

Final REPORT v3.2

Nottinghamshire County Council Older People Services

Reducing the rate of admissions to long
term care homes – making care more
convenient and closer to home



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Whole Systems Partnership
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1 Introduction

1.1 Context

Nottinghamshire County Council wishes to explore actions that will lead to an increase in the numbers of older people helped to live at home and reduce the number of people admitted into Care Homes through the development of a systems model that facilitates local stakeholders in exploring future options and scenarios.

This report follows the initial report of 10 January 2008 and the subsequent interim report of 22 February 2008.

1.2 Key questions

The information gathered from a series of one-to-one interviews, desktop research and two stakeholder workshops has been synthesised into a whole systems simulation model with a view to providing answers to the following questions:

1. Given population projections for older people in Nottinghamshire, what will be the need for local authority supported long term care home beds to 2020, if we maintain the status quo?
2. What will be the impact of self funders on local authority supported long term care home beds?
 - a. self funders whose assets drop below the threshold, and so qualify for local authority support;
 - b. an increasing proportion of the older population owning their own homes.
3. How can Nottinghamshire reach its comparator group average of the proportion of its older population resident in long term care homes and when can this be achieved by? Policy options are:
 - a. The development of extra care housing units;
 - b. Improving access to intermediate care services;
 - c. Improving access to re-enablement and occupational therapy services;
 - d. Delaying admission to a long term care home bed by keeping people in their own homes for a longer period, thus reducing the average length of stay of residents;
 - e. Not accepting any transfers from acute hospitals into long term care and providing alternative services.

1.3 PAF C32 Older people helped to live at home

Nottinghamshire has been concerned about its results in the performance indicator PAF C32 – People aged 65 years and over helped to live at home per 1000 of population aged 65 years and over.

The performance, as of February 2008 was 69.5, which is lower than many of its comparable authorities.

Nottinghamshire thought that it may not be counting all of the services that it could be in this indicator and sought an opinion on whether there were additional services that could be included. It was concerned that it was underreporting its actual performance.

Research was conducted with a group of comparative local authorities to compare the components of the C32 performance indicator, as used by Nottinghamshire, with the other authorities' own components. With the exception of Derbyshire, who perform well on this indicator, each authority that responded either includes the same components or fewer than Nottinghamshire.

We conclude that Nottinghamshire is not under reporting its activity in the C32 indicator and that its relatively low value is due to a lower proportion of older people supported with relevant services, than its comparative authorities.

1.4 Stakeholder Workshop

The majority of the content of this report was reviewed at a stakeholder workshop at Nottinghamshire County Cricket Ground on 21 April 2008. A list of attendees is included as an appendix to this report.

2 Demand for long term residential/nursing care

All model outputs from this and subsequent sections will be summarised in a final section of this report. A table of model assumptions can be found as an Appendix.

2.1 Growth in the older population

Figure 1 shows the forecasts for the populations of the three age bands (65-74, 75-84 and 85+) in Nottinghamshire County.

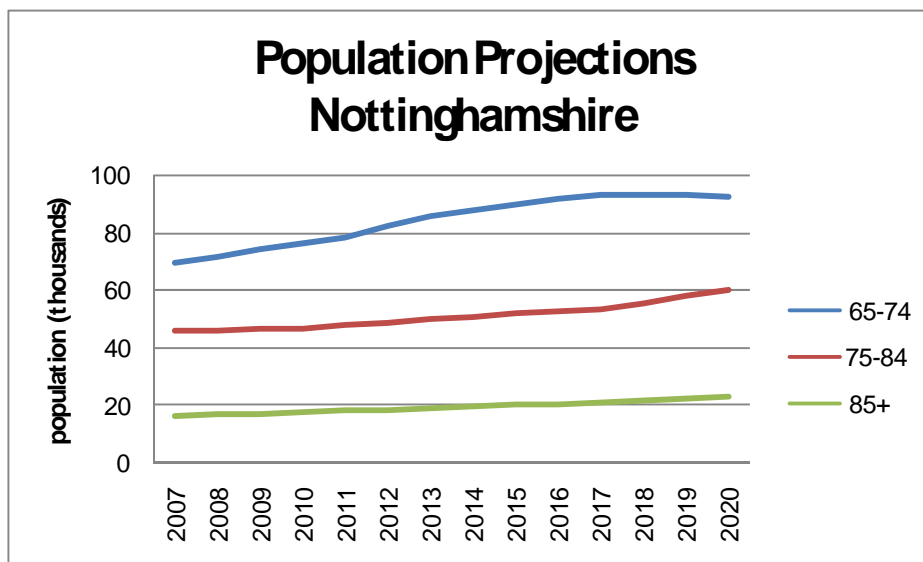


Figure 1: Forecast population of older people in Nottinghamshire County (by age band). Source: ONS Revised 2004 - based sub national population.

Figure 2 shows the forecasts for the percentage change in the populations of the three age bands (65-74, 75-84 and 85+) in Nottinghamshire County. The maximum growth is in the people aged 85 plus, projected to increase by some 42% by 2020.

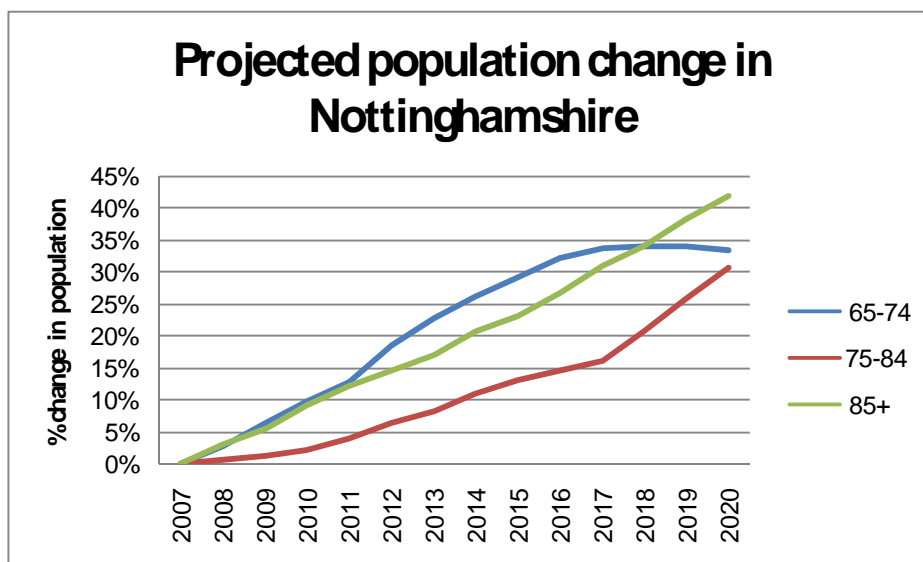


Figure 2: Forecast % change in the population of older people in Nottinghamshire County (by age band). Source: ONS Revised 2004 - based sub national population.

2.2 Growth in demand for long term care

The POPPI¹ database for Nottinghamshire County provides the ratio of people in long term care homes in the age groups 65-74, 75 to 84 and 85 plus; as 9%, 32% and 59%, respectively.

Using this ratio from the POPPI database, the ONS population projections from Section 2.1 and the number of CSSR supported people in residential and nursing homes as of 2007, it is possible to forecast the future growth in older people that would access CSSR supported long term care places.

Figure 3 demonstrates that there is forecast to be a growth in people in supported residential and nursing long term care of 38% by 2020.

It should be noted that this rate of growth is slightly greater than that reported in the Nottinghamshire County Joint Strategic Needs Assessment April 2008, Chapter 2, Section 1.5. In that document, the projected growth of relevant people to 2020 is 31% and to 2025 is 42%. The difference is not considered material in the context of the strategic commissioning questions being addressed in this report.

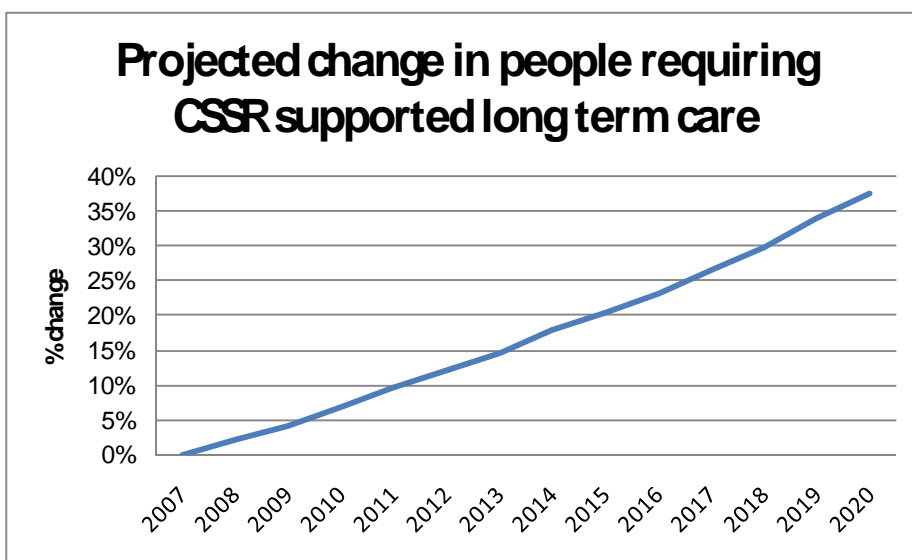


Figure 3: Forecast % change in the population of older people in Nottinghamshire County CSSR supported long term care homes

2.3 Projected numbers of older people in long term care homes

It should also be noted that, in the 'Strategic Needs Assessment', the total number of older people in residential and nursing care during the year, purchased or provided by the CSSR is given as 4549 people for 2008. It is thought that this figure represents all people accessing residential and nursing care during the year, rather than the actual number at a fixed point in time (as quoted in this analysis).

In contrast, the Nottinghamshire County database SR1 gives the figure of people in permanent residence in a care home on 31 March 2007 as 3021 people and that is the figure used in the whole systems model.

¹ <http://www.poppi.org.uk/>

The initial conditions in the whole systems model, representing the operational data for 2007, are:

- People in LA supported long term care homes = 3021
- Admissions rate = 1143 admissions pa
- Average length of stay = 2 yrs 8 months

The model then multiplies the admission rate (over time) according to the profile in Figure 3. The model simulates activity from the years 2007 to 2019.

Figure 4 shows the admission rate to LA supported long term care per annum, as an output of the whole systems model. The admission rate increases from 1143 to 1518 admissions per annum (a 33% increase).

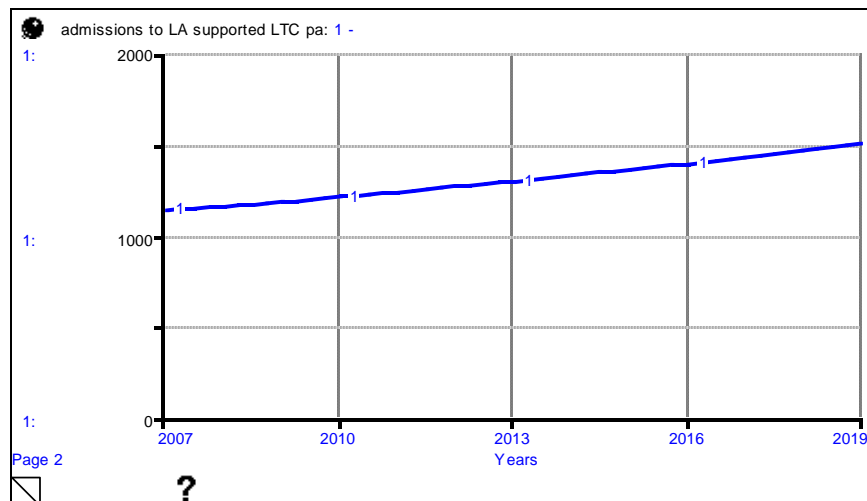


Figure 4: Projected older people admissions per annum to CSSR supported long term care homes in Nottinghamshire County

Figure 5 shows the number of permanent residents in LA supported long term care, as an output of the whole systems model. The number of permanent residents increases from 3021 to 3750 residents (a 24% increase). The difference in the growth in admissions compared to the growth in residents is accounted for by the fact that, for a significant part of the 12 year period, the rate at which people are leaving long term care homes is increasing at a faster rate than the rate at which people are being admitted to long term care homes. (This concept can be analysed further by careful investigation with the dynamic simulation model).

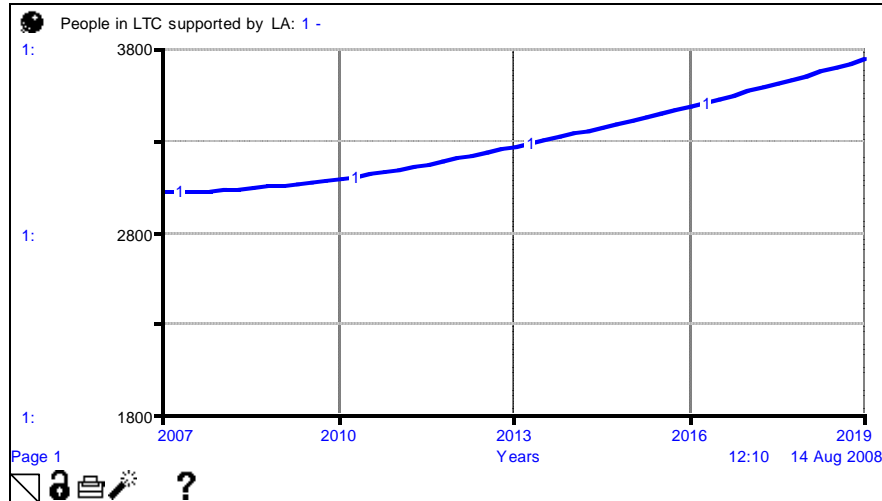


Figure 5: Projected older people in CSSR supported long term care homes in Nottinghamshire County

These outputs assume that there are no operational reductions in the admission rate or any change in the average length of stay.

3 Self funding long term care residents

Section 3 addresses the question of how home ownership will impact on admissions to long term care homes on the basis that any assets above £21k on admission to long term care (of which people's property would be a significant element) would mean that people would have to fund their own care until those assets reduce to a figure below this threshold.

3.1 Home ownership

Information on home ownership in Nottinghamshire is available from the 2001 census. Table 1 provides the relevant data. If one assumes that people's asset base remains broadly the same over time the data suggests an approximate increase in home ownership in the older age bands (i.e. those relevant at the point of entry to long term care) of 10% every 10 years. For example, when today's 65-74 year old population, with a home ownership proportion of 80%, are all ten years older they will either still be home owners or will retain significant assets such that tomorrow's 75-84 year olds will have a correspondingly higher rate of home ownership than today's 75-84 year older (i.e. c.80% instead of 67%).

Percentage of population owning dwelling, year 2001	Notts.
People aged 55-64	86%
People aged 65-74	80%
People aged 75-84	67%
People aged 85 and over	57%

Table 1: Percentage of population owning a dwelling in Nottinghamshire County, 2001²

3.2 The impact of home ownership

Using the data in Table 1 as a guide we can assume an annual increase of 1% in home ownership in Nottinghamshire for each age band relevant to long term care admissions. This should have a double impact on the rate of funded admissions to long term care homes:

- Firstly, with an increasing financial asset base in the older population there will be an increasing number of people able to 'initially' fund their own long term care and a subsequent reduction in direct admissions to LA funded long term care.
- Secondly, after an individual's financial assets are reduced to the threshold there will be a subsequent increase in admissions to LA funded long term care by privately funded residents whose assets have fallen below the threshold. The simulation model is able to model this activity with its inherent delays.

By implementing an annual increase of 1% in home ownership in the model, the admission rate to LA supported long term care per annum increases from 1143 to 1415 admissions per annum (a 24% increase). This compares with a 33% increase without considering home ownership.

In 2007 there were approximately 125 people per year transferring from self funded to local authority funded residents. Without an increase in home ownership the model forecasts that this number will rise to 155 people per year by 2019, as a result of population growth. Considering an annual increase of 1% in home ownership; the model forecasts that this number will rise from the current 125 people per year to 169 people per year by 2019.

² <http://www.poppi.org.uk/>

People in LTC supported by LA: 1 - 2 -

Year	Line 1 (Blue)	Line 2 (Red)
2007	~2900	~2850
2010	~3000	~2900
2013	~3100	~3000
2016	~3200	~3100
2019	~3300	~3200

Therefore, as a result of changes in home ownership, the local authority can anticipate a slower increase in admissions to LA funded long term care but a higher increase in those admissions that were previously self-funded – with an overall net financial benefit to the authority. Also, there will be a slower rate of growth in the population of older people in LA funded long term care places.

4 Policies to reduce admissions to long term care and deliver care closer to home

Section 4 will deal with how Nottinghamshire health and social care agencies can develop policies to achieve a reduction in the numbers of older people resident in long term care homes and deliver long term care closer to home.

4.1 Extra care housing

The County currently funds 134 extra care places, concentrated in the districts of Bassetlaw, Newark, Sherwood and Radcliffe. There is a strategic aim to develop at least an additional 150 extra care places as alternatives to residential care. It is intended that the new units will be provided for older people with a range of levels of need to develop 'balanced communities' within the units.

The simulation model provides the facility to test the impact of implementing extra care housing. In the model tests that will be subsequently described we have made the following assumptions:

- 150 extra care units by 2010;
- All used as an alternative to long term residential care;
- Average length of stay 3 years;
- No subsequent transfers from extra care units to long term residential care.

It is believed that these assumptions are the most favourable to achieving reductions in admissions to long term care homes and will not *all* be realised completely. The outputs therefore represent a best case scenario.

Figure 7 shows the admission rate to LA supported long term care per annum.

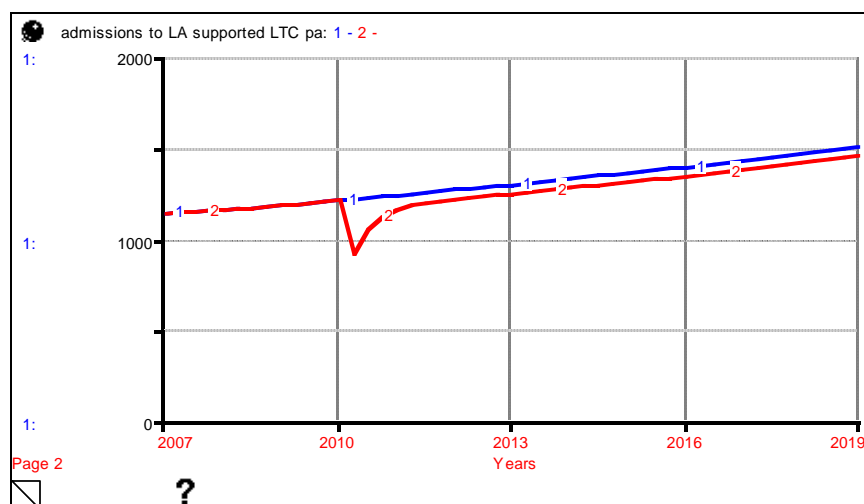


Figure 7: Projected older people admissions per year to CSSR supported long term care homes in Nottinghamshire County, with and without extra care housing.

Scenario 1 is showing increases due to population growth only. The admission rate increases from 1143 to 1518 admissions per annum (a 33% increase). Scenario 2 factors in the implementation of 150 extra care housing units in 2010. It can be seen that the admission rate falls in 2010 as the extra care units become occupied, as an alternative to a care home. However, once the new units are full, the admission rate to long term care continues its previous trajectory. Under this scenario the admission rate increases from 1143 to 1468 admissions per annum (a 28% increase) by 2019. The number of permanent residents increases from 3021 to 3617 residents (a 20% increase).

The dynamic of the change in the number of funded places is illustrated in Figure 8.

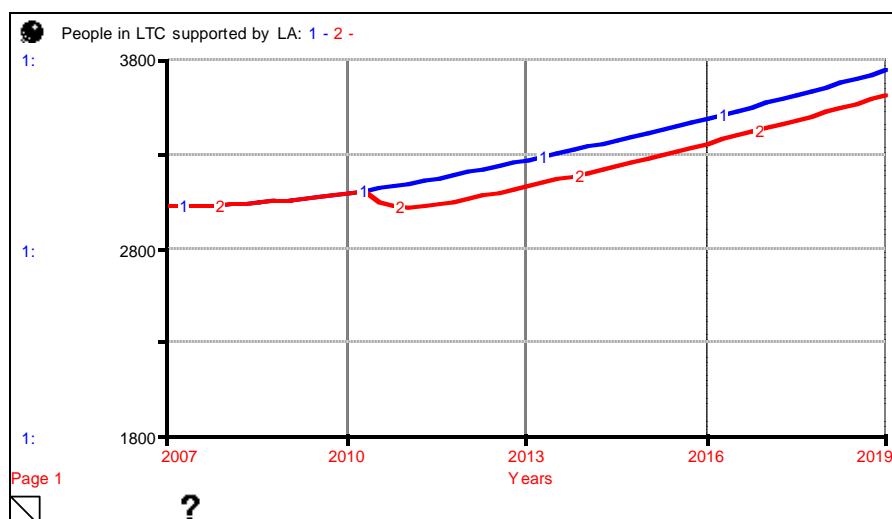


Figure 8: Projected older people in CSSR supported long term care homes in Nottinghamshire County, with and without extra care housing.

Similar tests can be conducted using variable amounts of additional extra care housing and different implementation dates.

4.2 Intermediate care, re-enablement and occupational therapy services

The interim report of 22 February 2008 highlighted a range of issues concerned with access to intermediate care services.

- Variable levels of intermediate care across the County
- Incompatible information systems
- Difficulty with GP cover and Consultant sign up
- More focussed on rehabilitation than re-enablement
- A very effective integrated discharge service in Mansfield and Ashfield

4.2.1 Levels of activity in intermediate care services

Table 2 provides information on targets for delivering episodes of intermediate care services, in the year 2007/08, across Nottinghamshire. The targets are fairly evenly balanced between acute hospital avoidance and supported hospital discharge. There is no evidence of targets for residential care admission avoidance.

Number of people receiving intermediate care in a residential setting to prevent hospital admission	213	10%
Number of people receiving intermediate care in a residential setting to facilitate timely hospital discharge and/or effective rehabilitation	506	25%
Number of people receiving non-residential intermediate care to prevent hospital admission	841	41%
Number of people receiving non-residential intermediate care to facilitate timely hospital discharge and/or effective rehabilitation	498	24%
Full year target 2007/08	2058	100%

Table 2: Intermediate care activity targets 2007/08³

4.2.2 Improving access to intermediate care services

There are approximately 1000 episodes of intermediate care per year focussed on supported hospital discharge. We could pose the question, 'What would be the impact of supporting all hospital discharges of older people with an episode of intermediate care.'

In an evaluation of residential intermediate care at Westwood⁴, of 182 discharges 11 went into LTC (6%).

Figure 9 is a systems diagram of current activity across the relevant sectors. The diagram shows of 958 admissions to long term care homes, 623 were from acute discharges and 335 from the community. Using the research from Westwood, we might assume that of the 1000 intermediate care episodes, 60 (6%) might result in admission to a long term care home.

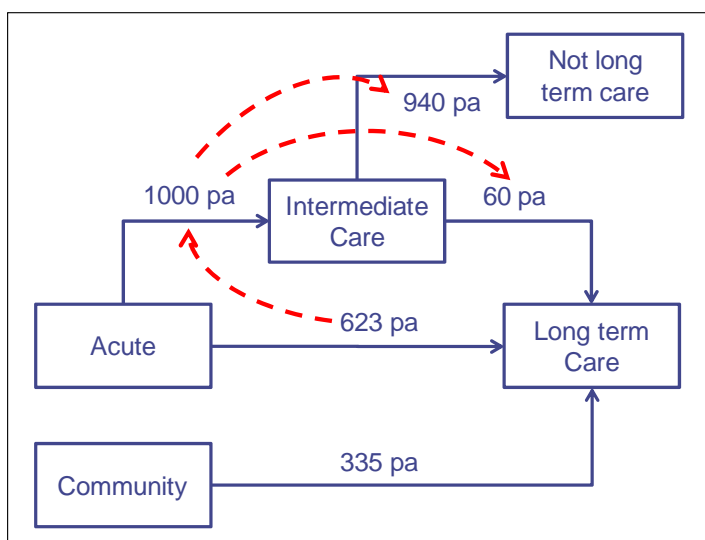


Figure 9: Activity across community, acute, intermediate care and long term care 2006/07

The simulation model has been used to test what would be the impact of providing an intermediate care episode for all older people upon discharge from an acute setting. It can be seen from the diagram that this would result in 623 extra episodes of intermediate care per year. We might also assume that more

³ Intermediate care summary report 2007/08, Notts. County PCTs

⁴ RICS 2006/07

than 6% of these extra episodes would result in admission to a care home. On this basis we have used a figure of 20% of the additional 623 intermediate care episodes per year, resulting in an admission to a long term care home, for this test.

Figure 10 shows the impact of this policy on admissions to LA funded long term care.

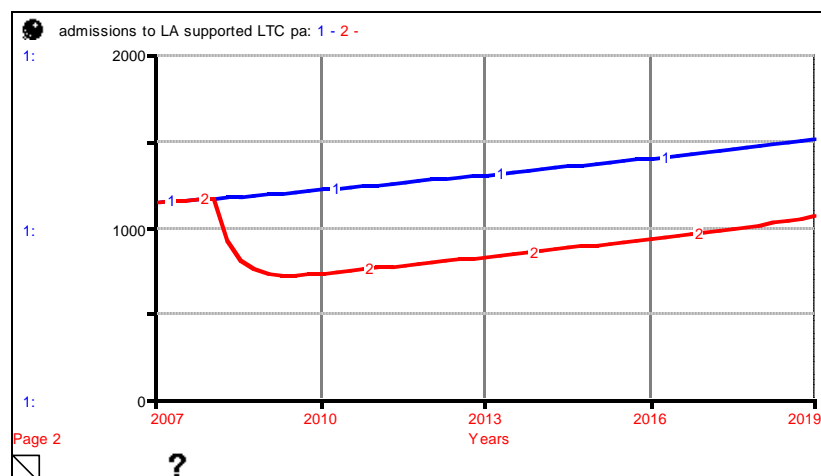


Figure 10: Projected older people admissions per annum to CSSR supported long term care homes in Nottinghamshire County, with and without increased access to intermediate care.

Figure 11 shows the impact of this policy on the number of permanent residents in LA supported long term care.

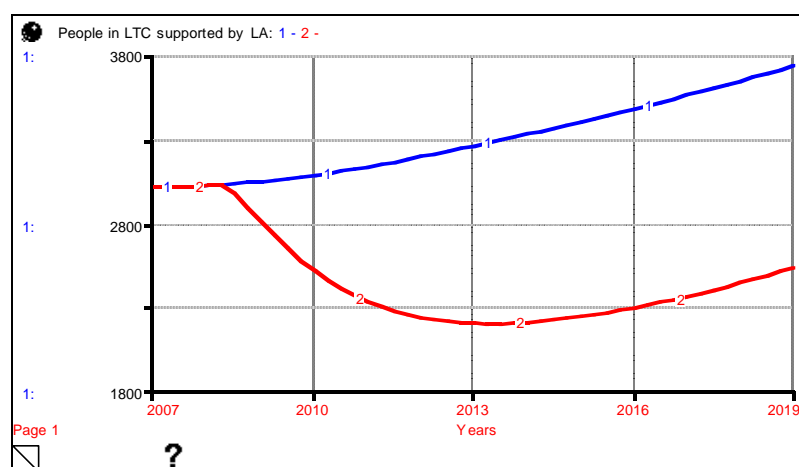


Figure 11: Projected number of older people resident in CSSR supported long term care homes in Nottinghamshire County, with and without increased access to intermediate care.

Scenario 1 is showing increases due to population growth only. The admission rate increases from 1143 to 1518 admissions per annum (a 33% increase) and the number of residents increases from 3021 to 3750 residents (a 24% increase).

Scenario 2 factors in an additional 623 extra intermediate care episodes, following acute discharge (i.e. those who would previously have gone directly to long term care). It can be seen that the admission rate falls from 1143 in 2007 to 729 by 2010 and then increases to 1062 by 2019, an overall decrease in admissions by 2019 of 8%. The number of permanent residents decreases from 3021 to 2536 residents by 2019 (a 16% decrease).

4.2.3 The impact of improving access to intermediate care services on home care services

An obvious consequence of there being less people in care homes is that they will need support at home. The model predicts that achieving the outcomes specified in Section 4.2.2 would result in an additional 838 (41% increase) intensive home care packages, over and above those that would need to be provided by considering population increases alone.

4.3 Delaying admission to a long term care home by keeping people in their own homes for a longer period

This policy has been tested, using the simulation model by reducing the average length of stay of residents by 6 months and providing intensive home care as an alternative service.

Under this scenario, the admission rate does not change. However, owing to the reduced length of stay in a care home, the number of permanent residents decreases from 3021 to 2718 residents by 2012 (a 16% decrease) and then rises again, because of population growth, to 3078 residents by 2019.

5 Summary of model outputs

Table 3 shows a summary of the model outputs as described in the preceding sections of the report. In this section we also describe the impact of introducing multiple policies and considering the question,

‘How can Nottinghamshire reach its comparator group average of the proportion of its older population resident in long term care homes and when can this be achieved by?’

5.1 Summary of individual policies

Table 3 provides a summary of the outputs of the model by implementing the policies individually. The outputs are admissions per year, the number of local authority funded older residents in long term care homes and the number of intensive home care packages required to support the policies. Outputs are dynamic in that they are recorded for three separate years; 2007, 2013 and 2019.

The policies listed in order are:

- No policies implemented but demographic growth switched on;
- The expected impact of increasing home ownership on self funded residents is switched on;
- Implementing an additional 150 extra care housing units in 2010;
- Providing all older people that would have been admitted to a long term care home following discharge from an acute hospital with a period of intermediate care;
- Delaying admission to a long term care home by an average of 6 months, and supporting that period with intensive home care.

All policies are tested with demographic growth switched on.

	Admissions pa			Number of residents			Number of IHC packages		
	2007	2013	2019	2007	2013	2019	2007	2013	2019
Demographic change only	1143	1303	1518	3021	3267	3750	1574	1751	2027
Impact of home ownership	1143	1249	1415	3021	3180	3534	1574	1751	2027
Extra care housing (150 units)	1143	1253	1468	3021	3128	3617	1574	1751	2027
Improved access to (IC+ 623 eps.)	1143	823	1062	3021	2201	2536	1574	2589	2890
Reduced length of stay (6 mths.)	1143	1303	1518	3021	2734	3078	1574	2315	2725

Table 3: Summary of implementing individual policies

5.2 Impact of introducing multiple policies

The final tests are to implement a combination of policies. As an illustration the following combination of policies are tested in the model and Table 4 provides the outputs in the same manner as Table 3.

- Demographic growth switched on;
- The expected impact of increasing home ownership on self funded residents is switched on;
- Implementing an additional 150 extra care housing units in 2010;
- Providing all older people that would have been admitted to a long term care home following discharge from an acute hospital with a period of intermediate care;
- Delaying admission to a long term care home by an average of 6 months, and supporting that period with intensive home care.

	Admissions pa			Number of residents			Number of IHC packages		
	2007	2013	2019	2007	2013	2019	2007	2013	2019
Multiple policies	1143	719	909	3021	1634	1797	1574	3396	3896

Table 4: Summary of implementing multiple policies

The results of this strategy, by 2013, are:

- To reduce admissions per year by 424 admissions (37% reduction);
- To reduce the number of residents by 1387 people (46% reduction);
- To increase the number of intensive home care packages by 2322 packages (148% increase).

5.3 Comparator group average

At the latest count, the comparator group⁵ average for long term care residents per 1000 of the population aged 65 and over was 17.16. This is shown by line 2 in Figure 12. Of course, as the comparator group local authorities implement their own policies and their populations change, then so will this average. It is likely that the average will also decrease over time. Line 1 on the chart shows how the same variable for Nottinghamshire would change over time under the implementation of the multiple policies as indicated in the previous section of this report.

The chart shows a reduction in Nottinghamshire's long term care residents per 1000 of the population aged 65 from 22.85 to 10.56, a reduction of 54%.



Figure 12: Long term care residents per 1000 of the population aged 65 and over; Nottinghamshire and comparator group

5.4 Impact of introducing multiple policies

In the light of the question – how do we hit the comparator group target – it might be useful to modify the individual policy options of Section 5.2, in the light of possible double counting/overlap and achievability of the 'optimistic' nature of each.

For example we might consider:

- 150 extra care housing units but assume only 50% direct substitution for long term residential care, in order to maintain a policy of a balanced community.
- 75% instead of 100% of hospital discharges receiving intermediate care(1217 intermediate care episodes per year), on the basis that for some people there is no real alternative due to levels of need and complexity
- Delaying admission to LTC by 3 months rather than 6 months.

⁵ Audit Commission family of local authorities

This adapted multiple policy option is presented as a final 'more realistically achievable' scenario and is illustrated in Figure 13, with the relevant outputs in Table 5.



Figure 13: Long term care residents per 1000 of the population aged 65 and over; Nottinghamshire and comparator group, using adapted multiple policies.

	Admissions pa			Number of residents			Number of IHC packages		
	2007	2013	2019	2007	2013	2019	2007	2013	2019
Adapted multiple policies	1143	1076	1294	3021	2527	2882	1574	2378	2733

Table 5: Summary of implementing multiple policies

6 Next steps

This report has been compiled to show an illustrative set of policy tests in seeking to increase the number of older people helped to live at home and reduce the number of people admitted into Care Homes. It represents a set of policies that represent the views of the stakeholder group at the time.

However, it is anticipated that the report may stimulate some fresh ideas and the simulation model is capable of testing the policies with alternative parameters.

The simulation model can be made available and there are a range of options for its use which can be discussed with the authors of this report.

7 Assistance

This report was written by Paul Gisborne and Peter Lacey, Whole Systems Partnership (contact details below).

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APPENDIX – Table of model assumptions

Variable	Value
Base year	2007
Notts. population 65 plus (1000s)	(2007, 132), (2008, 135), (2009, 138), (2010, 142), (2011, 145), (2012, 150), (2013, 155), (2014, 159), (2015, 162), (2016, 166), (2017, 168), (2018, 171), (2019, 174)
Initial people in LA supported LTC pa	3021
Base admissions to LA supported LTC pa	958
% of admissions to LTC from acute bed	65%
Initial avlos in LA supported LTC	2.64 years
Initial people in self funded LTC pa	3000
Base admissions to self funded LTC pa	976
% of transfers from SF to LA funded pa	4.2%
Initial avlos in self funded LTC	3.53 years
Number of extra care units by 2010 ⁶	150
% of extra care units used as an alternative to long term residential care ⁶	100%
Average length of stay in extra care units ⁶	3 years
% transfers from extra care units to long term residential care ⁶	0%
Initial people receiving IHC	1574
Base IHC starts pa	1137
Average weeks receiving IHC	72
Initial acute discharges to intermediate care pa ⁷	1000
Initial % of those IC episodes resulting in admission to LTC ⁷	6%

⁶ See section 4.1 of main report for detail on variation to extra care housing parameters

⁷ See section 4.2 of main report for detail on variation to intermediate care parameters

APPENDIX - List of stakeholders

List of stakeholders that attended the workshop of 21 April 2008

Peter McGavin
Carol Harper
Vickie Minion
Marie Thompson
Jill Young
Hilary MacCallum
Caroline Baria
Sally Bullock
Joe Pidgeon
Jane Cashmore
Kit Hall
Sonya Londer Medd
David Hamilton
Gill Oliver

Acknowledgment

The author would like to thank Helen Waterhouse for making all of the arrangements for the interviews and workshop and collating relevant reports.

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