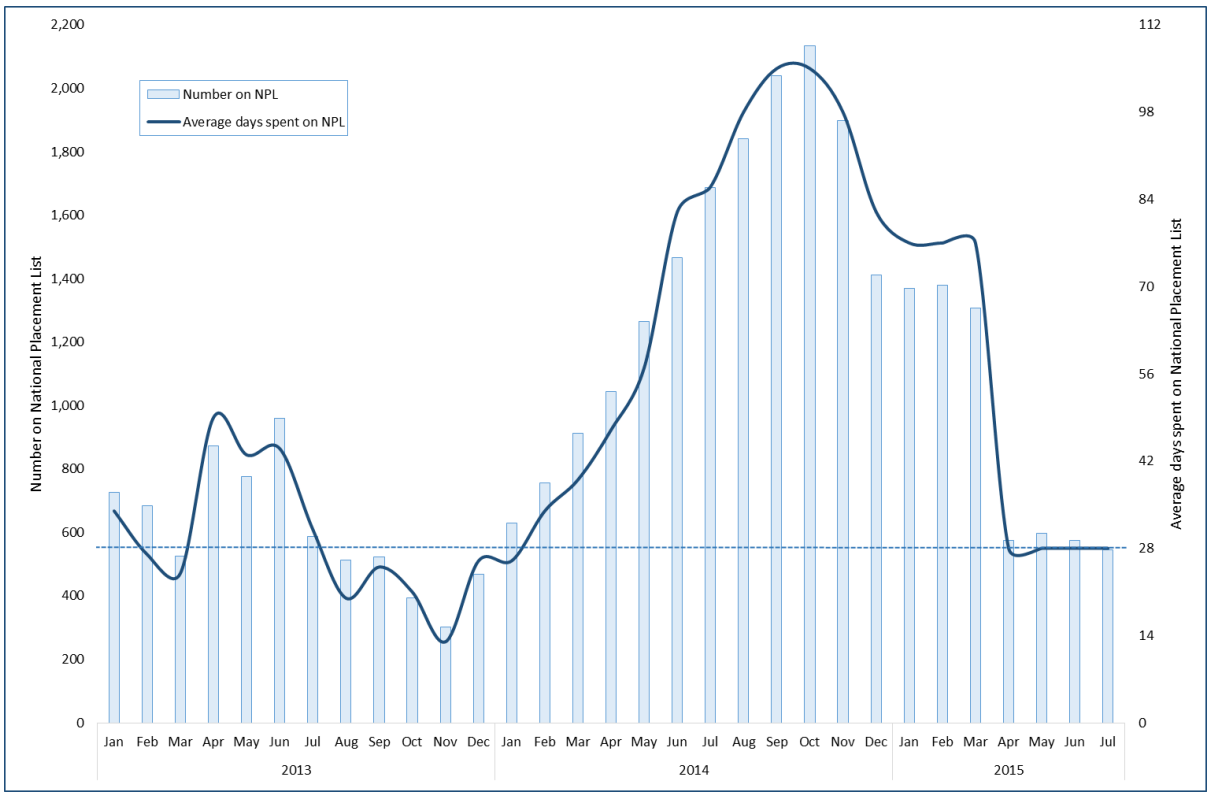
At any given time, NHSS clients can be categorised as falling into three categories:

- Approved for funding and in payment;
- Approved for funding and not in payment;
- On National Placement List awaiting approval decision.

Expenditure is only incurred when people are in payment. In order to assess what a fully-funded scheme might cost in the second section, then, it is necessary to project forward only the number of people who will be in payment. However, as clients falling into the latter two categories will typically enter payment at some point, some consideration must also be given to the size of these groups.

In terms of the National Placement List, a part of Government's commitment to deliver a fully-funded NHSS is to bring the average application processing time down to 4 weeks. This is a significant reduction from the autumn 2014 peak of 15 weeks, as show in Figure 1.2. The figure also makes it clear that there is a very strong association between the number of people on the National Placement List and the average time it takes for their application to be processed, the two rising in step for most of 2014. It therefore seems reasonable to assume that the application processing target of 4 weeks can only be met if the size of the National Placement List is reduced to below a certain level.

Figure 1.2: Number on the National Placement List and average days for application to be processed, January 2013 to July 2015

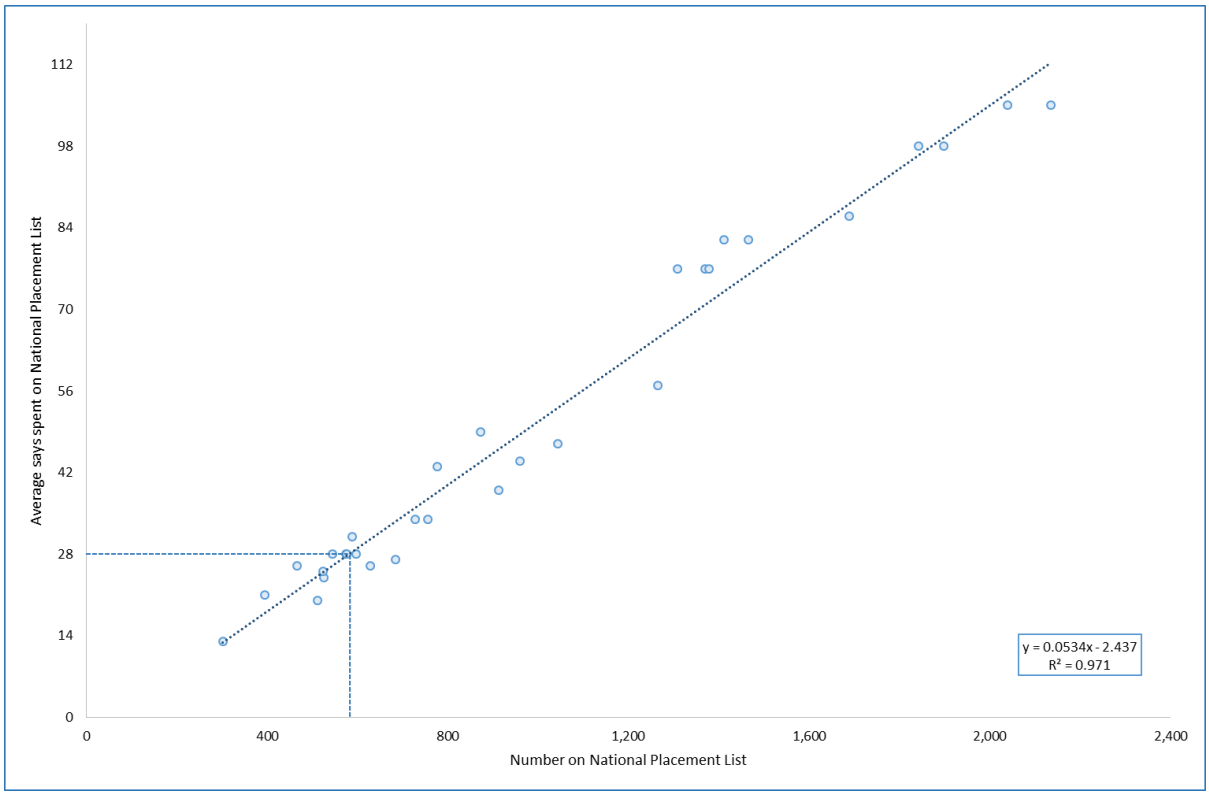


Source: HSE

Figure 1.3 again depicts the relationship between the size of the National Placement List and the average days spent on it, this time in the form of a scatter plot. As can be seen, from January 2013 onwards over 97% of variation in the average wait time can be attributed to variation in the size of the National Placement List and, on the basis of the trend line, it can be concluded with confidence that the National Placement List cannot exceed 570 people if the 4 week target is to be met.

Moving on from the National Placement List, there are many reasons why someone might be approved for payment but not receiving funding. This can be due to difficulties around finding appropriate accommodation for those with complex needs, individuals submitting applications to ensure funding is in place in the expectation that they will require care in the future, or simply issues around availability of residential places.

Figure 1.3: Number on the National Placement List and average days for application to be processed, January 2013 to July 2015



Source: HSE

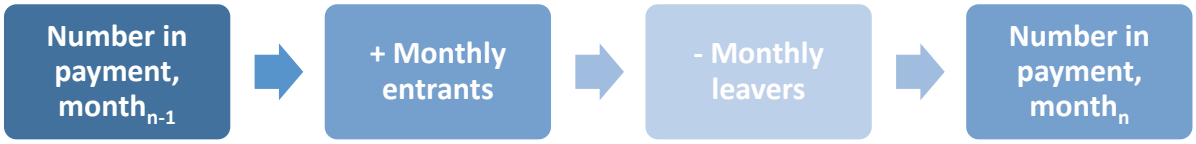
Estimating the 'natural' level of the approved and not in payment list is difficult. As Figure 1.1 shows, it has tended to move in the opposite direction to the National Placement List. However, had the National Placement List been at the target level of 570 for the duration of 2014 it cannot be said how many of the additional approved applications would have promptly entered payment and how many would have spent a period of time not in payment. Similarly, the growth in the number not in payment from late 2014 onwards can be assumed to be a consequence of the rapid reduction of the National Placement List, and should decline with time.

In discussion with the HSE, their Social Care experts have stated their belief that the number of people approved and not in payment will fall to 750 by the end of the 2015 and remain at that level thereafter. Given that there was an average of 781 people approved but not in payment in the second half of 2013, when applications were being processed at close to the current 4 week target, this does not seem to be an unreasonable assumption.

Taking the approved and not in payment and National Placement List categories collectively, then, it is assumed that under a fully-funded NHSS there will be approximately 1,320 people not in receipt of payment at any given time – 570 on the National Placement List and a further 750 who are approved for funding but have not yet taken up their place for some reason.

Projecting the number in payment

Once the number of people not in payment is set, projecting the number of people who will be in payment from one month to the next is not conceptually difficult. As the chart below shows, the number of clients in payment at the end of one month will be the number at the end of the previous month, plus any entrants who have joined during the month, less any leavers. Consequently, any projection of the monthly number of NHSS clients in payment will be made up of two distinct parts: a model for monthly entrants, and a model for monthly leavers. When both models are in place, projected net changes can be found.



Monthly entrants

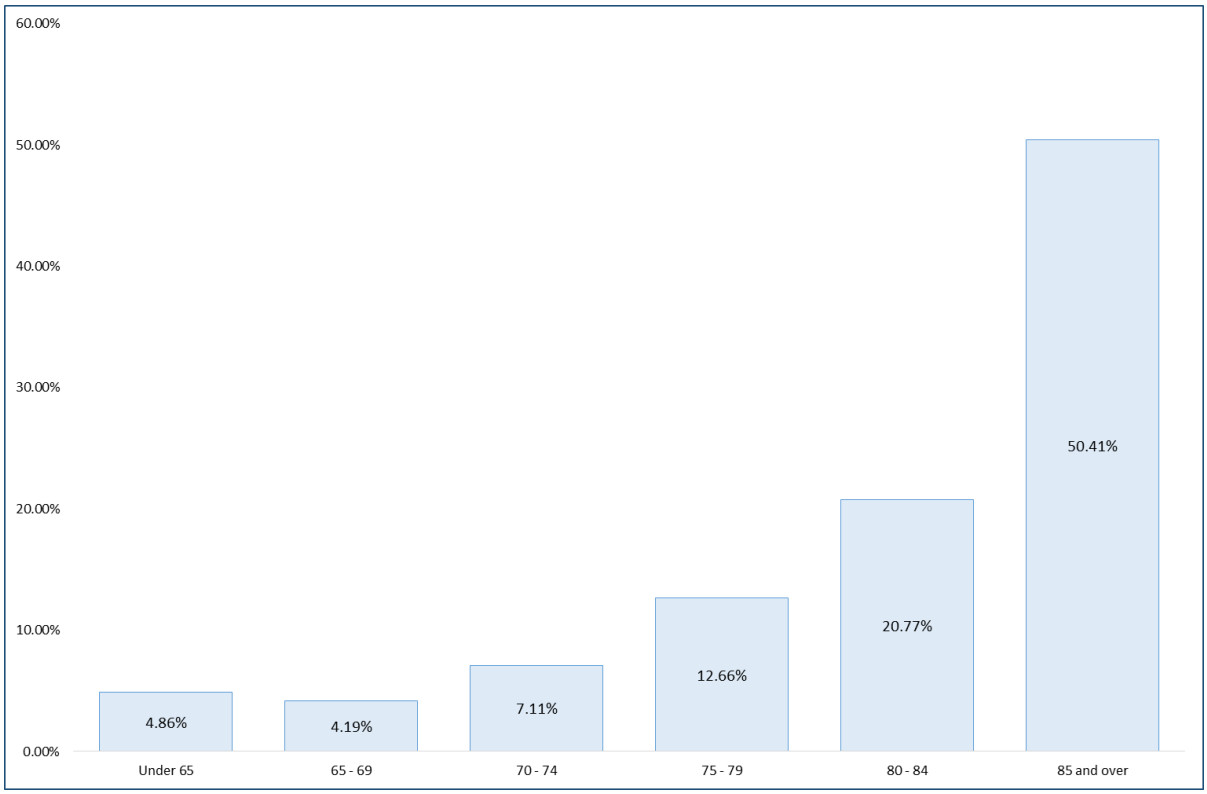
When considering future entrants to the NHSS, it is usual to take the population aged 65 and over as a starting point. For example, the following statement is taken from the Department of Health's *Review of the Nursing Homes Support Scheme*, published in July 2015: "The over 65 population is set to increase from 585,700 in 2014 to 732,000 by 2021 and to 803,000 by 2024. Based on current utilisation rates, this suggests a requirement to have over 36,000 long-stay beds in the system by 2024." However, given that Ireland's 65-year olds have among the best outlooks in terms of expected healthy life years in the European Union[1], such an approach does not appear to be appropriate – at age 65, it will typically be many more years before someone will require long-term residential care.

Figure 1.4 below clearly illustrates the inappropriateness of using the 65 and over population to derive demand for places in the NHSS. In reality, almost three-quarters of NHSS clients are aged 80 and over, and over half are aged 85 and over. Focusing on the population aged 65 and over, then, is likely to overstate the future demand for the scheme. In order to more accurately forecast future entrants, this paper will instead focus on the size of the population aged 80 and over.

In order to estimate future monthly entrants, Table 1.1 below gives the number of applications received as a percentage of the 80 and over population in 2012, 2013 and 2014. To avoid double counting, the number of people in the NHSS at the end of the previous year is deducted from the estimated population aged 80 and over. As the table shows, about 9% of the population aged 80 and over who are not already in the NHSS submit applications to join each year. Therefore, it seems reasonable to assume that 9% of this population will continue to submit applications in years to come.

[1] OECD. 2014. *Health at a Glance: Europe 2014*. Paris: OECD Publishing.

Figure 1.4: Age profile of NHSS clients, April 2015



*Excludes contract, subvention and Section 39 saver cases

Source: Department of Health

Table 1.1: Annual NHSS application rate among the 80 and over population, 2012 to 2014

	Applications received	Estimated population aged 80 and over	NHSS approved at end of previous year	Population aged 80 and over less previous year NHSS population	Application rate
2012	10,225	132,100	22,327	109,773	9.31%
2013	10,406	136,200	22,871	113,329	9.18%
2014	9,757	140,300	23,775	116,525	8.37%

Sources: HSE (NHSS data) and CSO (population estimates)

In itself, the application rate is insufficient to project the number of new entrants to the NHSS as not all those who apply will become entrants. The overwhelming reason for this is the applicant withdrawing their application (18% of applications from 2012 to 2014), perhaps because they realise they would be financially better off paying for their care privately than entering the scheme. A small number of applications are also rejected by the HSE (3% from 2012 to 2014), either because an applicant is not deemed to require long-term care or because their assessed income is found to exceed the cost of care.

Table 1.2: Annual entrance rates, 2012 to 2015

	2012	2013	2014	2015*
Applications received	10,255	10,406	9,757	6,207
NHSS entrants	7,990	8,206	6,259	5,715
Entrance rate	**77.91%**	**78.86%**	**64.15%**	**92.07%**

*Year to July

Source: HSE

Table 1.2 above shows the annual entrance rate from 2012 onwards, defined as the number of entrants in the year divided by the number of applications received. In 2012 and 2013 the entrance rate was virtually the same, with entrants standing at just under 80% of applicants. This percentage fell sharply in 2014, as the scheme struggled to meet demand and the National Placement List ballooned, but has rebounded to over 90% so far in 2015 as the large placement list backlog is cleared. As the scheme was functioning normally in 2012 and 2013, while 2014 and 2015 are atypical, it seems reasonable to assume that 79% of applicants will become entrants going forward.

Combining the entrance rate with the application rate, it is now possible to project the annual number of NHSS entrants: 79% of 9% (or 7.11%) of the estimated population aged 80 and over (minus the population of the NHSS at the end of the previous year).

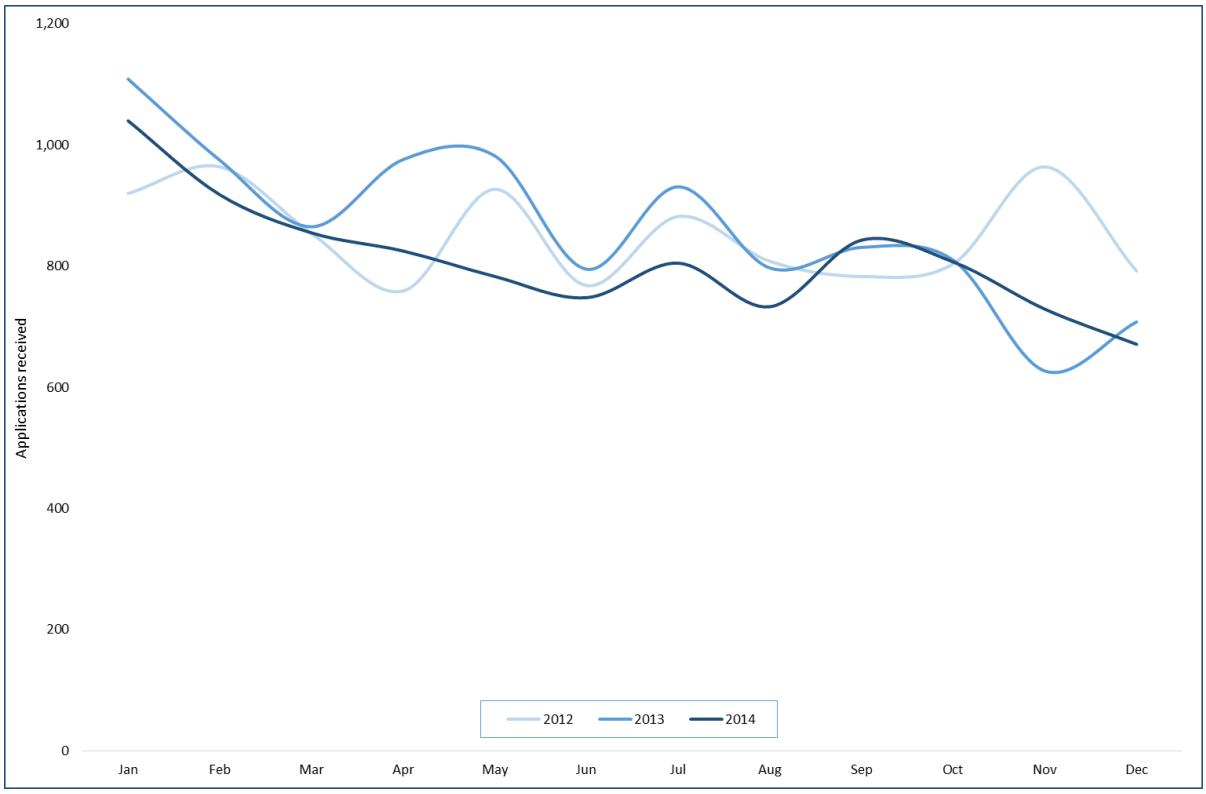
There is one final step necessary to complete the monthly entrants model and that is to profile those entrants across the year. Table 1.3 below gives the number of applications received by month for each year from 2012 to 2014, and Figure 1.5 shows the clear downward trend – applications tend to be at their highest in January and their lowest in December. All else being equal, this means that new entrants will tend to be frontloaded to the early part of each year. Multiplying out the projected annual entrants by the average proportions in Table 1.3, projected monthly entrants can be derived.

Table 1.3: Monthly applications received and as a proportion of annual total, 2012 to 2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2012	920	964	854	759	927	768	882	808	783	804	964	792	**10,225**
Proportion	*0.090*	*0.094*	*0.084*	*0.074*	*0.091*	*0.075*	*0.086*	*0.079*	*0.077*	*0.079*	*0.094*	*0.077*	***1.000***
2013	1,109	975	865	976	982	795	931	797	831	810	627	708	**10,406**
Proportion	*0.107*	*0.094*	*0.083*	*0.094*	*0.094*	*0.076*	*0.089*	*0.077*	*0.080*	*0.078*	*0.060*	*0.068*	***1.000***
2014	1,040	918	855	825	783	748	805	733	843	807	729	671	**9,757**
Proportion	*0.107*	*0.094*	*0.088*	*0.085*	*0.080*	*0.077*	*0.083*	*0.075*	*0.086*	*0.083*	*0.075*	*0.069*	***1.000***
Average Proportion	**0.101**	**0.094**	**0.085**	**0.084**	**0.088**	**0.076**	**0.086**	**0.077**	**0.081**	**0.080**	**0.076**	**0.071**	1.000

Source: HSE

Figure 1.5: Applications by month, 2012 to 2014



Source: HSE

Monthly leavers

In order to project the size of the NHSS in the future, projected leavers must be deducted from the projected entrants described above, thereby giving the projected monthly net change to numbers in the scheme. In order to develop a model that can accurately project monthly leavers it is necessary to first identify the important determinants. It seems reasonable to assume that one of the chief determinants of leavers in a given month will be the number in the scheme in the previous month – all else being equal, the more people who are in the scheme, the more who can be expected to exit. Another important factor to take into account is the average length of stay in the scheme – the time between someone's entry to and exit from the NHSS. According to the HSE the average length of stay is 2.93 years, or 35 months, meaning that someone entering the scheme in today can be expected to leave it in 35 months' time.

Combining these elements, and taking the number of entrants the average length of stay prior to the month of interest as the average of entrants from 36, 35 and 34 months previous, the model for monthly leavers can be expressed as:

$$y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \varepsilon_i$$

$$y_i = Leavers, month\ n$$
$$x_{1i} = Number\ in\ payment, month\ n-1$$
$$x_{2i} = Entrants, month\ n - ALOS$$

As actual data on monthly entrants is only available from January 2012 onwards, entrants for a given month in 2011 are assumed to be 79% of the applications received – in line with the entrance rates discussed previously. Performing regression analysis on leavers, the number in payment and entrants the average length of stay prior from January 2014 to July 2015 yields the following regression equation:

$$Leavers_n = -1{,}026.830 + 0.053(No.\,in\,payment_{n-1}) + 0.699(Entrants_{n-ALOS})$$

The model is found to explain over 80% of variation in the number of monthly leavers. As expected, a positive relationship between monthly leavers and scheme size is reported, with leavers increasing by 0.053 for every additional person in payment in the previous month. There is also a positive relationship between leavers and entrants the average length of stay prior, with leavers increasing by 0.699 for every additional entrant averaged across 36, 35 and 34 months previously.

In terms of statistical significance, the model as a whole is significant at the 95% level as is average length of stay as a predictor. The number in payment in the previous month is not significant at the 95% level but this may be a consequence of the model being underpowered – with a small sample size of 19 observations statistical significance is difficult to achieve for all but the largest effects. Given that it seems reasonable to assume that leavers will increase with the size of the scheme, the variable remains part of the model for now with its statistical significance left as an open question. As more data becomes available, it is expected that scheme size will prove to be statistically significant.

For a summary of the regression output, see Appendix 1.

Projected size of the NHSS

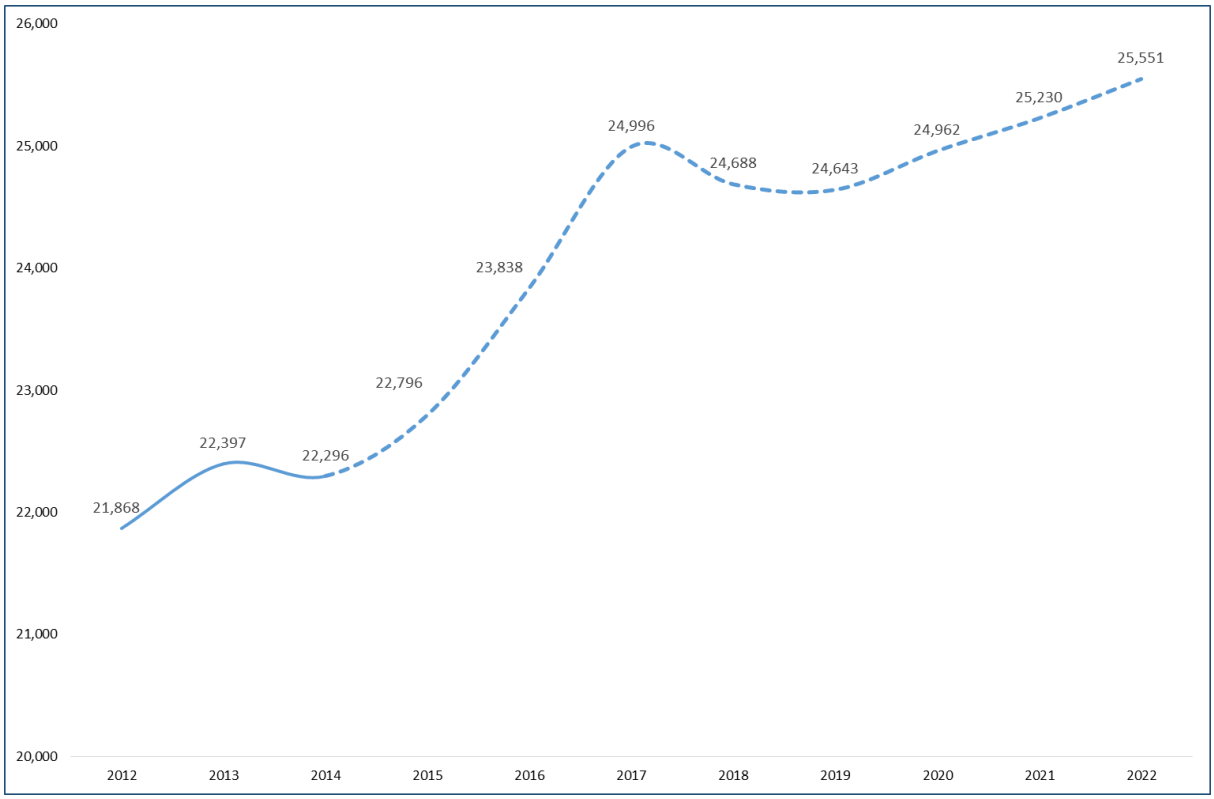
Combining the monthly entrants and exits models set out above, it is now possible to project forward the number of people supported under the scheme. Figure 1.6 below summarises the average annual number in support to 2022. A month-by-month breakdown can be viewed in Appendix 2.

The projection can usefully be broken into three periods. Firstly there is robust growth in numbers as the 2014 backlog of applicants is cleared and with entrants consistently being ahead of leavers. This initial growth peaks in 2017 when there are projected to be just under 25,000 people in the NHSS per month on average.

Following this surge, numbers are then expected to fall slightly to about an average of 24,650 a month in both 2018 and 2019. With the number of entrants projected to rise year on year across the projection, this decline is explained by a rising number of leavers due to the high number of entrants 3 years prior and the increased size of the scheme overall.

Following this period of reduction, numbers are expected to increase by about 300 a year thereafter, reaching a monthly average of over 25,500 in 2022.

Figure 1.6: Actual and projected average monthly number in payment, 2012 to 2022



As the NHSS is a relatively new scheme, and historical data therefore limited, it is necessary to treat these projections with the caution appropriate to all small samples. As more data becomes available and the number of observations increase, the model can be refined going forward.

There are also a number of implicit assumptions made about factors external to the model which, if they changed, could impact on the number in the scheme. For one thing, the proportion of the 80 and over population who apply each year is assumed to remain at 9% for the duration of the projection. However, if compression of morbidity occurs and those who turn 80 in coming years remain healthier for longer than the current 80 and over cohort, this percentage will decline. Consequently, the above projection would overstate the size of the scheme.

The model also does not take into account how rising pension income will affect numbers. Currently about one in ten people in long-term residential accommodation pay for their care privately, with the remainder supported under the NHSS. However, with pension income rising it will make sense for increasing numbers of people to pay for their care privately rather than enter the NHSS, and this will place downward pressure on demand for places.

Lastly, the model assumes that, from 2016 onwards, there will always be approximately 570 people on the National Placement List and 750 people approved for funding and not in payment. While it is unrealistic to suggest that both categories could be so static in reality, so long as they average out at these levels the projection should be accurate. On the other hand, significant deviation from these levels could cause the model to misestimate scheme size.

Concluding remarks

The objective of this section was to project forward entrants and exits to the NHSS and combine the results to produce a forecast of the future average monthly number in payment until 2022. Making the assumptions that the 4-week application processing target will be met by maintaining the National Placement List at 570 and that the number approved and not in payment will fall to 750 by the end of 2015 and remain at that level thereafter, the resulting projection can be divided into three periods.

In the first period, to the end of 2017, growth in the number of people supported is expected to be robust as the transition to a demand-led scheme facilitates residential care for all who require it. Annual increases in the average monthly number in support are projected to be around 900 per year, with the average number in 2017 at just under 25,000 a 2,700 increase on 2014 levels.

Following this, there is expected to be a small decline in numbers in 2018 and virtually flat growth in 2019 as the large number of entrants taken in during the first period begin to exit the scheme.

Finally, there is expected to be steady growth of about 300 people a year from 2018 onwards. Numbers will return to approximately 2017 levels in 2020 and exceed them in the subsequent two years, with the monthly average number in support rising to over 25,500 in 2022.

With projected numbers in place, Section 2 will now combine this forecast with a costs analysis in order to estimate future funding levels for the NHSS.

Section 2: Projecting the cost of the NHSS

Building on the projection in Section 1, this section will project the estimated cost to the Exchequer of the NHSS to 2022. In order to do so, a number of factors will be considered. These include client profile, individual contributions, future levels of pension income and the value of assets.

Current client profile

Scheme clients can be divided into two large categories, each of which can be further subdivided. The vast majority of clients, over 85%, fall into the NHSS. This means that they entered long-term residential care after the Nursing Homes Support Scheme Act 2009 came into operation in October of that year. As can be seen from Table 2.1, most NHSS clients are accommodated in private nursing homes. Private clients are relatively cheap, costing a lesser proportion than their number. The remaining NHSS clients are in public beds, and this group costs proportionally more than their number would imply. This may be due to difficulties finding suitable accommodation for complex cases in private nursing homes, with the cost burden of these cases then falling on the public system.

In addition to NHSS clients are a substantial number of legacy clients, or 'savers'. Representing about 14% of long-term care residents who receive Exchequer support, these are people who entered residential care prior to the introduction of the NHSS and who continue to receive support under the arrangements they had in place at that point. In 2014 public 'savers' accounted for just over 7.6% of the total population in payment but a disproportionately large amount of the Exchequer spend at 12.6%. Also falling into the saver category are a small number of contract, subvention and Section 39 beds. Payment for these clients is made through area finance funded by an allocation from the national NHSS subhead at the beginning of each year on the basis of HSE projections, with an adjustment made in the last quarter to eliminate any surplus or deficit.

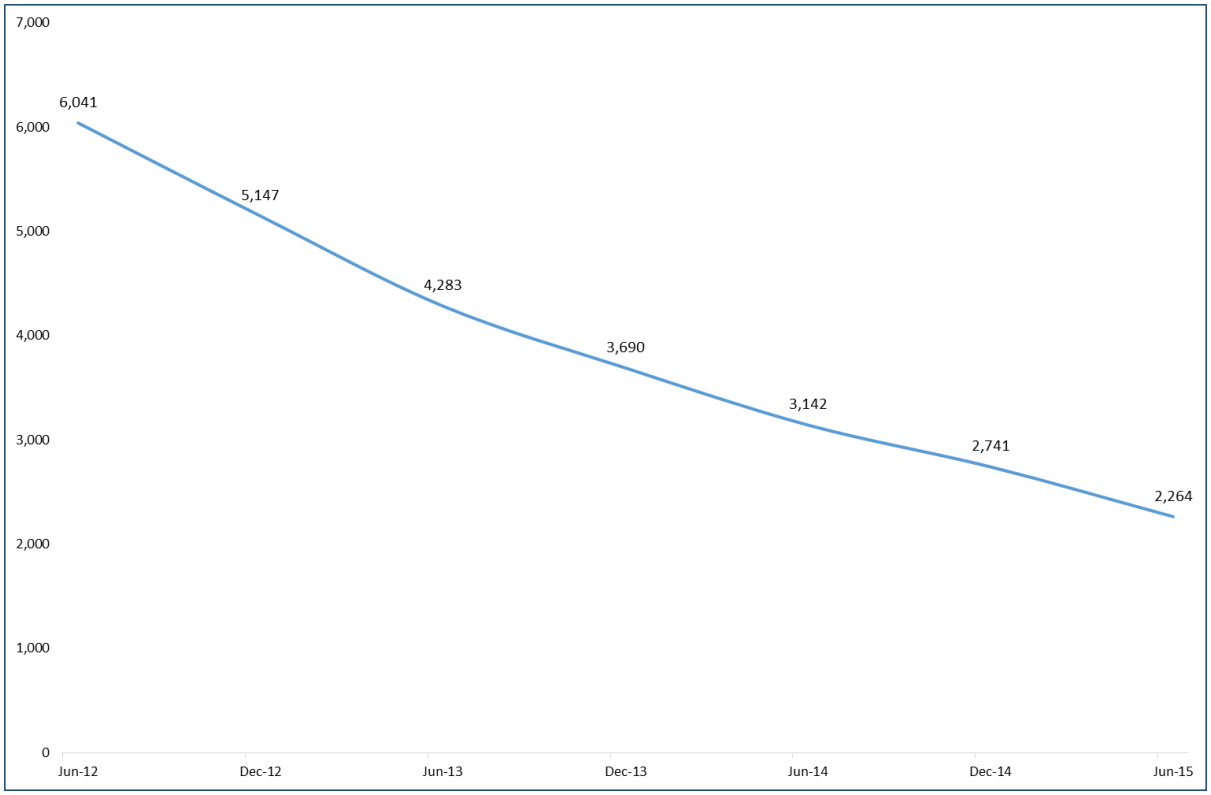
In the three years from June 2012 to June 2015 the number of legacy cases fell from 6,041 to 2,264, as shown in Figure 2.1. Taking an average across the period, about 15% of legacy clients leave the scheme every six months and, if this rate is carried on, there will be less than 2,000 such clients at the end of 2015, less than 750 at the end of 2018 and less than 200 at the end of 2022. In reality, with mortality increasing with age, the decline may even be more rapid. When projecting the future client profile, the average number of legacy patients each year is assumed to be the projected number in June of that year.

Table 2.1: NHSS client profile and Exchequer contribution, 2014

		Average number	Average percentage	Aggregate net Exchequer contribution (€)	Percentage of net Exchequer contribution
NHSS	Private	15,892	71.37%	529,391,848	60.44%
	Public	3,240	14.55%	180,364,166	20.59%
Legacy	Public	1,698	7.63%	110,364,353	12.60%
	Contract	871	3.91%	39,679,009	4.53%
	Subvention	473	2.12%	10,396,156	1.19%
	Section 39	92	0.41%	5,697,538	0.65%

Source: HSE

Figure 2.1: Number of legacy clients, June 2012 to June 2015



Source: HSE

Client contributions

The client profile is important when projecting the future funding requirement because the various groups each contribute to the cost of their care at different rates. An NHSS client who enters the scheme today contributes 80% of their assessable income and 7.5% of the value of their assets per year, while NHSS clients who had submitted an application prior to July 2013 make a reduced contribution of 5% of their assets' value. The contributions of residents of private nursing homes go to the home owners while the contributions of those in public beds goes to the Exchequer. At the end of 2014, the average weekly contribution of an NHSS client in private accommodation was €287 while for those in public beds it was €277. On an annual basis, this works out at approximately €14,964 and €14,443 respectively.

Compared with NHSS clients, legacy patients make a relatively small contribution to the cost of their care. In 2014, legacy patients in public beds contributed an average of €165 a week to their care, which works out at approximately €8,603 annually. The other three groups of legacy patients make no contribution at all.

Table 2.2 below summarises the net costs of each type of client in 2014. As legacy patients exit the scheme and are replaced by NHSS patients making a greater contribution to the cost of their care, the average annual cost per head can be expected to decline. For the purposes of this projection, the relative proportions of the four types of legacy patient are assumed to remain constant as their overall number declines, and 80% of

NHSS patients are assumed to be accommodated privately with the remainder in relatively expensive public beds.

Table 2.2: Net cost by client, 2014

	NHSS		Legacy				Total
	Private	Public	Public	Contract	Subvention	Section 39	
Average clients	15,982	3,240	1,698	871	473	92	**22,356**
Total net annual cost (€000)	529,392	180,364	110,364	39,679	10,396	5,698	**875,893**
Annual net cost per client (€)	33,124	55,668	64,996	45,556	21,979	61,935	**39,179**

Source: HSE

Pensions

When projecting the future cost of the NHSS, it is not sufficient to use the current net costs to the Exchequer. If pension income is greater among future scheme entrants, it can be assumed that the cost per head will decline.

Pensions at a Glance 2013 reports that the average population income in Ireland is €32,600, and that those aged 66 to 75 earn 86.4% of that figure while those aged 75 and above earn just 75.4%. Taking retirement income to be 36.7% of working income, this means that future entrants can be expected to be €1,316, or 14.5%, better off per year than the current population of the scheme.

Table 2.3: Annual retirement income by age cohort

	66-75	75 and over	Difference
Retirement income (€)	10,337	9,021	1,316

Source: OECD

As NHSS clients contribute 80% of their income to the cost of the care, this means that the annual net cost per person to the Exchequer could fall by €1,053 as the older cohort is replaced over time. For the purposes of projecting costs, the average income contribution is assumed to increase by €150 per year from 2016 to 2022.

Assets

As discussed above, an individual's contribution is made up of two parts: an income contribution and an asset contribution. Rising pension income should see the level of income contribution increase in the future, reducing the net cost to the Exchequer. Increased asset values among future scheme members should augment this reduction.

For the second wave of the Irish Longitudinal Study on Ageing (TILDA) respondents, the median net value of assets for those aged between 65 and 74 is approximately €230,000. Compared with a median asset net value

of approximately €180,000 for those aged over 75, this means that those entering the scheme in the future are worth almost 30% more than the current population of the scheme[2].

With new entrants contributing 7.5% of the value of their assets annually for the first 3 years, rising wealth could see future NHSS clients pay €3,750 more towards their care each year than the current population. Indeed, the increase is even greater when compared with those currently in the scheme who entered before July 2013, who contribute 5% of the value of their assets each year.

Given that home ownership among NHSS applicants stands at 56.4% versus 85% among second wave TILDA respondents[3], it seems prudent to revise down projections of rising asset contributions accordingly. For the purposes of these projections, the value of the asset contribution is assumed to rise by €355 per year on average from 2016 to 2022.

Private bed costs

Private bed costs are negotiated on an individual basis by the National Treatment Purchase Fund (NTPF) with each nursing home in the scheme agreeing a single price for all patients, regardless of complexity. These prices are reviewed periodically when agreements expire, though there is currently some consideration being given to reforming this arrangement with a view to ensuring there is adequate capacity for those with complex care needs. For the purposes of this cost projection, private bed prices are assumed to move with inflation.

Projected long-term cost of the NHSS

Combining the various elements of a shifting client profile and increased individual contributions due to rising pension incomes and asset values, Table 2.4 and Figure 2.2 show the projected annual cost of the NHSS to 2022.

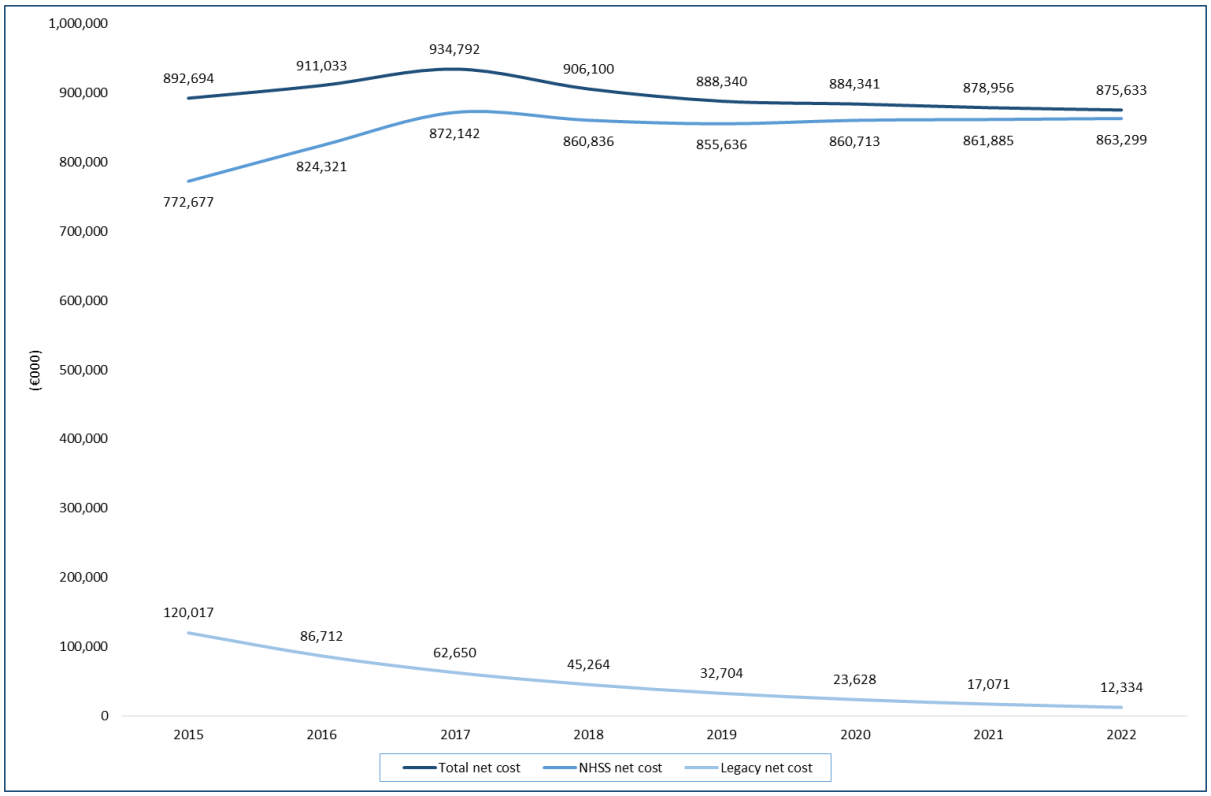
Table 2.4: Projected annual average number in payment, total cost and cost per person, 2015 to 2022

	Average number in payment	*NHSS*	*Legacy*	Total net cost (€000)	*NHSS net cost (€000)*	*Legacy net cost (€000)*	Net cost per person (€)
2015	22,796	*20,532*	*2,264*	892,694	*772,677*	*120,017*	39,160
2016	23,838	*22,202*	*1,636*	911,033	*824,321*	*86,712*	38,218
2017	24,996	*23,814*	*1,182*	934,792	*872,142*	*62,650*	37,398
2018	24,688	*23,834*	*854*	906,100	*860,836*	*45,264*	36,702
2019	24,643	*24,026*	*617*	888,340	*855,636*	*32,704*	36,048
2020	24,962	*24,516*	*446*	884,341	*860,713*	*23,628*	35,427
2021	25,230	*24,908*	*322*	878,956	*861,885*	*17,071*	34,838
2022	25,551	*25,318*	*233*	875,633	*863,299*	*12,334*	34,270

[2] Nolan, A. et al. (Eds.). 2014. *The Over 50s in a Changing Ireland: Economic Circumstances, Health and Well-Being.* Dublin: The Irish Longitudinal Study on Ageing.
[3] Department of Health. 2015. *Review of the Nursing Homes Support Scheme, A Fair Deal*. Dublin: Department of Health.

As with the projected number in payment, the total cost to the Exchequer of the NHSS is expected to grow strongly until 2018 at a rate of approximately €20 million per year. Following this the plateau in overall numbers, with cost per person declining due to legacy patients leaving the scheme and the greater contribution of new entrants, will see the net funding requirement decline. The continuing exit of legacy patients combined with the increased pension income and assets wealth of the cohort replacing them will see costs continue to decline modestly into the 2020s, the net funding requirement standing at just under €876 million in 2022.

Figure 2.2: Total, NHSS and legacy net costs to the Exchequer, 2015 to 2022



It is important to note that the above projection depends on a number of assumptions which may not hold in reality. Most fundamentally, it relies on the accuracy of the projected average number in the scheme, and the estimated breakdown of legacy and NHSS patients therein. It assumes that clients of the NHSS will continue to contribute 80% of their income and 7.5% of the value of their assets each year, and that income and wealth will rise in line with OECD and TILDA findings. Asset values can be highly changeable, as the recent past of this country readily demonstrates.

It is also assumed that average length of stay will remain at 35 months, which means that the average client will not pass the 3-year cut off for making a contribution based on their assets. If average length of stay lengthens significantly beyond 3 years, the level of individual contribution will decline. Furthermore, the projection ignores the fact that patients can access Ancillary State Support to borrow the value of their asset contribution, assuming that repayments and lending will broadly balance out in any given year.

In terms of NTPF price-setting negotiations, it is assumed that the price of private beds will rise at the same rate as inflation. More generally, all the projected costs assume present value and should be revised annually to take account of inflation.

Concluding remarks

The objective of this section was to project the future net annual cost of the NHSS in order to assess its sustainability. As discussed in Section 1, numbers in the scheme are expected to steadily rise in the coming years. However, through a combination of rising wealth and income among present retirees and the declining number of relatively expensive legacy patients, it is expected that declines in the unit cost will offset much of this increased demand. The net funding requirement is projected to reach a peak of €935 million in 2017, after which point the requirement declines in real terms to €876 million in 2022.

Although this projection relies on a number of assumptions, outlined in detail above, it seems clear from this analysis that the NHSS is both sustainable and affordable in the long run.

Conclusion

The aim of this paper was to analyse the long-term sustainability of the Nursing Homes Support Scheme based on a number of factors. These included the expected number in payment arising from demographic pressure, the evolving profile of the scheme population, and the income and wealth of future entrants.

Section 1 of the paper looked at historic NHSS numbers to construct a model for projecting the future number of people in payment in the scheme. Key points emerging from the analysis include:

- The National Placement List should be maintained at no more than 570 people in order to meet the Government-mandated processing target of 4 weeks;
- An estimated 9% of people aged 80 and over will apply to join the NHSS each year (excluding those already in the scheme);
- By 2017, there is expected to be a monthly average number in payment of 25,000, an increase of about 2,700 on the 2014 figure;
- Thereafter growth is expected to slow, reaching just over 25,500 in 2022 following a small reversal in 2018 and 2019.

Section 2 of the paper extended the model to consider the future funding requirements of the scheme. The key points to emerge from this section include:

- The cost of legacy patients is expected to decline drastically, representing about 1.4% of the total spend in 2022 compared with about 14% in 2014;
- Increasing average income and wealth will place further downward pressure on the scheme's cost with individuals' contribution expected to rise by €505 annually from 2016 to 2022;
- The net funding requirement is expected to reach a peak of €935 million in 2017 before the above factors work to reduce it to €876 million in 2022;
- Average cost per person is expected to consistently decline, from just over €39,000 in 2014 to just over €34,000 in 2022.

Taking the sections together, both the number in payment and the net funding requirement are expected to rise steadily until 2017. However, slowing growth in numbers thereafter and a falling cost per person will work to reduce the funding requirement year-on-year to 2022. Despite increasing demands, the NHSS is affordable and sustainable in the long-term.

Appendix 1: Regression statistics for exits model

Regression statistics for the exits model used in Section 1 are summarised in Table A1.1 below.

Table A1.1: Exits regression, summary statistics

Regression Statistics	
Multiple R	0.895499387
R Square	0.801919153
Adjusted R Square	0.777159047
Standard Error	48.64060975
Observations	19

ANOVA					
	df	***SS***	***MS***	***F***	***Significance F***
Regression	2	153251.9836	76625.99182	32.38754936	2.36995E-06
Residual	16	37854.54267	2365.908917		
Total	18	191106.5263			

	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***
Intercept	-1026.829738	866.4921655	-1.185042149	0.253304419	-2863.711072	810.0515952
X Variable 1	0.053226967	0.040138524	1.326081827	0.203432911	-0.031862903	0.138316837
X Variable 2	0.699177892	0.110020028	6.35500556	9.55037E-06	0.465945851	0.932409934

Appendix 2: Projected NHSS numbers by month, 2015 to 2022

Table A2.1 sets out the projected monthly entrants, leavers, net change and number in payment from August 2015 to December 2022.

Table A2.1: Projected NHSS numbers by month, 2015 to 2022

		Entrants	Leavers	Net	Number in payment at month end
2015*	July				22,778
	August	767	608	159	22,937
	September	802	629	173	23,110
	October	792	614	178	23,288
	November	763	618	145	23,433
	December	720	644	76	23,509
2016	January	889	713	175	23,684
	February	827	676	150	23,834
	March	745	696	50	23,884
	April	740	637	104	23,987
	May	778	775	2	23,990
	June	669	769	-100	23,890
	July	757	794	-37	23,852
	August	676	757	-81	23,771
	September	712	736	-25	23,747
	October	701	697	4	23,751
	November	672	637	35	23,786
	December	628	594	34	23,819
2017	January	924	579	345	24,164
	February	860	614	246	24,410
	March	775	610	165	24,576
	April	770	578	192	24,768
	May	809	545	264	25,032
	June	696	557	139	25,170
	July	788	588	199	25,370
	August	704	614	90	25,459
	September	741	715	25	25,484
	October	729	854	-125	25,360
	November	699	881	-182	25,177
	December	653	844	-191	24,986
2018	January	954	777	177	25,164
	February	888	972	-84	25,079
	March	801	958	-158	24,922
	April	795	974	-179	24,743
	May	835	803	32	24,775
	June	718	820	-102	24,673
	July	813	788	25	24,698
	August	726	832	-106	24,592
	September	764	826	-61	24,531
	October	753	803	-50	24,481
	November	722	823	-102	24,379
	December	675	833	-158	24,221

*104 additional entrants per month from August to December in order to reduce the number of people approved but not in payment to 750 at the end of 2015, a level it is assumed to remain at thereafter.

		Entrants	Leavers	Net	Number in payment at month end
2019	January	998	830	168	24,389
	February	929	805	124	24,513
	March	837	800	37	24,551
	April	832	784	48	24,598
	May	873	790	83	24,682
	June	751	771	-20	24,662
	July	850	780	70	24,732
	August	760	771	-11	24,721
	September	800	769	30	24,751
	October	787	751	36	24,788
	November	755	805	-50	24,737
	December	705	846	-141	24,596
2020	January	1,034	873	160	24,756
	February	962	846	116	24,872
	March	867	840	27	24,899
	April	861	823	38	24,937
	May	904	829	75	25,013
	June	778	808	-30	24,982
	July	880	817	63	25,046
	August	787	807	-20	25,025
	September	828	805	23	25,048
	October	816	786	30	25,078
	November	782	840	-58	25,020
	December	731	881	-150	24,870
2021	January	1,070	907	163	25,032
	February	995	879	117	25,149
	March	897	872	25	25,174
	April	891	855	37	25,211
	May	936	861	75	25,286
	June	805	839	-34	25,252
	July	911	848	63	25,315
	August	814	838	-23	25,292
	September	857	835	22	25,314
	October	844	816	29	25,342
	November	809	874	-65	25,277
	December	756	919	-163	25,114
2022	January	1,131	948	183	25,297
	February	1,053	919	134	25,431
	March	949	913	36	25,466
	April	943	895	47	25,514
	May	990	902	88	25,602
	June	852	880	-29	25,573
	July	964	890	74	25,647
	August	861	879	-18	25,629
	September	906	877	29	25,658
	October	893	857	36	25,694
	November	856	916	-60	25,633
	December	800	961	-161	25,472