

# Staff Paper 2015

## BUDGETARY IMPACT OF CHANGING DEMOGRAPHICS 2016 -2026

Irish Government Economic & Evaluation Service

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*\* This paper has been prepared by the Labour Market and Enterprise Policy Division of the Department of Public Expenditure & Reform. The views presented in this paper are those of the author alone and do not represent the official views of the Department of Public Expenditure and Reform or the Minister for Public Expenditure and Reform. Analytical papers are prepared on an ongoing basis in the context of the expenditure management process and reflect the data available at a given point in time.*

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## Abstract

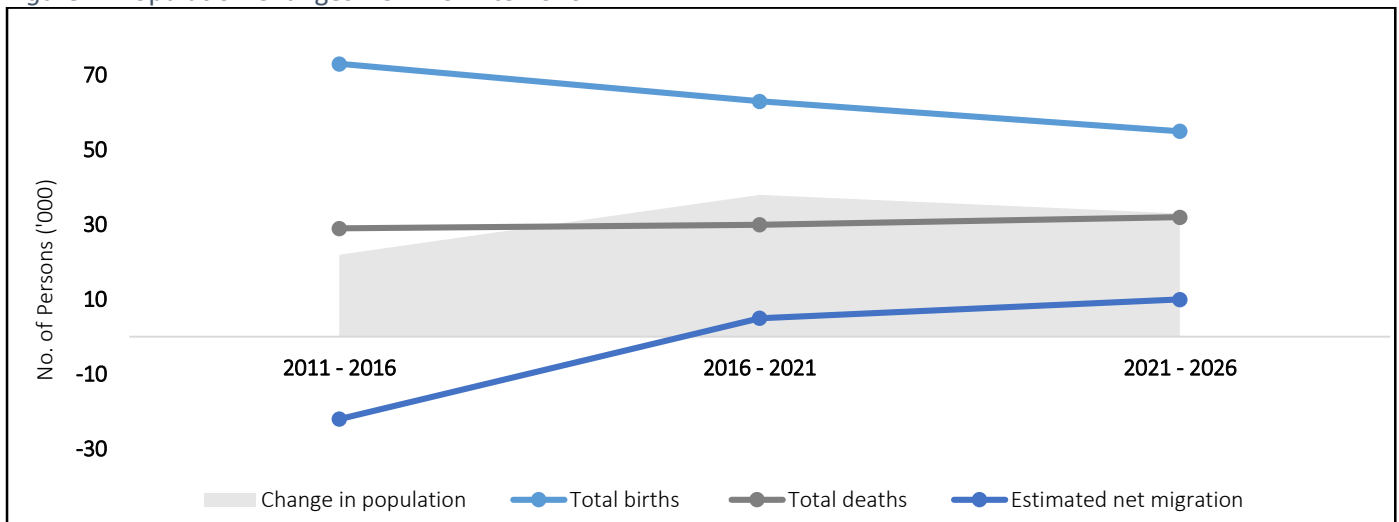
The paper discusses expected changes in the structure of the Irish population, and how these transformations effect public expenditure in the short, medium and long term. The changing age profile of the population puts a strain on the fiscal space within which sectors such as, Social Protection, Health and Education have to operate. In the short term, 2016 to 2019, the projected annual demographic cost pressure amounts to €424m. From 2020 to 2021, the average annual expenditure pressure is estimated to drop to €180m due to a fall in pension spend. In the long term, 2022 to 2026, the annual demographic cost pressure is expected to return to the region of €411m.

## INTRODUCTION

Population is projected to increase through to 2046, reaching 4.8m in 2021 and 5m in 2026. In the coming decades, the age structure of the Irish population is expected to change dramatically. This development is due to the changing dynamics of fertility, life expectancy and net migration. In 2013, the CSO produced a set of population estimates based on assumptions relating to net migration and fertility. This paper is broadly based on the CSO's medium migration and low fertility (M2F2) assumption. Education is the only exception to this, substituting for the low fertility (F1) assumption.

Over the next decade, the number of births is expected to fall, primarily due to the annual decline in the number of women in the child-bearing age cohort. By 2026, the F2 fertility scenario assumes the fertility rate will decrease from 2.1 to 1.8 and then stabilise at this level until the end of 2046. The decline in Ireland's fertility rate will generate a convergence with EU norms as prior to this Ireland experienced exceptionally high fertility rates. In absolute terms, the number of older people in Ireland is growing rapidly. This ageing population will have an effect on the proportion of the elderly population to working age. In the coming years, the old age dependency ratio, the ratio of people aged 65 and over to working age individuals (aged 15-64), is set to continually increase. In 2013, this ratio was 18.8% and is projected to increase to 21.3% in 2017 and 23.7% in 2021.

Figure 1: Population Changes from 2011 to 2016



Source: Central Statistics Office

Three areas of public expenditure are particularly affected by demographic pressures; namely **Social Protection, Health and Education**. Section A outlines the demographic cost pressure for each of the three areas from 2016 to 2026.

# SECTION A: BREAKDOWN OF COST PRESSURE PROJECTIONS

## 1 SOCIAL PROTECTION

### 1.1 CHILD BENEFIT

	2016 - 2019	2020 - 2021	2022 -2026
<b>Demographic Cost Driver</b>	<i>Pop. Aged 0-18 Years</i>	<i>Pop. Aged 0-18 Years</i>	<i>Pop. Aged 0-18 Years</i>
Avg. Annual Change in Persons	10,000	3,000	-5,000
Avg. Change in Expenditure (€m)	16	5	-9

KEY ASSUMPTIONS		POLICY CONSIDERATIONS	
<p>➤ This is projected to fall in the longer term (2021-2026) with costs coming back in line with projected 2016 costs. This is based on a “no change scenario”.</p>		<ul style="list-style-type: none"> <li>○ Various policy options are being considered in the area of Child Benefit.</li> <li>○ In the upcoming budget, there is consideration of a €5 increase on Child Benefit. This would increase costs by €72m per year.</li> </ul>	

### 1.2 PENSIONS

	2016 - 2019	2020 - 2021	2022 -2026
<b>Demographic Cost Driver</b>	<i>Pop. Aged 66+ (2015-2017) and 67+ (2018-2019) with Pension</i>	<i>Pop. Aged 67+ (2020) and 68+ (2021) with Pension</i>	<i>Pop. Aged 68+ with Pension</i>
Avg. Annual Change in Persons	19,750	-1,000	22,600
Avg. Change in Expenditure (€m)	228	-12	260

KEY ASSUMPTIONS		POLICY CONSIDERATIONS	
<p>The projections assume a “no change” scenario where expenditure is expected to rise from €6.5bn to €8.7bn in 2026.</p>		<ul style="list-style-type: none"> <li>○ The 2021 increase of the pension age to 67 is taking into account in these calculations. An array of policy options have been put forward in order to mitigate for the extra spending such as increasing the pension age at an earlier point in time and a reduction in rates for pension schemes.</li> <li>○ There has been debate around proposed pension rate increases in the upcoming Budget of €5 which would increase pension costs by €152 million.</li> </ul>	

**PENSION EXPENDITURE PROJECTIONS (€m)**

Year	Expenditure (€m)
2016	6,800
2017	7,000
2018	7,200
2019	7,400
2020	7,600
2021	7,400
2022	7,600
2023	7,800
2024	8,000
2025	8,200
2026	8,800

## 2 HEALTH

### 2.1 ACUTE SERVICES

	2016 - 2019	2020 - 2021	2022 -2026
Demographic Cost Driver	<i>All Age Cohorts</i>	<i>All Age Cohorts</i>	<i>All Age Cohorts</i>
Avg. Annual Change in Persons	35,953	38,578	33,416
Avg. Change in Expenditure (€m)	53	62	70

#### KEY ASSUMPTIONS

- The projections are based on the assumption that the only variable changing over the projection period is the size and age distribution of the population.
- The pure demographic cost pressures for inpatients and daycases are derived separately by multiplying the relative cost per case by the projected numbers of discharges for each age group and year. This provides an estimate of total casemix units (CMUs).

#### POLICY/OTHER CONSIDERATIONS

- There is currently no consensus on the extent to which population ageing necessarily results in proportionally higher health expenditure.
- As life expectancy continues to increase there is ongoing debate as to whether it will mean that poor health is deferred until later in life with a significant proportion of lifetime health care costs occurring in the last year of life. This has been termed: “compression of morbidity” and could potentially result in reduced costs.

### 2.2 PRIMARY CARE REIMBURSEMENT SERVICES (PCRS)

	2016 - 2019	2020 - 2021	2022 -2026
Demographic Cost Driver	<i>All Age Cohorts</i>	<i>All Age Cohorts</i>	<i>All Age Cohorts</i>
Avg. Annual Change in Persons	35,953	38,578	33,416
Avg. Change in Expenditure (€m) (GMS)	40	44	48
Avg. Change in Expenditure (€m) (non GMS)	6.5	7.1	6.9

#### KEY ASSUMPTIONS

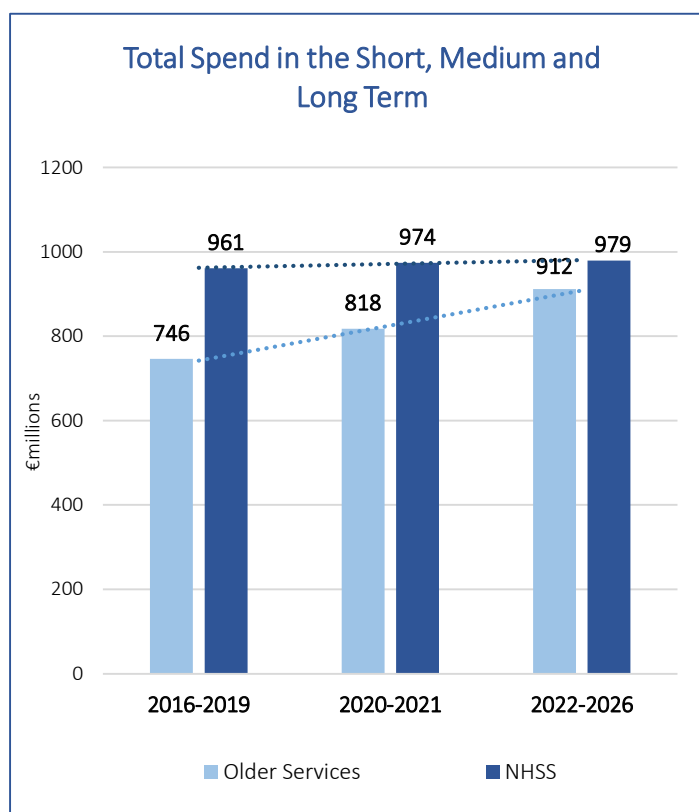
- The latest complete data referred to 2013 and these per capita costs were combined with age-specific population projections and then aggregated to give a total cost for each scheme.
- These per capita costs across the population by age were held constant over the projection period which assumes that both the cost structure and rates of utilisation remain unchanged.

#### POLICY CONSIDERATIONS

In Q3 2015, children under 6 and people over 70 were prioritized for the first phases of the roll-out of universal GP care. Under the existing GMS contract free GP care will be provided for all individuals in these cohorts.

## 2.3 NHSS AND OTHER SERVICES FOR OLDER PEOPLE

	2016 - 2019	2020 - 2021	2022 -2026
<b>Demographic Cost Driver</b>	<i>Population Aged 65+</i>	<i>Population Aged 65+</i>	<i>Population Aged 65+</i>
Avg. Annual Change in Persons	20,525	22,470	24,627
Avg. Change in Expenditure (€m)	22.6	24.7	27
<b>Demographic Cost Driver</b>	<b>Entrants to NHSS</b>	<b>Entrants to NHSS</b>	<b>Entrants to NHSS</b>
Avg. Annual Change in Persons	218	301	-93.5
Avg. Change in Expenditure (€m)	-1.1	10.4	0.1



### KEY ASSUMPTIONS

- *Services for Older People* - These services are predominantly required by the older age groups and are highly responsive to changes in this age cohort, it is assumed that the cost pressure is aligned with the annual demographic pressure.
- *NHSS* – The key assumptions provide that over the projection period:
  1. The more expensive Pre-scheme NHSS members will naturally exit the scheme
  2. The new members entering the scheme will be wealthier than those who have entered previously.

### POLICY/OTHER CONSIDERATIONS

- The number of people in the NHSS scheme is expected to increase in the coming years but it is not expected that this demand will translate into a dramatic rise in cost to the Exchequer.
- This through a combination of; increased individual contributions as a result of new members increased wealth, declining numbers of relatively expensive pre-scheme clients, and finally the possibility that the proportion of those in long-term care and not in the NHSS will grow with increased average incomes.

## 3 EDUCATION

### 3.1 PRIMARY AND SECONDARY LEVEL

Primary Level			
	2016 - 2019	2020 - 2021	2022 -2026
Demographic Cost Driver	<i>Pop. Aged 5-12 Yrs.</i>	<i>Pop. Aged 5-12 Yrs.</i>	<i>Pop. Aged 5-12 Yrs.</i>
Avg. Annual Change in Persons	4,719	-7,113	-13,314
Avg. Change in Expenditure (€m)	23	-16	-40

Secondary Level			
	2016 - 2019	2020 - 2021	2022 -2026
Demographic Cost Driver	<i>Pop. Aged 12-19 Yrs.</i>	<i>Pop. Aged 12-19 Yrs.</i>	<i>Pop. Aged 12-19 Yrs.</i>
Avg. Annual Change in Persons	5,063	8,676	5,349
Avg. Change in Expenditure (€m)	22	36	27

#### KEY ASSUMPTIONS

- Expenditure projections are based on the M2F1 scenario in [Projections of Full Time Enrolment, Primary and Second Level, 2015-2033](#). Expenditure combines additional teacher salaries and pupil capitation payments.
- Resource Teachers are excluded and the resulting Pupil Teacher Ratio is held constant for the duration.
- A core assumption is the extent to which new entrant salaries impact on average teacher unit cost.

#### POLICY/OTHER CONSIDERATIONS

The current demographic bulge is passing through the school system. Primary pupil enrolment is set to peak in 2018 and second level enrolment in 2025. There is a temporary need for additional teachers to meet the increasing participation, after peak enrolment however pupil numbers will begin to decline - along with the associated teacher requirement. This situation will present challenges, particularly around retirement, redeployment and recruitment.

### 3.2 THIRD LEVEL

	2016 - 2019	2020 - 2021	2022 -2026
<b>Demographic Cost Driver</b>	<i>Pop. Aged 20-24 Yrs.</i>	<i>Pop. Aged 20-24 Yrs.</i>	<i>Pop. Aged 20-24 Yrs.</i>
Avg. Annual Change in Persons	2,164	2,609	3,433
Avg. Change in Expenditure (€m)	17	20	26.7

#### KEY ASSUMPTIONS

- Third level Exchequer funding (grants to Higher Education Institutions and Student Support payments) is averaged per full time student and held constant over the time frame. Expenditure projections are based on the M2 scenario in [Projections of Demand for Full Time Third Level Education, 2014-2028](#).
- Participation is expected to increase annually on the back of strong demographic growth in the school system.

#### POLICY CONSIDERATIONS

An Expert Group on Future Funding is examining the sustainability of Third Level funding. Of concern is: the scale of exchequer funding required to meet projected demand; the potential impact on quality if funding per student is allowed to decline; how the current funding allocation model can be reformed.

### 3.3 SPECIAL NEEDS (RESOURCE TEACHERS)

	2016 - 2019	2020 - 2021	2022 -2026
<b>Primary level Demographic Cost Driver</b>	<i>Pop. Aged 5-12 Yrs.</i>	<i>Pop. Aged 5-12 Yrs.</i>	<i>Pop. Aged 5-12 Yrs.</i>
Avg. Annual Change in Persons	224	-338	-633
Avg. Change in Expenditure(€m)	2.1	-1.4	-4.2
<b>Secondary Level Demographic Cost Driver</b>	<i>Pop. Aged 12-19 Yrs.</i>	<i>Pop. Aged 12-19 Yrs.</i>	<i>Pop. Aged 12-19 Yrs.</i>
Avg. Annual Change in Persons	192	330	203
Avg. Change in Expenditure(€m)	1.9	3.2	2.8

#### KEY ASSUMPTIONS

- The current percentage of Special Educational Needs pupil to total pupils and the ratio of Resource Teachers to mainstream teachers is held constant over the time frame. This allows Resource Teachers to increase in line with demographics. Special Needs Assistants and associated expenditure are currently excluded.
- Expenditure projections are based on the M2F1 scenario in [Projections of Full Time Enrolment, Primary and Second Level, 2015-2033](#).

#### POLICY/OTHER CONSIDERATIONS

Currently the number of Resource Teachers is growing at a faster rate than the general demographic increase. If that trend continues these projections can be seen as clarifying the underlying demographic component of the growth. Greater data is required to understand the drivers of demand in this area, and whether the current allocation system is optimal.

	2016 - 2019	2020 - 2021	2022 - 2026
Demographic Cost Driver	<i>Pop. Aged 3yrs 2mnths to 4yrs 7mnths</i>	<i>Pop. Aged 3yrs 2mnths to 4yrs 7mnths</i>	<i>Pop. Aged 3yrs 2mnths to 4yrs 7mnths</i>
Avg. Annual Change in Persons	-1,816	-1,729	-2,147
Avg. Change in Expenditure (€m)	-5.6	-4	-5.4

## KEY ASSUMPTIONS

- The take up rate of the scheme was estimated at 95% and this estimation was held constant over the projection period. The projection also assumes the capitation cost per child is held constant.

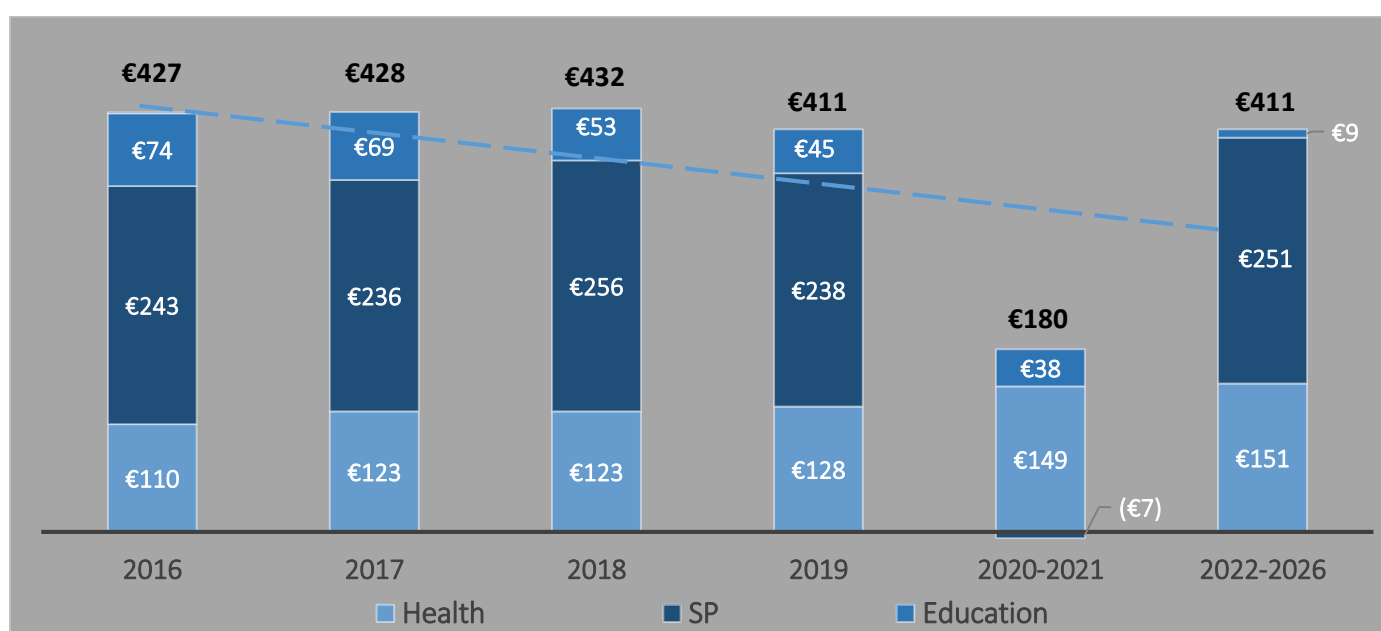
## POLICY/OTHER CONSIDERATIONS

- The IDG Working Group Report on Future Investment in Childcare in Ireland have made recommendations to extend ECCE to cover children from 3 or 3 and a half years until they start primary school or reach 5 and a half years.
- Another principal cost driver of the scheme is staff qualification levels. Service providers are given a higher rate of capitation if staff have higher qualifications. In recent years, there has been an upward trend in those receiving the higher capitation grant. This could increase further as staff overall become more qualified.

\* The ECCE scheme is a service provided by the Department of Children and Youth Affairs. However, the scheme is included in the education section of the paper for presentation purposes only.

## SECTION B: TOTAL DEMOGRAPHIC COST PRESSURE PROJECTIONS

Figure 2: Annual Demographic cost pressure (€m) across Social Protection, Health & Education from 2016-2026



**Table 1** below illustrates the demographic cost pressure projections by service across all three sectors. The table outlines the number of additional persons in each demographic driver and the associated % change followed by the additional spend (€m) required to cover this pressure from 2016 to 2026.



Table 1: Demographic Cost Pressure Projections 2016 - 2026

Sector	Demographic Driver	Short Term Projection 2016 - 2019												Medium Term 2020 - 2021			Long Term 2022 - 2026		
		2016			2017			2018			2019			2020 - 2021			2022 - 2026		
		Extra Persons (level)	% Change in Driver	Addition al €(m)	Extra Persons (level)	% Change in Driver	Addition al €(m)	Extra Persons (level)	% Change in Driver	Addition al €(m)	Extra Persons (level)	% Change in Driver	Addition al €(m)	Average Annual Extra Persons (level)	Average Annual % Change in Driver	Average Annual Extra €(m) over period	Average Annual Extra Persons (level)	Average Annual % Change in Driver	Average Annual Extra €(m) over period
<b>Children</b>																			
Child Benefit	0-18 years	15,000	1.2%	24	11,000	0.9%	17	9,000	0.7%	14	5,000	0.4%	8	3,000	0.2%	5	-5,600	-0.4%	-9
Childcare (ECCE)	3 yrs 2 mnths to 4 years 7 mnths	-2229	-3%	-10	-1348	-2.0%	-3.3	-1863	-3.0%	-4.6	-1825	-3.0%	-4.5	-1729	-3%	-4	-1362	-2%	-3.4
<b>Education</b>																			
Primary Level	5-12 years	7,959	1.0%	34	6,469	1.0%	27	4,907	1.0%	21	-458	-1%	11	-7,113	-1%	-16	-13,314	-2%	-40.4
Secondary Level	12-19 years	5,792	2%	23	4,526	1%	24	3,535	1%	18.9	6,397	2%	20	8,676	2%	36	5,349	1%	27
Third Level	20-24 years	2,760	2%	22	2,220	1%	17	1,757	1%	14	1,918	1%	15	2,609	1%	20	3,433	2%	26.7
<b>Special Needs</b>																			
Primary Level	5-12 years with Special Needs	379	1.0%	3.2	308	1%	2.4	233	1%	1.9	-22	-0.1%	1	-338	-1%	-1.4	-633	-2%	-4.2
Secondary Level	12-19 years with Special Needs	220	2%	2.1	172	1%	2.2	134	1%	1.7	243	2%	1.8	330	2%	3.2	203	1%	2.8
<b>Older People</b>																			
Pensions	66+ (2015-2017); 67+ (2018-2020); 68+ (2021-2026); with Pensions	19,000	3.4%	219	19,000	3.3%	219	21,000	3.5%	242	20,000	3.2%	230	-1,000	-0.1%	-11.5	22,600	3.3%	260
NHSS	Over 65 years & in the Scheme	549	2.3%	-2.9	415	1.7%	4.9	-54	-0.2%	-5	-37	-0.2%	-1.4	301	1.2%	10.4	-93.5	-0.4%	0.1
Older People Services	Over 65 years	19,358	3.1%	21	19,802	3.1%	22	21,815	3.3%	24	21,124	3.1%	23	22,576	3.2%	24.7	22,363	3.1%	27
<b>Whole Population</b>																			
PCRS - GMS (medical/GP cards)	All age cohorts with Medical/GP cards	32,330	1.7%	37	34,748	1.7%	38.3	38,365	1.7%	41.3	38,370	1.7%	42.1	38,578	1.7%	44.3	33,416	1.6%	47.6
PCRS - Non GMS (non medical cards)	All age cohorts	32,330	1.7%	6.3	34,748	1.7%	6.4	38,365	1.7%	6.7	38,370	1.7%	6.7	38,578	1.7%	7.1	33,416	1.6%	6.9
Acute Services	All age cohorts	32,330	0.7%	48.80	34,748	0.7%	51	38,365	0.8%	56	38,370	0.8%	57	38,578	0.8%	62	33,416	0.7%	69.8
<b>TOTAL</b>				<b>428</b>			<b>428</b>			<b>431</b>			<b>410</b>			<b>180</b>			<b>411</b>

## CONCLUSION

- Short term demographic projections suggest that there is a need for additional facilities in the area of education. Looking toward longer term projections the main demographic pressures come from an ageing population in the form of health and social care, and pensions.
- Long term spending projections are inherently uncertain and subject to upside or downside risks. Other drivers will also effect public expenditure such as, technological progress, wider economic factors and underlying policies and institutions.