

## 4. FOCUS ON A SPECIFIC POPULATION - Population Projections 2011 to 2041

### Introduction

The size and structure of the population, and how it might change over time, is a key factor for the HSE in planning future service configurations. In April 2008, the Central Statistics Office (CSO) published their Population and Labour Force Projections for the period 2011-2041 which can be accessed at : [http://www.cso.ie/releasespublications/po\\_lab\\_project.htm](http://www.cso.ie/releasespublications/po_lab_project.htm), or further detail can get got from [fenton.howell@hse.ie](mailto:fenton.howell@hse.ie) , Health Intelligence, Population Health Directorate.

### What assumptions were made to predict changes to our population?

In compiling the projections the CSO were advised by a range of experts on what assumptions needed to be included in the model to calculate the projections concerning mortality, fertility and migration.

**Mortality:** One mortality assumption was used. The recent improvement in life expectancy will continue so that by 2041 male life expectancy will have risen by almost 10 years from 76.7 years in 2005 to 86.5 years in 2041, and female life expectancy will have risen by nearly 7 years from 81.5 years in 2005 to 88.3 years in 2041.

**Fertility:** Two fertility assumptions are presented. The first one (F1) assumes that the total fertility rate (which equates to the average number of births per woman per year) will decline from the current rate of 1.9 to 1.65 in 2016 and then stabilise at that level. The second one (F2) assumes that the current rate of 1.9 will remain at this level over the period.

**Migration:** Three migration assumptions are presented. M0 assumes net migration will be zero reflecting offsetting inflows and outflows of 20,000 a year. The high scenario (M1) assumes net migration will continue at a high level until 2021 and then moderating to 2041, falling from 60,000 a year to 30,000 a year after 2021. The medium scenario (M2) assumes net migration to continue at more moderate levels, falling from 50,000 a year to 10,000 a year after 2021.

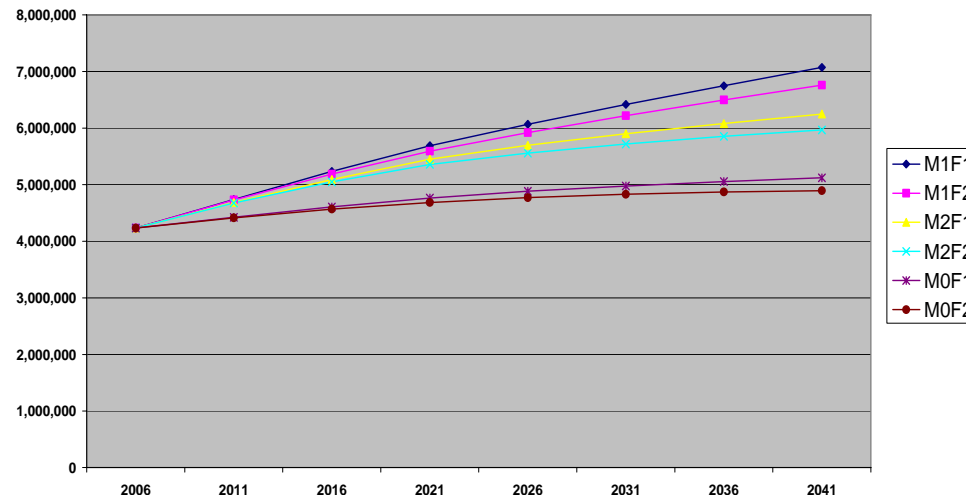
Combining the three migration and two fertility assumptions gives six different scenarios: M1F1- high migration, high fertility, M1F2 – high migration, low fertility, M2F2 – moderate migration, high fertility, M2F1 – moderate migration, low fertility, M0F1 – zero net migration, high fertility and M0F2 - zero net migration, low fertility.

### What does the CSO predict for Irelands population?

The **six different projected populations** are shown in Figure 1. Looking to the short term (2011) the projections range from 4.7 million (M1F1 –high migration, high fertility) to 4.4 million (M0F2 – zero migration, low fertility). It is important to note that the estimated population in 2007 is already 4.34 million.

Looking at the medium term, up to 2021, the range is from a high of 5.7 million to a low of 4.7 million in 2041, a gap of 1 million. Looking further ahead to 2041, the gap widens further as the uncertainty increases with a high of 7.1 million to a low of 4.9 million. To put these into perspective, the high projection shows the population growing at an annual rate of 2 per cent, similar to that seen between 2002 and 2006, whilst the low projection shows annual growth at 0.7 per cent to 2021, which is still quite high by European standards. As can be seen from Figure 1, most of the differences are accounted for by the different migration scenarios rather than the fertility assumptions.

Figure 1. Population Projections, 2006-2041, 6 scenarios.





### Over 65 age group

Finally for the 65+ age group (Figure 5, Table 1) the pattern is again quite distinctive. Irrespective of which scenario is chosen, the end result is almost identical. In the short term (2011) the number of those 65+ will have increased about 16% rising to 40% by 2016. By 2026, the 65+ age group will have doubled and by 2041 it will have more than trebled what it was in 2006.

Looking within the 65+ age group as they are of particular concern, the projections for those aged 65-74, 75-84 and 85+ are also shown. As can be seen all age groups show a rise, however, in percentage terms the 85+ group will increase by over 25% by 2011, over 50% by 2016, nearly 100% by 2021 and by over 400% by 2041.

Figure 5. Population Projections 65+age group and for 65-74, 75-84 and 85+ years

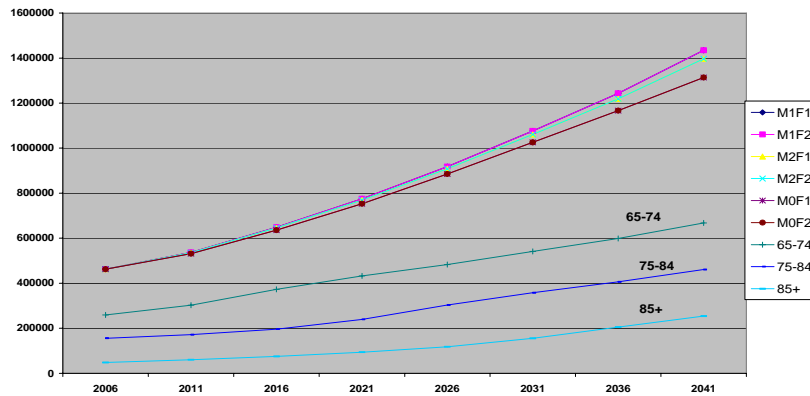


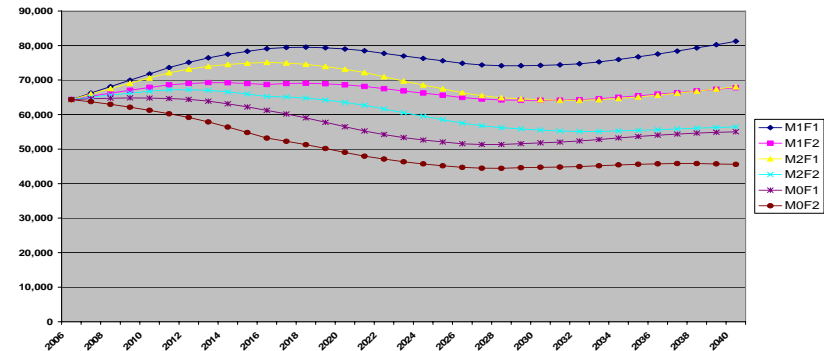
Table 1. Projected older population and percentage change from 2006

	2006	2011	2016	2021	2031	2041
65-74	258,708	302,722	372,758	432,602	541,272	667,087
75-84	155,828	171,461	195,902	239,495	357,756	460,474
85+	47,828	60,313	74,811	93,739	154,901	253,839
All 65+	462,364	534,495	643,471	765,837	1,053,928	1,381,400
Percentage change from 2006						
65-74		17	44	67	109	158
75-84		10	26	54	130	196
85+		26	56	96	224	431
All 65+		16	39	66	128	199

### Births

The CSO projected the numbers of births expected under each scenario and these are shown in Figure 6. Whilst most scenarios show a slight rise over the next few years (provisional data from 2007 shows that we have exceeded 70,000 births per year), the pattern suggests that births will level off at under 70,000 births per year under moderate migration levels.

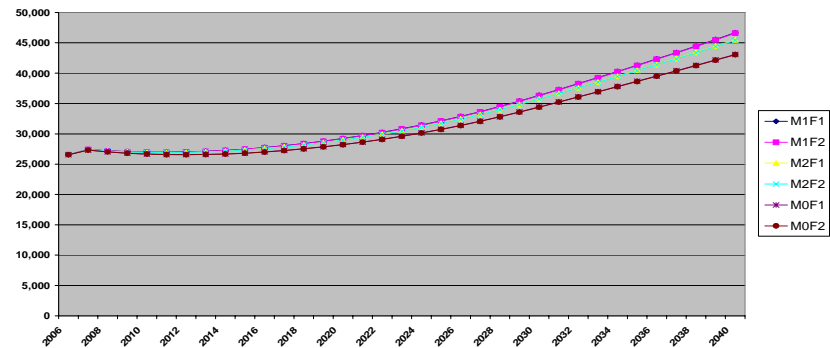
Figure 6 Projected Birth numbers 2006-2040



### Deaths

It is also interesting to note the projected number of deaths for the period as shown in Figure 7. Even though we expect life expectancy to continue to rise as outlined earlier, the actual number of deaths will also rise as the population grows overall from a steady 27,000 per annum until 2016 after which there will be a continual upward rise in the number of deaths reaching 45,000 per annum by 2041.

Figure 7. Projected Deaths 2006-2040



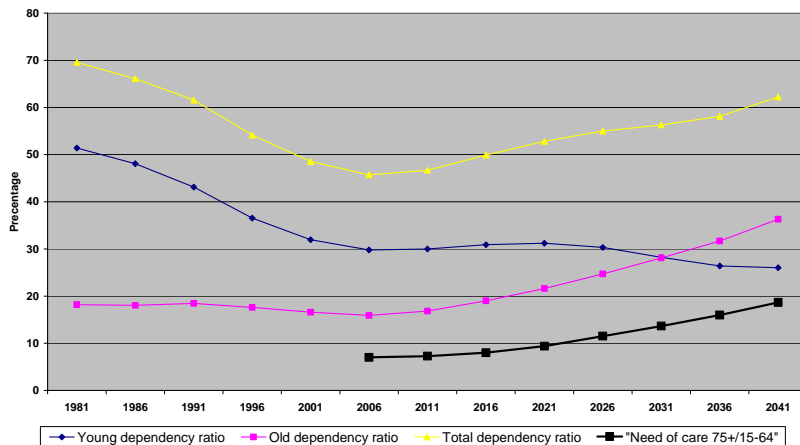
## Dependency Ratios

Of interest are the dependency ratios and how they change over time (Figure 8). The young dependency ratio is the number of children 0-14 divided by the 15-64 population. The old dependency ratio is the number of persons 65+ divided by those 15-64 years, in effect, the working population. They are a measure of the burden that the young and old population place on the working population.

The young dependency ratio is projected to be in the range 28 to 32 per cent up to 2021, thereafter it will decline. On the contrary the older dependency ratio is heading in the opposite direction. It will increase sharply after 2006 and by 2041 will be almost double that of 2006. Both of these impact on the total dependency ratio which has been in decline, but is now projected to increase under all scenarios to reach values of between 57% (M1F2) and 71% (M0F1) by 2041.

It has been argued that it is becoming increasingly inappropriate to use the 65+ population as the numerator for the older dependency ratio given our increased life expectancy and increased capabilities beyond 65 years. Hence there is presented a potential "Need of Care" ratio which looks at the population 75+ divided by the 15-64 year population. This shows a value of 7% in 2006 rising to 8% by 2016 and nearly 20% by 2041.

Figure 8. Dependency Ratios: Young, Old, Total and "Need of Care"



## What are the implications for the HSE?

It is clear that the population will continue to grow for the foreseeable future and at every age group. This will require the HSE to continue to expand its service base right across the health spectrum. The pattern of increasing net migration is expected to continue into the future and will require the HSE to constantly develop health and social care services to a more multi-ethnic mix of cultures.

The projected increase in life expectancy is unlikely to benefit all social groups in society unless existing health inequalities are eliminated. Any comprehensive strategy to reduce avoidable inequalities in health needs to include equality of access to health care. And whilst medical interventions are important, health promotion, the provision of social supports and linking with the non health care sectors must also be part of the way we work

One of the key drivers putting pressure on the HSE in recent years is the growth in the number of births. Whilst the growth previously seen is not expected to continue into the future, nevertheless births will continue to occur at a high rate. By their nature they require a significant input from the HSE in terms of antenatal, obstetrical, neonatal, postnatal and social care in the short term, and in particular early preschool interventions to prevent many of the social problems witnessed in later years. Increasing births also impact on our primary care and immunisation services.

The projected rise in the 5-12 and the 13-18 years age groups underscores the need to plan for enhanced immunisation, primary and social care and in particular interventions to reduce early school leaving.

There is an opportunity now to tackle many of the determinants of health such as lifestyle choices, in the 15-34 year age groups and indeed older age groups, in order to ensure that when they reach into their older years post 2021 they will be healthier and be free of many of the chronic illnesses such as diabetes, heart disease and cancer that are evident today. Ireland has an almost unique opportunity in Europe to tackle the determinants of chronic illness in advance of the natural aging of the population.

There will be substantial growth both in real and percentage terms in the older population, especially the very old population. It will be important to ensure that appropriate primary care and social care services are in place so as to facilitate this important group of our population lead as much of their life disability free and in their own community, be that in their own homes or in variants of social housing.