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Growing need, growing complexity: projections of palliative care need and multimorbidity in Scotland

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Growing need, growing complexity: projections of palliative care need and multimorbidity in Scotland

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Abstract

Objective

To estimate future palliative care need and complexity of need in Scotland, and to identify priorities for future service delivery.

Design

We estimated the prevalence of palliative care need by analysing the proportion of deaths from defined chronic progressive illnesses. We described linear projections up to 2040 using national death registry data and official mortality forecasts. An expert consultation and subsequent online consensus survey generated recommendations on meeting future palliative care need.

Setting

Scotland, population of 5.4m.

Participants

All decedents in Scotland over 11 years (2007-2017). The consultation had 34 participants; 24 completed the consensus survey.

Primary and secondary outcomes

Estimates of past and future palliative care need in Scotland from 2007 up to 2040. Multimorbidity was operationalised as two or more registered causes of death from different disease groups (cancer, organ failure, dementia, other). Consultation and survey data were analysed descriptively.

Results

We project that by 2040, the number of people requiring palliative care will increase by at least 14%; and by 20% if we factor in multimorbidity. The number of people dying from

multiple diseases associated with different disease groups is projected to increase from 27% of all deaths in 2017 to 43% by 2040. To address increased need and complexity, experts prioritised sustained investment in a national digital platform, roll-out of integrated electronic health and social care records; and approaches that remain person-centred.

Conclusions

By 2040 more people in Scotland are projected to die with palliative care needs, and the complexity of need will increase markedly. Service delivery models must adapt to serve growing demand and complexity associated with dying from multiple diseases from different disease groups. We need sustained investment in secure, accessible, integrated and person-centred health and social care digital systems, to improve care co-ordination and optimise palliative care for people across care settings.

Keywords

Forecasting, multimorbidity, palliative care, needs assessment, chronic disease, aging, frailty, health policy

Strengths and limitations of this study

- First study to project population mortality for people dying from two or more diseases from different disease groups.
- First study to project estimates of future palliative care need for Scotland.
- Used a range of estimation methods accounting for both underlying and contributory causes of deaths, to produce robust projections.
- The expert consultation, including public and patient representatives, and consensus method ensured implications of the quantitative findings are grounded in policy practice.
- Models draw on trends over an 11-year period and project these trends forward.
- Estimates did not adjust for the impact of the COVID-19 pandemic on mortality risks for older populations and people with underlying health conditions. Although, the longer-term effects of the pandemic on morbidity and mortality trends is unknown, these are anticipated to wane over time and are not likely to alter the main conclusions of this paper.

Background

Worldwide, deaths are expected to rise from 55 million in 2016 to 75 million by 2040[1]. Non-communicable diseases accounted for 72% of global deaths in 2016, and are forecast to account for 81% of deaths by 2040.[1] Globally, the proportion of people aged 80 or over increased by 76.5% between 2000 and 2015.[2] The growing number of older people and increased prevalence of chronic conditions indicate that more people would benefit from a palliative approach to care over the next two decades.

Demographic changes and shifts in disease patterns at a national level will impact population palliative care need. An analysis based on data from 2006 to 2014 in England and Wales projected that up to 87.6% of people who die could benefit from palliative care by 2040.[3] In Ireland, a similar analysis based on data from 2007 to 2015 projected that palliative care need will increase, and will be indicated for 83% of those who die by 2046.[4] However, existing projection studies use data based on 'main underlying cause of death' only, excluding people who may have had a contributory cause of death (but not a main underlying cause) associated with palliative care need. For instance, population palliative care need estimates using 'main underlying cause of death' would only include people who died from Alzheimer's disease when it is listed as the 'main underlying cause' on their death certificate. Models that use data on 'main underlying cause of death' may therefore underestimate the true extent of population palliative care need; models that incorporate both main underlying and contributory causes of death are required.

Increased longevity in developed and developing countries comes with greater multimorbidity. Multimorbidity describes the co-existence of two or more chronic conditions which may be a physical non-communicable disease, a mental health condition or infectious

disease of long duration.[5 6] Data from Scotland has shown that 65% of people aged 65 to 84 years have two or more long term disorders; rising to 81.5% for people aged 85 and over.[7] Only 5.3% of people with dementia have no other long term disorder.[8] Despite the recognition that multimorbidity is the norm in high income countries,[5] there has been little consideration of the implications for palliative care. To inform future palliative care service design, there is a need to better understand multimorbidity due to the presence of advanced progressive diseases. As a starting point, we need estimates of the number of people dying from multiple diseases associated with palliative care need now and in the future.

The aim of this study was to estimate, and project future palliative care need and complexity of need in Scotland up to 2040. Extending previous work, we sought to estimate and project the number of people dying from more than one disease associated with palliative care need. Furthermore, we planned an expert consultation and consensus survey to generate recommendations for future palliative care service delivery. This novel analysis sought to provide a more comprehensive picture of future palliative care need and complexity of need than previously described.

Methods

Design

Mixed methods consisting of: i) simple linear modelling of routinely available national death registry data and mortality projections for Scotland; ii) expert consultation and online consensus survey to generate recommendations for service design and delivery based on our projections.

Setting

Scotland, a high-income Western European country with a population of 5.4 million; 57,870 people died in 2017.[9] Mortality forecasts project that annual deaths will increase by 13.6% to 65,756 by 2040.[10]

Data sources

Deaths by age, gender and cause 2007 to 2017. We obtained aggregate level data on deaths by age, gender and cause for an 11-year period (2007-2017 inclusive) from Public Health Scotland (previously known as Information Services Division (ISD) Scotland). The aggregate data were derived from the National Records of Scotland (NRS) individual-level deaths database held by Public Health Scotland.

Mortality projections for Scotland are published by the Office for National Statistics.[10] The mortality projections used in this analysis were based on the 2016 principal population projections for Scotland up to 2040. We used projections up to 2040 to allow comparison with studies in other countries.

Generating estimates of population palliative care need

Palliative care need at a population level has been estimated using a variety of methods. Gomez-Batiste et al. estimated that 75% of all those who die have palliative care needs.[11] Other approaches use disease specific mortality data and identify diseases using International Classification of Disease codes (ICD-10) that are associated with palliative care need to generate estimates.[12 13] Murtagh et al. estimated that in high income countries 63% to 97% of people who die might benefit from palliative care depending on the estimation method used.[13]

Based on this previous work, we estimated and projected palliative care need in three ways as described below.

Estimation Method 1: 75% of all deaths

Method 1 is based on that used by Gomez-Batiste et al.[11] It assumes that 75% of people in high-income countries die from chronic progressive diseases with evolving and increasing healthcare needs. Consequently, 75% of people at the end of life may benefit from a palliative care approach, irrespective of whether that is delivered by palliative care specialists or other health professionals. We calculated palliative care need as 75% of all deaths in 2017, and projected this proportion up to 2040, assuming the proportion of deaths requiring palliative care would remain constant at 2017 levels.

Estimation Method 2: Palliative care need based on ICD-10 codes associated with main underlying cause of death

Method 2 takes a diagnosis-based approach, applying ICD-10 diagnostic codes previously used to estimate population palliative care need (Supplementary file 1).[3 13] To project future palliative care need, we modelled two scenarios (2A and 2B). For Method 2A we calculated the number and proportion of age and gender specific deaths in 2017 where an ICD-10 code associated with palliative care was recorded as the main underlying cause of death, then applied this proportion to mortality forecasts for each year up to 2040, with no adjustments. For Method 2B we calculated the mean annual change in the proportion of deaths requiring palliative care between 2007 and 2017. We assumed the mean annual change would continue in a linear fashion and applied the resulting proportion to mortality forecasts up to 2040. We

chose Method 2B for sub-analyses projecting future needs by age and disease group as it enabled comparison with data reported in other published studies.[3 4]

Estimation Method 3: Palliative care need based on ICD-10 codes associated with main underlying* and *all contributory cause(s) of death

Method 3 adopts a diagnostic based approach, using the same ICD-10 diagnostic codes outlined in Method 2 to estimate the number of people dying from diseases associated with palliative care need. However, for Method 3, our estimate of palliative care need was the number of people for whom a palliative care relevant disease was recorded as *either* the main underlying cause of death, or a contributory cause. Thus, Method 3 provides the least conservative estimate of deaths associated with palliative care need in a calendar year. To project future need using Method 3, we calculated the number and proportion of age and gender specific deaths from 2007 to 2017 where an ICD-10 code associated with palliative care was recorded as *either* the main underlying or contributory cause of death. As for Method 2B we assumed the mean annual change in the proportion of deaths associated with palliative care need over the baseline period would continue to occur in a linear fashion, and applied the resulting mean annual change to mortality forecasts up to 2040.

Defining, estimating, and projecting multimorbidity associated with advanced progressive diseases

We wanted to estimate and project the number of people dying from multimorbidity associated with palliative care need. Given that some diseases are closely related and may represent similar disease processes (e.g. related cancers), we chose to define multimorbidity

as people dying from two or more diseases associated with palliative care need from more than one of four disease groups - cancer, organ failure, dementia or other (includes neurological conditions and stroke). This definition indicates care complexity, given the distinct illness trajectories, needs and configuration of services associated with diseases from each group, which when experienced together greatly increase symptom burden and need for care co-ordination. To generate this estimate we calculated the mean annual change in the proportion of deaths due to two or more diseases from different disease groups over the 11-year period. We assumed the mean annual change would continue to occur in a linear fashion and applied the resulting mean annual change in the proportion of deaths associated with diseases from different disease groups to mortality forecasts up to 2040.

Expert consultation and consensus survey

We used an abbreviated MORECare Transparent Expert Consultation (TEC) event consisting of a modified nominal group technique to generate recommendations, and subsequent consensus survey to rank and ascertain consensus on each recommendation for the future delivery of palliative care.[14] A purposive sample of approximately 50 stakeholders from palliative care, primary care and social care along with commissioners, service providers, government representatives, researchers, patient/ carer groups and charities were invited to take part. Four multidisciplinary groups discussed the palliative care need projections, critical issues emerging from the data, and then generated recommendations in response. Participants received a follow-up survey by email based on the data generated at the event asking them to rate the extent to which they agreed with recommendations from one to nine (strongly disagree to strongly agree), using free-text spaces to add comments explaining their judgements. One completion reminder was sent after two weeks.

Survey data was analysed in MS EXCEL using descriptive statistics. Informed by guidance on consensus methods,[15] we categorised each recommendation as follows to ascertain level of agreement for each statement: scores of 1-3 (recommendation not indicated), 4 – 6 (equivocal) and 7 to 9 (recommendation indicated). We then examined the dispersion of scores for each statement to determine degree of consensus. Where the interquartile range fell within each 3-point region outlined we judged there to be '*close agreement'* for the recommendation; but where ratings fell across each of these regions, we judged that there was '*broad agreement'*.

Patient and public involvement (PPI)

A member of the Marie Curie Voices group (patient and carer representative group) participated in the expert consultation and survey and shared his perspectives on the meaning of the findings for patient and family care at the expert consultation event. Three PPI representatives from the Marie Curie Voices group commented on the draft manuscript and survey findings. These comments were used to inform study implications.

Reporting guidelines

We used the Strengthening the Reporting of Observational Studies in Epidemiology guidelines to inform reporting (see online supplementary file 1).

Ethical approval

For the trend analysis, we used anonymised, aggregate level data, generated by Public Health Scotland; consequently, ethical approval was not required. The Usher Research Ethics Committee at the University of Edinburgh approved the expert consultation and consensus survey (No: 1938).

RESULTS

Estimated palliative care need in Scotland 2007 to 2017

During this 11 year period, registered deaths in Scotland rose by 3.4% (55,984 to 57,870).[9] Using various methods to estimate population level palliative care need, we estimated that the number of people who died with palliative care needs in Scotland in 2017 ranged from 43,403 (Method 1) to 52,148 (Method 3), an increase from 2007 irrespective of method used (Table 1).

Projections of population level palliative care need in Scotland from 2018 to 2040

Deaths in Scotland are projected to reach 65,756 by 2040, a 13.6% increase from 2017.[16] Irrespective of the projection method used, the number of people dying of a disease associated with palliative care need is projected to increase. By 2040, we estimate that between 74% and 95% of those who die might benefit from a palliative care approach (Table 1).

Table 1: Number and percentage of people who die with palliative care (PC) needs in Scotland based on different estimation and projection methods

Projection Method	Description	2007 No. of deaths with PC need (total deaths 55,984)	2007 % of all deaths with PC need	2017 No. of deaths with PC need (total deaths 57,870)	2017 % of all deaths with PC need	2030 No. of deaths with PC need (projected deaths 60,310)	2030 % of all deaths with PC need	2040 No. of projected deaths with PC needs (projected deaths 65,756)	2040 % of all projected deaths with PC need
1	75% of all deaths	41,988	75%	43,403	75%	45,233	75%	49,317	75%
2A	ICD-10 codes associated with **underlying cause of death only**, assuming proportion of palliative care needs remains constant	41,310	74%	42,816	74%	44,912	74%	48,869	74%
2B	ICD-10 codes associated with **underlying cause of death only**, assuming an annual change based on annual change 2007-17	41,310	74%	42,816	74%	45,256	75%	50,084	76%
3	ICD codes associated with **underlying OR contributory cause of death** assuming an annual change based on annual change 2007-17	49,476	88.%	52,148	90%	56,033	93%	62,757	95%

Projections of palliative care need by age group up to 2040

Based on projection method 2B, the number of people who die aged 0 to 74 years with palliative care needs is projected to fall, while those aged 75 and over will increase (Figure 1). The greatest increase will occur for those aged 85 and above. People aged 85 or older will account for just under half (47%) of those dying with palliative care needs by 2040 (23,491 of 50,084 projected deaths associated with palliative care need).

Insert Figure 1 about here.

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths based on method 2B.

Projections of underlying cause of death by disease group up to 2040

Based on projection method 2B, deaths with cancer as the main underlying cause of death are projected to rise from 16,203 in 2017 to 19,535 in 2040 (21% increase). Deaths where dementia is the main underlying cause of death are projected to rise from 6,776 in 2017 to 19,284 (185% increase); while deaths from organ failure are projected to continue to fall (from 14,928 in 2017 to 9,957 by 2040) as are deaths from other conditions requiring palliative care (4,909 in 2017 to 1,668 in 2040) (Figure 2).

Insert Figure 2 about here.

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths based on method 2B.

Proportion of people dying with multimorbidity associated with advanced progressive diseases across different disease groups

In 2017, overall, 15,725 people died with multimorbidity, i.e. at least two diseases associated with palliative care need from different disease groups (27.2% of all deaths). The number of people projected to die with multimorbidity is projected to increase by 82% to 28,629 by 2040, accounting for 43.5% of all deaths or 45.6% of all palliative care deaths using projection method 3 (Figure 3). The proportion of those who die with multimorbidity is projected to increase by 60% (27.2% to 43.5%). The increases will mainly occur for those in the older age groups (Figure 4). If current trends continue, by 2040, we project that 52% of those aged 85-99 will die from two or more diseases associated with palliative care need from different disease groups.

Insert Figure 3 about here

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths.

Insert Figure 4 about here.

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected. Given the small number of deaths, the data for the 0-44 age group are too small to be visible.

Expert consultation and consensus survey

34 participants participated in the consultation (Supplementary file 1) and 24 completed the follow-up online survey (70.5% response rate). Following de-duplication and synthesis of initial consultation data, 33 potential recommendations relating to nine areas were identified and included in the online survey (Supplementary file 1). Two participants were judged to have misunderstood the survey rating scale as their agreement scores were in the opposite direction of their free-text comments; these were excluded.

There was close or broad agreement that 32 of the 33 proposed recommendations across all nine areas are indicated (Supplementary file 1). Recommendations relating to digital health and person-centred care scored most highly. Agreement scores were highest for: investment in a national digital health platform (M = 8.5, SD = 0.7); roll-out of shared electronic health and social care records across all settings so they can be accessed by all relevant care professionals as well as the patients themselves (M = 8.5, SD = 0.9), prioritising the patient or family perspective when providing services to meet their needs (M= 8.5, SD=1.0) and encouraging systems promoting person centred as opposed to task oriented care (M = 8.3, SD = 1.1).

Discussion

Principal findings

This study projects an estimate of palliative care need in Scotland, showing that between 14% (method 2) and 20% (method 3) more people may need palliative care by 2040. Cancer and dementia will increase as the main underlying causes of death. For the first time, we project

multimorbidity associated with palliative care needs, operationalised as the proportion of people dying from multiple chronic progressive diseases across different disease groups. We show that this proportion will rise by 60%, accounting for nearly half of all palliative care deaths (46%) by 2040. Over half of those aged between 85 and 89 are projected to die from multimorbidity associated with palliative care need, indicating increased complexity of needs. Experts recommended sustained investment in digital systems to improve care coordination, alongside prioritisation of person-centred approaches.

Strengths and weaknesses

We used a range of estimation methods accounting for both main underlying and contributory causes of deaths, which increases the robustness of our findings to inform policy and practice. However, the projections outlined here are not a forecast, rather they are projections of what may occur under different assumptions, based on data available at the time of analysis. We used a disease count approach to estimate multimorbidity relevant to population palliative care need as this is straight-forward to estimate and replicate. Alternative approaches based on multimorbidity indices are increasingly common,[17] though cannot be used with cause of death data alone. Our definition of multimorbidity was relatively restrictive – decedents were required to have two major illnesses from different disease groups both of which would individually confer palliative care need. This definition better captures complexity at the end-of-life and increases the consequence of our finding that multimorbidity will rapidly increase. Our models draw on trends over an 11-year period up to and including 2017 and project these trends forward. We have drawn on death registry data that relies on accurate completion of death certificates. We cannot account for changes in how cause of death is recorded over time, though previous changes have had minor impact on population level coding.[18] Nor can we account for changes in medical treatments that may change the distribution of deaths by underlying cause in the future. Significant advances in the treatment of cancer or dementia

might result in lower numbers dying from these diseases than is currently projected. We also need to be prepared for more sudden increases in mortality as we have seen with COVID-19. Our estimates make no adjustment for the ongoing COVID-19 pandemic which has particularly affected people aged 75 or over who accounted for 76% of the 3,546 COVID-related deaths registered in Scotland by 17 May 2020.[19] Excess deaths relating to, but not directly caused by, COVID-19 have also occurred. The long-term consequences of the virus are not yet known though recovery for some is often slow and may result in longer lasting morbidities. This spike in deaths may be followed by changes in age-specific mortality rates in following months and years. We judge that the impact of this will not change the main conclusions of this paper, that the need for palliative care will significantly rise over the next 20 years, with the number of people dying with complex needs increasing markedly.

Findings in relation to existing evidence

Our findings that palliative care need in Scotland is projected to increase by 2040 reflect findings from other population palliative care projections in England and Wales[3] and Ireland.[4] As in these studies, in Scotland we projected that the greatest increase in palliative care need will be for people aged 85 and above, reflecting an ageing population in each country. As for England and Wales,[3] deaths where cancer and dementia is the main underlying cause are projected to increase while the numbers dying from organ failure as the main underlying cause are projected to fall. We extended previous work, by modelling future palliative care need using both main underlying cause of death and contributory causes (Model 3). Examining both main underlying and contributory causes of death we estimated that in 2017, 90% of all deaths were associated with palliative care need, and that this is projected to increase to 95% by 2040. These higher estimates are aligned with the maximal estimates reported by Murtagh colleagues, who also used contributory cause of death to estimate palliative care in England and Wales for 2006 to 2008.[13] In contrast to more

conservative estimates based on main underlying cause only, our findings show that the vast majority of people dying now, and in the future, may benefit from a palliative care approach.

Implications for clinicians, service mangers and policymakers

Multimorbidity is becoming the norm, starting earlier in the life course and rising steeply with age.[7 20] It is widely recognised that health and social care services need to move away from a focus on care of people with single diseases towards systems that meet the needs of people with multiple diseases.[6 21] Palliative care services also need to adapt. The hospice model is still based predominantly on care of people with a primary diagnosis of cancer;[22] specialist services need to evolve to that take account of multimorbidity and the associated symptom burden and uncertainty as end of life approaches. Dementia is increasingly common and previous research has shown that mental health comorbidities frequently occur alongside physical comorbidities.[7] The palliative care service needs of patients or family members with dementia or mental health conditions need to be explicitly considered as new services are designed. More people are expected to die in care homes over the next two decades, and care homes may become the most common place of death in England and Wales by 2040.[23 24] Multimorbidity, including dementia, is common amongst residents.[25-27] Models whereby specialist palliative care services support care homes to identify and provide palliative care for residents approaching end of life, alongside the broad expertise from multiple disciplines, need to be commonplace.

Primary care providers will be trained as 'expert generalists'[21] and will work more closely with palliative care specialists to enhance communication and coordination across the health and social care system. Electronic care co-ordination systems are vital to support co-ordinated care, enabling the sharing of key clinical information and personal preferences

across all care settings and unscheduled care services; sustained investment in these systems is a priority.[28 29] As identified previously, [30-32] there is a need for palliative care education and training for non-specialist health and social care workers in all settings. Training and education in the challenges of caring for people dying with multimorbidity is required. This might usefully involve exposure to primary care, geriatrics, mental health and dementia care.[33] As found previously,[24] greater investment in increasing and retaining the community health and social care workforce to meet the projected increases in palliative care need is recommended.

Unanswered questions and future research

Research on dying from multiple chronic diseases requiring palliative care input is needed – which combinations of diseases are most prevalent, and how well served are those who die from multimorbidity compared to those with a single or dominant illness. Research focusing on the co-existence of mental health disorders with physical disorders at the end of life was not addressed here but needs to be prioritised in the future. We also need to better understand how well equipped health and social care professionals are to care for people with multimorbidity at the end of life; what types of care models are needed; what education, training and support is required, and for whom. Since the COVID-19 pandemic, research is required to examine the extent to which COVID-19 has influenced mortality trends and future projections of palliative care need across the UK.

Conclusion

By 2040, we project that many more people in Scotland will die with palliative care needs, particularly in the oldest age groups, and care complexity will increase. Current models of palliative care must adapt to meet increased need amongst those aged 85 and over, most dying from multiple diseases, often including dementia. There is a need for sustained investment in a national digital health and social care system, that remains person centred, to improve care co-ordination and optimise palliative care for people wherever they reside.

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Patient consent: Not required

Data sharing statement: Additional data can be accessed in the Supplementary File 2. Any queries about Public Health Scotland data sources should be directed to Rosalia Munoz-Arroyo at rosalia.munoz-arroyo@nhs.net.

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Figures

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

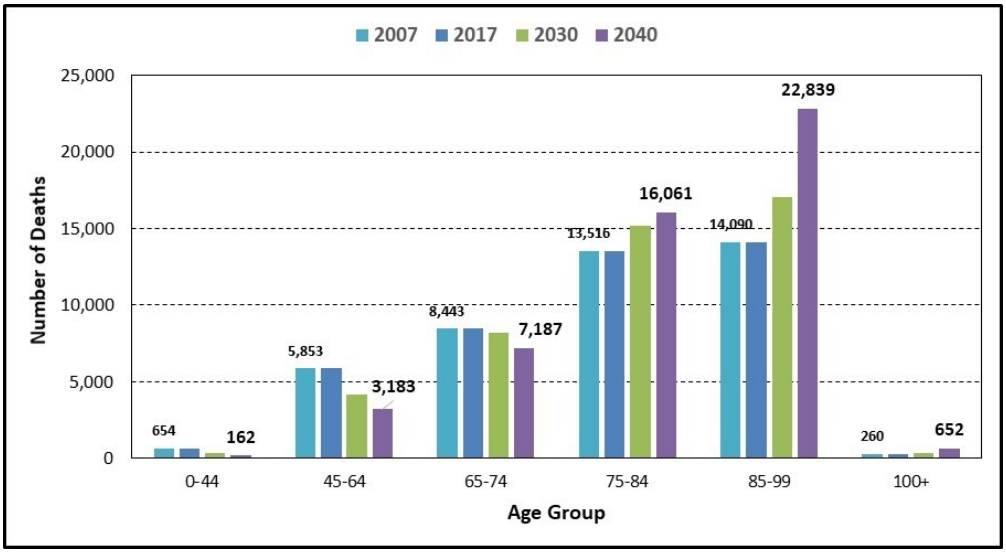

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

191x104mm (120 x 120 DPI)

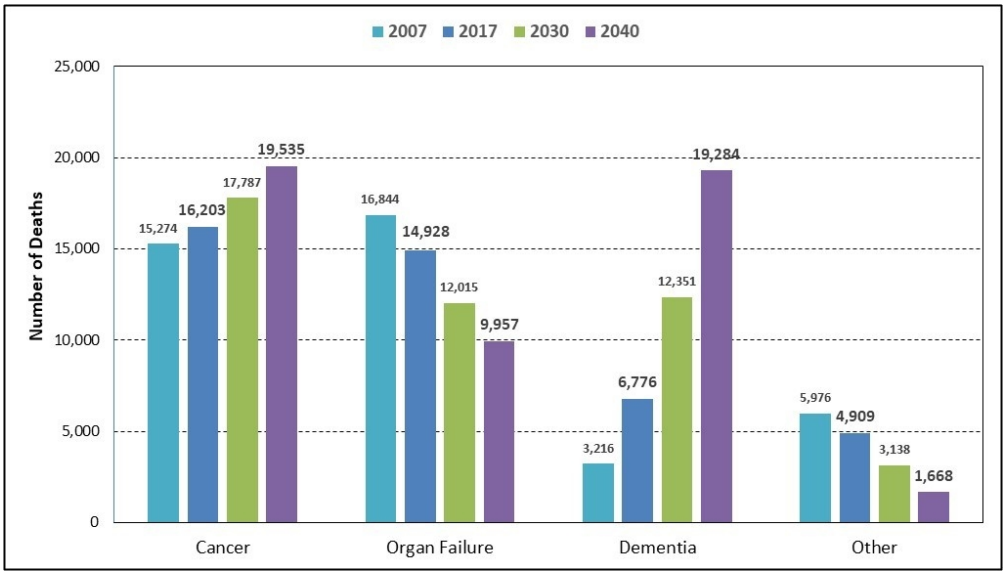

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

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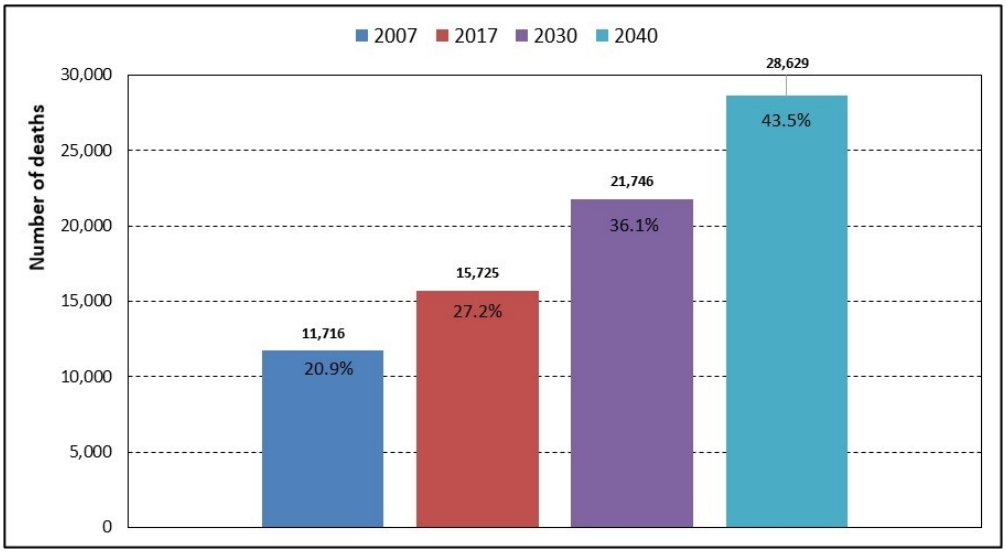

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

191x104mm (120 x 120 DPI)

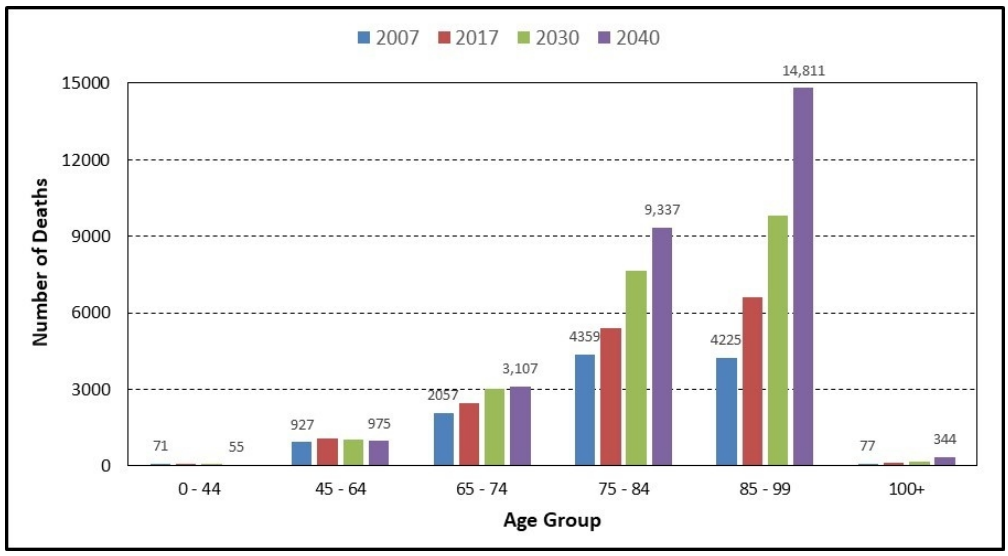

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

191x104mm (120 x 120 DPI)

Supplementary File 1

Page 2:

International Classification of Disease-10 codes used to estimate palliative care need

Page 3:

Role of participants in the expert consultation

Page 4 - 8:

Strength of agreement with survey items

Page 4 - 8:

STROBE Statement

International Classification of Disease-10 codes used to estimate palliative care need

Disease Group	ICD10 Code	Conditions included
Cancer	C00 – C97	All deaths from malignant neoplasms.
Organ Failure	I00 – I52 (excl. I12 &I13) J40-47, J96 I12, I13, N17, N18, N28 K70 - 77	Heart disease and heart failure. Chronic lower respiratory disease, respiratory failure. Reno-vascular disease, renal failure. Liver disease.
Dementia	F01, F03, G30, R54	Dementia, vascular dementia, Alzheimer's disease, senility.
Other	G10, G12.2, G20, G23.1, G35, G90.3 I60 – I69 B20-24	Huntington's disease, motor neurone disease, Parkinson's disease, progressive supranuclear palsy, multiple sclerosis, multi-system atrophy. Haemorrhagic, ischaemic and unspecified stroke. HIV

Source: Murtagh FEM, Verne J, Bausewein C, et al. How many people need palliative care? 2014. DOI: https://doi.org/10.1177/0269216313489367.

Role of participants in the expert consultation

Area/role	Number of participants
Service manager (3 x NHS; 2 x Hospices)	5
Policy (Government x 1, Specialist palliative care x 2; palliative care x 1; independent care sector x 1)	4
Data analyst (Government)	4
GP	4
Researcher (University x 2; charity x 2)	4
Palliative care specialist (doctor x 2; nurse x 2)	4
Quality Improvement Facilitator (NHS)	2
Hospice manager	2
PPI	1
Project manager (Advocacy organisation)	1
Volunteer (Hospice)	1
Administrator	1
Chief Executive (advocacy organisation)	1
Grand Total	**34**

Strength of agreement with survey items

Area	Recommended actions	Agreement rating 1 (strongly disagree) to 9 (strongly agree)						Action indicated, equivocal or not indicated	Consensus / Strength of agreement
		Mean	SD	Median	IQR	Min	Max		
Digital technology	Invest in the national digital platform so it is fully resourced and can be used by all	8.5	0.7	9	1	7	9	Indicated	Close agreement
	Ensure that integrated electronic care records are accessible to all health and social care professionals involved in the care of the person, and the person themselves	8.5	0.9	9	1	6	9	Indicated	Close agreement
	Adopt digital technology such as videoconferencing and telemedicine to facilitate access to support for people with palliative care needs and their carers at home	7.6	1.5	8	3	4	9	Indicated	Broad agreement
Person centred approach	Prioritise the patient/carer perspective, value the views of the person receiving care and use this information to provide services tailored to their needs.	8.5	1.0	9	1	5	9	Indicated	Close agreement
	Encourage systems that promote person centred rather than task-oriented care	8.3	1.1	9	1	5	9	Indicated	Close agreement
	Personalise settings that aren't home (hospices, care home, hospital)	7.8	1.3	8	2	5	9	Indicated	Close agreement

Specialist/generalist palliative care	Increase capacity and enhance community specialist palliative care services to support primary care	7.8	1.1	8	2	6	9	Indicated	Close agreement
	Prioritise models that improve communication between specialist and non-specialist services to improve the patient journey	7.7	1.4	8	2	5	9	Indicated	Close agreement
	Build specialist palliative care capacity to provide education and support to generalists.	7.3	1.2	7.5	2	5	9	Indicated	Close agreement
Informal carer & community support	Create opportunities to facilitate and improve conversations around death and dying both in clinical practice and in society in general.	8.0	1.2	8.5	2	5	9	Indicated	Close agreement
	Support communities to start compassionate community initiatives with a focus on improving people's experiences of deteriorating health, death, dying and bereavement, by providing advice on ways to do this.	7.9	1.2	8	2	5	9	Indicated	Close agreement
	Build community capacity for informal care; not just formal volunteers, but also "active, engaged citizens"	7.9	1.2	8	2	5	9	Indicated	Close agreement
Research, data & evidence	Collect and collate care data to increase understanding of unmet needs in order to inform service design and workforce planning	7.9	1.0	8	2	5	9	Indicated	Close agreement
	Access and use evidence to improve our understanding of people's needs	7.8	1.1	8	2	5	9	Indicated	Close agreement

	and outcomes in palliative care and inform service planning.								
Workforce	Better integrate workforce planning and investment to meet projected increases in future palliative care need	8.0	1.4	8.5	2	4	9	Indicated	Close agreement
	Increase investment in the community-based workforce including GPs, community nurses, social care staff and nurse specialists	7.9	1.5	8.5	2	4	9	Indicated	Close agreement
	Prioritise investment in recruitment, retention, education and training for social care staff	7.7	1.5	8	2	4	9	Indicated	Close agreement
	Promote approaches that make both health and social care professionals feel part of the same team.	7.5	1.5	8	3	4	9	Indicated	Broad agreement
Governance and commissioning	Encourage Scottish Government to invest in palliative care and to re-establish palliative care policy framework and recommendations	8.1	1.4	9	1	5	9	Indicated	Close agreement
	Conduct evidence based strategic planning to facilitate decision-making regarding models of care and resource use	7.5	1.4	8	3	4	9	Indicated	Broad agreement
	Increase accountability for embedding existing evidence based good practice	6.9	1.5	7	2	4	9	Indicated	Broad agreement
Models or approaches to care	Realign palliative care in the health service system. Move away from focus on disease specific and episodic care to management of complex needs	7.5	1.3	8	2	5	9	Indicated	Close agreement

	Improve efficiency and flexibility of bed use in community settings (e.g. respite admissions to NHS complex care units or care homes) to benefit more people	7.5	1.4	8	2	4	9	Indicated	Close agreement
	Improve coordination and greater use of multi-disciplinary teams for people with dementia	7.4	1.5	7.5	2	4	9	Indicated	Close agreement
	Reform commissioning processes in social care to enable compassion-led, relationship-centred, time flexible care.	7.4	1.4	7	3	5	9	Indicated	Broad agreement
	Promote use of formal tools and approaches to improve early identification for a palliative care approach	7.3	1.4	7	3	5	9	Indicated	Broad agreement
Staff training and wellbeing	Train care home and social care staff in the principles of palliative care to increase their confidence in identifying and caring for people at the end of life	8.1	0.9	8	2	6	9	Indicated	Close agreement
	Promote and encourage self-compassion, self-reliance and empathy amongst staff	7.3	1.8	8	3	4	9	Indicated	Broad agreement
	Invest in palliative care training for generalists in all settings	7.6	1.5	8	3	5	9	Indicated	Broad agreement
	Increase social care staff training to recognise and respond to clients' psychological needs	7.2	1.5	7	3	5	9	Indicated	Broad agreement
	Prioritise education and training in communication and listening skills	7.2	1.7	7	3	3	9	Indicated	Broad agreement

	Organisations providing care should invest in compassionate and supportive systems for their staff	7.3	1.4	7	3	5	9	Indicated	Broad agreement
	Provide education and training for leaders including compassionate care.	6.5	1.6	6.5	2	3	9	Equivocal	Broad agreement

STROBE Statement

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	P4
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	P4-5
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	P7-8
Objectives	3	State specific objectives, including any prespecified hypotheses	P8
Methods			
Study design	4	Present key elements of study design early in the paper	P8
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P9 & P12
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	P9
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed	NA
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P10-12
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	P9 Datasources, and Supplementary file 2
Bias	9	Describe any efforts to address potential sources of bias	Use of a range of methods to estimate future palliative care need
Study size	10	Explain how the study size was arrived at	National dataset – P9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	NA
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	P10-11

		(*b*) Describe any methods used to examine subgroups and interactions	NA
		(*c*) Explain how missing data were addressed	NA
		(*d*) If applicable, explain how loss to follow-up was addressed	NA
		(*e*) Describe any sensitivity analyses	Alternative models described
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	NA for quantitative analysis; P18 for and supplementary file 1 for participation in expert consultation
		(b) Give reasons for non-participation at each stage	NA for quantitative analysis' not known for expert consultation/survey.
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	For expert consultation see supplementary material 1
		(b) Indicate number of participants with missing data for each variable of interest	NA
		(c) Summarise follow-up time (eg, average and total amount)	NA
Outcome data	15*	Report numbers of outcome events or summary measures over time	Estimates of palliative care need over time shown in results.

Data Sources (blue tabs)

All Deaths - extracted from the NRS deaths database held by PHS

PC Deaths (Underlying Cause) - extracted from the NRS deaths database held by PHS, based on 'underly

PC Deaths (All Causes) - extracted from the NRS deaths database held by PHS, based on both 'underlyin

ONS Mortality Projections - published by the ONS

Projection Methods (orange tabs)

Method 1

Method 2A

Method 2B

Method 3

Projections by Condition Using Method 2B (green tabs)

Cancer

Organ Failure

Dementia

Other PC Deaths

Projection of Multimorbidity Using Method 3 (red tab)

Multimorbidity

Acronyms

NRS	National Records of Scotland
ONS	Office for National Statistics
PC	Palliative care
PHS	Public Health Scotland

ving cause of death' only
g cause of death' and 'contributory causes of death'

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	144	130	113	118	117	101	107
Female	5 - 9	11	11	11	6	10	13	5
Female	10 - 14	14	18	19	13	12	7	11
Female	15 - 19	50	55	47	52	43	30	44
Female	20 - 24	52	68	64	59	52	55	38
Female	25 - 29	62	70	75	70	89	87	60
Female	30 - 34	104	102	109	121	104	99	113
Female	35 - 39	197	194	181	165	188	141	152
Female	40 - 44	293	303	327	287	269	292	246
Female	45 - 49	483	449	448	427	470	419	422
Female	50 - 54	641	634	663	640	691	660	658
Female	55 - 59	918	930	863	846	860	851	884
Female	60 - 64	1393	1385	1388	1426	1359	1298	1242
Female	65 - 69	1980	1851	1785	1824	1767	1836	1871
Female	70 - 74	2752	2709	2610	2621	2501	2619	2585
Female	75 - 79	3877	4111	3766	3684	3623	3753	3671
Female	80 - 84	5206	5188	4859	4923	4735	5081	4844
Female	85 - 89	5347	5557	5506	5220	5248	5422	5341
Female	90 - 94	3714	3584	3385	3591	3730	4177	4203
Female	95 - 99	1552	1579	1498	1600	1569	1649	1531
Female	100+	301	268	311	311	311	332	347
Male	0 - 4	177	162	161	142	158	153	119
Male	5 - 9	13	19	14	18	17	19	9
Male	10 - 14	31	16	13	11	14	17	18
Male	15 - 19	127	106	105	95	78	61	71
Male	20 - 24	207	174	149	151	153	107	112
Male	25 - 29	188	224	221	196	188	194	155
Male	30 - 34	273	279	227	234	251	257	227
Male	35 - 39	371	376	336	318	334	312	280
Male	40 - 44	537	492	548	481	513	436	492
Male	45 - 49	674	746	665	669	635	655	666
Male	50 - 54	1011	969	963	972	850	896	924
Male	55 - 59	1471	1418	1282	1343	1256	1267	1303
Male	60 - 64	2101	2063	2030	2045	1955	1884	1764
Male	65 - 69	2540	2649	2538	2423	2460	2508	2609
Male	70 - 74	3542	3403	3272	3224	3291	3172	3157
Male	75 - 79	4238	4063	3908	4012	3817	3949	3940
Male	80 - 84	4309	4227	4153	4258	4300	4168	4375
Male	85 - 89	3152	3230	3444	3271	3513	3612	3588
Male	90 - 94	1505	1421	1305	1579	1630	1832	2025
Male	95 - 99	393	407	441	452	448	459	438
Male	100+	33	60	51	69	52	57	53

2014	2015	2016	2017
105	90	106	84
7	3	10	10
12	7	13	17
29	24	31	31
57	35	57	44
62	75	70	58
104	120	125	102
129	176	178	207
273	258	292	264
433	462	452	403
629	677	668	687
910	904	935	952
1220	1179	1275	1277
1851	1965	1923	1887
2391	2617	2573	2636
3630	3666	3619	3726
4828	4992	4800	4894
5308	5596	5505	5730
4160	4689	4209	4422
1459	1739	1764	1871
353	399	363	323
127	117	115	118
16	12	19	7
20	12	13	19
52	59	67	53
113	100	108	98
146	159	206	167
176	234	238	259
291	288	292	339
472	448	530	446
659	683	721	735
890	946	1031	982
1249	1329	1367	1304
1750	1795	1807	1799
2624	2805	2844	2603
3163	3404	3245	3403
3924	4079	3843	4128
4316	4535	4547	4619
3732	3946	3827	4064
2049	2319	2223	2334
454	568	624	679
65	62	86	89

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	5	3	4	2	7	6	6
Female	5 - 9	4	7	5	2	2	3	1
Female	10 - 14	6	8	4	4	5	1	5
Female	15 - 19	8	11	9	9	11	4	11
Female	20 - 24	15	12	10	11	12	9	8
Female	25 - 29	23	14	21	14	24	27	19
Female	30 - 34	49	39	45	40	39	39	48
Female	35 - 39	103	103	90	85	96	66	84
Female	40 - 44	192	186	200	192	160	180	150
Female	45 - 49	360	311	314	297	330	291	287
Female	50 - 54	490	460	498	482	510	500	502
Female	55 - 59	706	741	690	671	665	691	688
Female	60 - 64	1147	1141	1121	1133	1088	1058	1037
Female	65 - 69	1592	1509	1455	1478	1431	1529	1546
Female	70 - 74	2181	2180	2106	2099	1995	2125	2085
Female	75 - 79	3014	3181	2906	2845	2834	2952	2878
Female	80 - 84	3913	3867	3639	3744	3662	3897	3721
Female	85 - 89	3872	4061	4007	3790	3837	4074	4020
Female	90 - 94	2575	2431	2375	2475	2661	2990	3023
Female	95 - 99	1040	1066	998	1080	1093	1127	1066
Female	100+	179	170	218	202	209	224	226
Male	0 - 4	10	5	3	7	5	10	6
Male	5 - 9	1	4	5	6	4	3	3
Male	10 - 14	9	5	2	1	5	4	8
Male	15 - 19	10	10	10	9	10	11	7
Male	20 - 24	23	15	9	15	15	6	8
Male	25 - 29	23	27	21	36	32	18	22
Male	30 - 34	65	40	44	46	52	61	52
Male	35 - 39	127	132	111	109	92	92	77
Male	40 - 44	276	229	251	216	245	182	217
Male	45 - 49	408	472	397	406	363	380	386
Male	50 - 54	743	672	699	707	593	615	648
Male	55 - 59	1156	1112	979	1010	967	967	984
Male	60 - 64	1665	1647	1612	1619	1572	1507	1392
Male	65 - 69	2094	2187	2059	1946	1975	2058	2101
Male	70 - 74	2879	2763	2651	2550	2675	2554	2582
Male	75 - 79	3378	3116	3123	3201	3050	3123	3120
Male	80 - 84	3311	3233	3152	3285	3324	3203	3412
Male	85 - 89	2352	2382	2513	2399	2600	2707	2688
Male	90 - 94	1044	992	888	1095	1160	1298	1431
Male	95 - 99	241	256	293	282	292	288	297
Male	100+	21	37	29	31	28	34	33

2014	2015	2016	2017
2	2	2	7
2	1	2	3
5	2	4	6
8	5	7	7
8	9	10	10
14	26	20	14
37	45	42	39
59	79	80	73
169	134	163	131
286	312	268	249
462	482	478	513
719	701	702	720
959	932	986	1021
1504	1576	1538	1513
1945	2100	2070	2119
2810	2871	2843	2930
3648	3771	3612	3736
3945	4184	4123	4316
3030	3387	3037	3311
1025	1210	1213	1316
239	241	228	205
5	3	3	4
6	4	7	3
4	7	3	5
6	9	7	10
10	10	12	7
17	28	36	20
36	59	44	54
91	82	67	98
203	188	191	163
367	371	389	390
603	639	655	602
947	953	1022	945
1379	1435	1398	1413
2131	2252	2237	2085
2526	2679	2582	2726
3095	3187	3005	3256
3306	3482	3499	3594
2803	2898	2841	3054
1462	1654	1572	1639
307	354	398	454
41	37	56	55

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	17	10	13	10	11	14	12
Female	5 - 9	6	7	5	4	6	5	2
Female	10 - 14	7	9	7	7	8	2	6
Female	15 - 19	12	16	11	16	15	5	17
Female	20 - 24	20	18	17	16	18	13	11
Female	25 - 29	28	19	29	23	37	33	22
Female	30 - 34	54	52	53	58	46	53	59
Female	35 - 39	125	125	106	102	109	80	96
Female	40 - 44	216	212	230	217	182	216	172
Female	45 - 49	412	353	352	339	369	327	332
Female	50 - 54	550	539	565	542	574	562	562
Female	55 - 59	800	831	769	759	754	769	788
Female	60 - 64	1,288	1,278	1,284	1,297	1,244	1,180	1,145
Female	65 - 69	1,820	1,713	1,659	1,691	1,629	1,705	1,738
Female	70 - 74	2,537	2,510	2,433	2,427	2,334	2,413	2,412
Female	75 - 79	3,590	3,790	3,466	3,434	3,349	3,474	3,387
Female	80 - 84	4,811	4,735	4,494	4,543	4,345	4,685	4,466
Female	85 - 89	4,857	5,084	5,039	4,785	4,769	4,993	4,936
Female	90 - 94	3,307	3,175	3,067	3,260	3,396	3,788	3,808
Female	95 - 99	1,377	1,395	1,326	1,429	1,409	1,475	1,383
Female	100+	247	237	279	274	265	300	313
Male	0 - 4	19	16	8	13	12	14	14
Male	5 - 9	4	7	7	9	9	5	5
Male	10 - 14	10	6	3	2	9	5	11
Male	15 - 19	17	21	15	15	18	16	12
Male	20 - 24	35	27	20	25	23	12	13
Male	25 - 29	35	37	32	43	44	26	31
Male	30 - 34	82	58	57	61	66	76	71
Male	35 - 39	159	159	133	134	113	127	108
Male	40 - 44	324	267	307	275	296	218	287
Male	45 - 49	464	535	471	463	429	444	450
Male	50 - 54	834	784	786	810	681	704	738
Male	55 - 59	1,277	1,245	1,115	1,170	1,094	1,081	1,113
Male	60 - 64	1,893	1,849	1,820	1,840	1,775	1,699	1,561
Male	65 - 69	2,355	2,466	2,354	2,231	2,280	2,319	2,420
Male	70 - 74	3,299	3,184	3,045	3,010	3,091	2,963	2,928
Male	75 - 79	3,977	3,763	3,671	3,741	3,565	3,670	3,661
Male	80 - 84	3,996	3,923	3,874	3,992	3,979	3,896	4,082
Male	85 - 89	2,918	2,973	3,168	3,029	3,235	3,335	3,302
Male	90 - 94	1,337	1,263	1,177	1,433	1,467	1,665	1,835
Male	95 - 99	330	342	395	396	394	395	383
Male	100+	30	49	46	59	45	53	47

2014	2015	2016	2017
6	10	11	14
3	1	3	3
5	3	6	8
9	11	8	9
14	14	19	18
19	31	26	20
43	61	61	53
72	99	97	100
197	157	202	163
329	357	333	301
537	561	563	585
816	795	816	849
1,103	1,067	1,155	1,169
1,703	1,812	1,774	1,750
2,253	2,471	2,403	2,494
3,344	3,453	3,385	3,496
4,446	4,628	4,470	4,580
4,899	5,190	5,134	5,331
3,812	4,302	3,881	4,134
1,318	1,589	1,594	1,725
321	345	327	288
10	9	10	9
8	6	9	4
7	8	5	8
9	15	12	13
14	18	21	13
29	37	44	30
52	86	69	78
126	121	125	140
256	238	265	248
449	456	491	497
691	759	814	752
1,077	1,135	1,190	1,107
1,582	1,603	1,620	1,619
2,427	2,591	2,608	2,416
2,939	3,159	3,042	3,206
3,676	3,818	3,609	3,882
4,024	4,229	4,281	4,367
3,470	3,685	3,591	3,815
1,869	2,127	2,066	2,155
395	499	560	620
55	55	69	79

Gender	Age Group	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
Female	0 - 4	92	91	88	87	85	83
Female	5 - 9	5	5	5	5	5	5
Female	10 - 14	11	11	11	11	11	11
Female	15 - 19	26	24	24	24	24	23
Female	20 - 24	42	42	41	38	37	35
Female	25 - 29	73	74	73	71	68	67
Female	30 - 34	116	118	119	121	122	122
Female	35 - 39	166	167	168	167	168	168
Female	40 - 44	220	217	217	220	226	229
Female	45 - 49	404	384	369	349	329	317
Female	50 - 54	661	646	626	612	595	570
Female	55 - 59	941	941	944	936	923	904
Female	60 - 64	1225	1233	1240	1248	1255	1261
Female	65 - 69	1820	1777	1754	1745	1754	1763
Female	70 - 74	2791	2833	2882	2912	2746	2660
Female	75 - 79	3591	3602	3595	3644	3852	3949
Female	80 - 84	4911	4911	4900	4838	4813	4832
Female	85 - 89	5594	5623	5646	5663	5671	5730
Female	90 - 94	4145	4184	4239	4297	4383	4427
Female	95 - 99	1754	1794	1777	1792	1794	1801
Female	100+	286	273	316	335	348	348
Male	0 - 4	111	109	106	104	102	101
Male	5 - 9	10	10	10	10	10	10
Male	10 - 14	15	14	14	14	14	14
Male	15 - 19	49	47	43	42	40	40
Male	20 - 24	97	92	88	82	75	71
Male	25 - 29	144	140	136	129	124	119
Male	30 - 34	218	219	219	220	220	218
Male	35 - 39	312	311	312	311	311	313
Male	40 - 44	400	398	402	407	415	423
Male	45 - 49	597	572	549	524	500	481
Male	50 - 54	887	862	826	802	771	738
Male	55 - 59	1312	1303	1296	1272	1246	1214
Male	60 - 64	1740	1737	1743	1742	1743	1743
Male	65 - 69	2505	2432	2381	2361	2365	2364
Male	70 - 74	3615	3659	3721	3737	3514	3389
Male	75 - 79	3897	3942	3960	4061	4345	4494
Male	80 - 84	4481	4522	4532	4493	4511	4540
Male	85 - 89	4007	4082	4176	4243	4290	4392
Male	90 - 94	2194	2250	2306	2387	2496	2591
Male	95 - 99	630	683	713	747	765	783
Male	100+	59	57	70	82	89	94

2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028	2028 - 2029	2029 - 2030	2030 - 2031	2031 - 2032
82	79	77	75	74	72	70	69
5	5	5	5	5	5	5	5
11	9	9	9	9	9	9	8
23	23	23	22	23	21	21	21
33	33	33	33	33	33	33	33
65	63	62	58	56	53	53	52
123	122	120	116	114	109	106	103
170	170	171	174	172	171	169	164
231	231	230	228	228	230	228	230
314	313	315	322	328	328	328	326
539	517	489	461	443	438	437	439
883	855	837	812	777	738	705	667
1264	1270	1260	1246	1224	1197	1161	1137
1779	1803	1825	1839	1853	1861	1873	1864
2607	2583	2580	2601	2623	2654	2683	2713
4018	4098	4153	3929	3817	3755	3732	3739
4861	4869	4946	5251	5405	5518	5643	5731
5762	5777	5730	5729	5792	5861	5900	6017
4475	4526	4588	4643	4729	4796	4849	4845
1829	1865	1911	1968	2001	2046	2099	2163
353	356	366	368	372	385	399	418
99	97	95	91	89	88	85	84
10	10	10	10	10	10	10	10
14	13	13	13	12	12	11	11
39	39	39	38	37	36	35	34
68	67	65	64	65	65	62	63
114	109	103	97	93	89	86	85
215	210	205	198	191	185	179	171
315	318	322	325	323	319	315	307
424	424	424	425	429	435	437	442
477	477	481	488	494	491	491	488
703	670	638	606	580	573	571	573
1180	1133	1100	1059	1013	966	924	879
1736	1732	1707	1675	1638	1598	1540	1499
2371	2399	2423	2433	2442	2442	2445	2420
3308	3260	3253	3274	3291	3315	3353	3381
4571	4670	4710	4457	4323	4247	4207	4218
4624	4673	4821	5196	5410	5537	5690	5770
4473	4522	4516	4569	4653	4793	4885	5072
2672	2769	2856	2929	3041	3137	3211	3239
819	855	906	964	1014	1065	1125	1182
100	108	115	120	125	135	145	160

2032 - 2033	2033 - 2034	2034 - 2035	2035 - 2036	2036 - 2037	2037 - 2038	2038 - 2039	2039 - 2040
67	66	66	65	63	62	60	60
5	5	5	5	5	5	5	5
9	8	8	8	8	8	8	8
19	19	19	19	18	18	18	18
33	32	32	31	30	28	28	28
52	54	56	55	55	55	54	53
97	95	91	91	90	90	92	92
159	155	150	145	139	133	127	125
233	229	228	224	218	210	204	197
323	324	326	324	326	329	325	322
450	458	458	456	454	449	451	452
629	607	598	596	600	615	624	625
1104	1059	1008	965	912	862	831	820
1847	1819	1780	1730	1696	1652	1588	1514
2739	2765	2784	2808	2798	2778	2740	2688
3784	3831	3890	3943	3999	4049	4097	4134
5448	5319	5256	5247	5282	5369	5458	5563
6444	6677	6849	7015	7131	6831	6717	6682
4888	5000	5114	5187	5322	5802	6072	6260
2226	2297	2360	2418	2444	2502	2606	2707
437	449	472	497	527	554	584	614
83	82	80	79	77	77	76	76
8	8	7	7	6	6	5	5
11	11	11	10	10	10	10	10
33	32	31	31	30	30	30	29
61	61	59	58	57	54	53	52
86	85	85	85	86	85	84	83
163	156	152	149	147	149	150	149
298	290	281	273	262	249	239	234
447	443	439	433	421	410	399	386
488	492	497	498	504	507	503	497
581	588	586	584	581	578	583	588
834	801	791	790	792	805	817	815
1447	1391	1329	1274	1216	1158	1113	1102
2387	2342	2292	2214	2165	2095	2019	1935
3410	3437	3450	3467	3441	3407	3351	3290
4271	4315	4371	4441	4498	4556	4613	4647
5498	5372	5311	5296	5345	5445	5535	5636
5538	5821	6002	6180	6274	6043	5960	5948
3316	3430	3587	3694	3872	4309	4578	4758
1237	1310	1376	1432	1459	1522	1611	1721
175	188	202	220	235	256	282	301

2040 - 2041
60
5
7
18
28
53
92
122
190
316
452
624
819
1451
2616
4179
5660
6712
6413
2780
643
74
5
10
28
52
82
150
230
375
489
592
814
1105
1860
3191
4689
5755
5983
4916
1795
321

						Baseline	
	2007	2008	2009	2010	2011	2012	2013
75% of Deaths	41,988	41,775	40,391	40,475	40,246	41,203	41,025

2014	2015	2016	2017	2018	2019	2020	2021	2022
40,679	43,180	42,541	43,403	42,116	42,293	42,478	42,664	42,866

					Projected			
2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
43,078	43,319	43,592	43,899	44,190	44,513	44,864	45,233	45,624

2032	2033	2034	2035	2036	2037	2038	2039	2040
46,024	46,442	46,867	47,283	47,696	48,114	48,525	48,922	49,317

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	5	3	4	2	7	6
Females 5 - 9	4	7	5	2	2	3
Females 10 - 14	6	8	4	4	5	1
Females 15 - 19	8	11	9	9	11	4
Females 20 - 24	15	12	10	11	12	9
Females 25 - 29	23	14	21	14	24	27
Females 30 - 34	49	39	45	40	39	39
Females 35 - 39	103	103	90	85	96	66
Females 40 - 44	192	186	200	192	160	180
Females 45 - 49	360	311	314	297	330	291
Females 50 - 54	490	460	498	482	510	500
Females 55 - 59	706	741	690	671	665	691
Females 60 - 64	1,147	1,141	1,121	1,133	1,088	1,058
Females 65 - 69	1,592	1,509	1,455	1,478	1,431	1,529
Females 70 - 74	2,181	2,180	2,106	2,099	1,995	2,125
Females 75 - 79	3,014	3,181	2,906	2,845	2,834	2,952
Females 80 - 84	3,913	3,867	3,639	3,744	3,662	3,897
Females 85 - 89	3,872	4,061	4,007	3,790	3,837	4,074
Females 90 - 94	2,575	2,431	2,375	2,475	2,661	2,990
Females 95 - 99	1,040	1,066	998	1,080	1,093	1,127
Females 100+	179	170	218	202	209	224
Males 0 - 4	10	5	3	7	5	10
Males 5 - 9	1	4	5	6	4	3
Males 10 - 14	9	5	2	1	5	4
Males 15 - 19	10	10	10	9	10	11
Males 20 - 24	23	15	9	15	15	6
Males 25 - 29	23	27	21	36	32	18
Males 30 - 34	65	40	44	46	52	61
Males 35 - 39	127	132	111	109	92	92
Males 40 - 44	276	229	251	216	245	182
Males 45 - 49	408	472	397	406	363	380
Males 50 - 54	743	672	699	707	593	615
Males 55 - 59	1,156	1,112	979	1,010	967	967
Males 60 - 64	1,665	1,647	1,612	1,619	1,572	1,507
Males 65 - 69	2,094	2,187	2,059	1,946	1,975	2,058
Males 70 - 74	2,879	2,763	2,651	2,550	2,675	2,554
Males 75 - 79	3,378	3,116	3,123	3,201	3,050	3,123
Males 80 - 84	3,311	3,233	3,152	3,285	3,324	3,203
Males 85 - 89	2,352	2,382	2,513	2,399	2,600	2,707
Males 90 - 94	1,044	992	888	1,095	1,160	1,298
Males 95 - 99	241	256	293	282	292	288
Males 100+	21	37	29	31	28	34
Palliative Care Deaths	41,310	40,837	39,566	39,631	39,730	40,914
Percentage of All Deaths	73.79%	73.32%	73.47%	73.44%	74.04%	74.47%

2013	2014	2015	2016	2017	2018	2019	2020	2021
6	2	2	2	7	8	8	7	7
1	2	1	2	3	2	2	2	2
5	5	2	4	6	4	4	4	4
11	8	5	7	7	6	5	5	5
8	8	9	10	10	10	10	9	9
19	14	26	20	14	18	18	18	17
48	37	45	42	39	44	45	46	46
84	59	79	80	73	59	59	59	59
150	169	134	163	131	109	108	108	109
287	286	312	268	249	250	237	228	216
502	462	482	478	513	494	482	467	457
688	719	701	702	720	712	712	714	708
1,037	959	932	986	1,021	979	986	991	998
1,546	1,504	1,576	1,538	1,513	1,459	1,425	1,406	1,399
2,085	1,945	2,100	2,070	2,119	2,244	2,277	2,317	2,341
2,878	2,810	2,871	2,843	2,930	2,824	2,832	2,827	2,866
3,721	3,648	3,771	3,612	3,736	3,749	3,749	3,741	3,693
4,020	3,945	4,184	4,123	4,316	4,214	4,235	4,253	4,266
3,023	3,030	3,387	3,037	3,311	3,104	3,133	3,174	3,217
1,066	1,025	1,210	1,213	1,316	1,234	1,262	1,250	1,260
226	239	241	228	205	182	173	201	213
6	5	3	3	4	4	4	4	4
3	6	4	7	3	4	4	4	4
8	4	7	3	5	4	4	4	4
7	6	9	7	10	9	9	8	8
8	10	10	12	7	7	7	6	6
22	17	28	36	20	17	17	16	15
52	36	59	44	54	45	46	46	46
77	91	82	67	98	90	90	90	90
217	203	188	191	163	146	145	147	149
386	367	371	389	390	317	304	291	278
648	603	639	655	602	544	528	506	492
984	947	953	1,022	945	951	944	939	922
1,392	1,379	1,435	1,398	1,413	1,367	1,364	1,369	1,368
2,101	2,131	2,252	2,237	2,085	2,007	1,948	1,907	1,891
2,582	2,526	2,679	2,582	2,726	2,896	2,931	2,981	2,994
3,120	3,095	3,187	3,005	3,256	3,074	3,109	3,123	3,203
3,412	3,306	3,482	3,499	3,594	3,487	3,519	3,526	3,496
2,688	2,803	2,898	2,841	3,054	3,011	3,068	3,138	3,189
1,431	1,462	1,654	1,572	1,639	1,541	1,580	1,619	1,676
297	307	354	398	454	421	457	477	499
33	41	37	56	55	36	35	43	51
40,885	40,221	42,401	41,452	42,816	41,678	41,873	42,072	42,275
74.74%	74.16%	73.65%	73.08%	73.99%	74.22%	74.26%	74.28%	74.32%

							Projected	
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
7	7	7	7	6	6	6	6	6
2	2	2	2	2	2	2	2	2
4	4	4	3	3	3	3	3	3
5	5	5	5	5	5	5	5	5
8	8	8	8	8	8	8	8	8
16	16	16	15	15	14	14	13	13
47	47	47	47	46	44	44	42	41
59	59	60	60	60	61	61	60	60
112	114	115	115	114	113	113	114	113
203	196	194	193	195	199	203	203	203
444	426	402	386	365	344	331	327	326
698	684	668	647	633	614	588	558	533
1,003	1,008	1,011	1,015	1,007	996	979	957	928
1,406	1,414	1,426	1,446	1,463	1,475	1,486	1,492	1,502
2,207	2,138	2,096	2,076	2,074	2,091	2,109	2,133	2,157
3,029	3,105	3,160	3,223	3,266	3,090	3,002	2,953	2,935
3,674	3,689	3,711	3,717	3,776	4,009	4,126	4,212	4,308
4,272	4,316	4,340	4,351	4,316	4,315	4,363	4,415	4,444
3,282	3,315	3,351	3,389	3,435	3,476	3,541	3,591	3,631
1,262	1,267	1,286	1,312	1,344	1,384	1,407	1,439	1,476
221	221	224	226	232	234	236	244	253
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
4	4	4	3	3	3	3	3	3
8	8	7	7	7	7	7	7	7
5	5	5	5	5	5	5	5	4
15	14	14	13	12	12	11	11	10
46	45	45	44	43	41	40	39	37
90	90	91	92	93	94	93	92	91
152	155	155	155	155	155	157	159	160
265	255	253	253	255	259	262	261	261
473	452	431	411	391	371	356	351	350
903	880	855	821	797	767	734	700	670
1,369	1,369	1,364	1,360	1,341	1,316	1,287	1,255	1,210
1,894	1,894	1,899	1,922	1,941	1,949	1,956	1,956	1,958
2,815	2,715	2,650	2,611	2,606	2,623	2,636	2,656	2,686
3,427	3,545	3,605	3,684	3,715	3,516	3,410	3,350	3,318
3,510	3,533	3,598	3,636	3,751	4,043	4,209	4,308	4,427
3,224	3,300	3,361	3,398	3,394	3,433	3,497	3,602	3,671
1,753	1,819	1,876	1,944	2,006	2,057	2,135	2,203	2,255
512	524	548	572	606	645	678	712	752
55	58	62	67	71	74	77	83	90
42,489	42,711	42,961	43,247	43,565	43,860	44,184	44,536	44,912
74.34%	74.36%	74.38%	74.41%	74.43%	74.44%	74.44%	74.45%	74.47%

2031	2032	2033	2034	2035	2036	2037	2038	2039
6	6	6	6	5	5	5	5	5
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
5	4	4	4	4	4	4	4	4
8	8	7	7	7	7	6	6	6
13	13	13	14	13	13	13	13	13
39	37	36	35	35	34	34	35	35
58	56	55	53	51	49	47	45	44
114	116	114	113	111	108	104	101	98
201	200	200	201	200	201	203	201	199
328	336	342	342	341	339	335	337	338
504	476	459	452	451	454	465	472	473
909	883	847	806	772	729	689	664	656
1,495	1,481	1,458	1,427	1,387	1,360	1,325	1,273	1,214
2,181	2,202	2,223	2,238	2,257	2,249	2,233	2,203	2,161
2,940	2,976	3,013	3,059	3,101	3,145	3,184	3,222	3,251
4,375	4,159	4,060	4,012	4,005	4,032	4,099	4,167	4,247
4,532	4,854	5,029	5,159	5,284	5,371	5,145	5,059	5,033
3,628	3,660	3,744	3,829	3,884	3,985	4,344	4,546	4,687
1,521	1,566	1,616	1,660	1,701	1,719	1,760	1,833	1,904
265	277	285	300	315	334	352	371	390
3	3	3	3	3	3	3	3	3
4	3	3	3	3	3	3	2	2
3	3	3	3	3	3	3	3	3
6	6	6	6	6	6	6	6	5
5	4	4	4	4	4	4	4	4
10	10	10	10	10	10	10	10	10
36	34	33	32	31	31	31	31	31
89	86	84	81	79	76	72	69	68
162	163	162	160	158	154	150	146	141
259	259	261	264	264	267	269	267	264
351	356	360	359	358	356	354	357	360
637	604	580	573	573	574	583	592	591
1,177	1,137	1,093	1,044	1,001	955	910	874	866
1,938	1,912	1,876	1,836	1,773	1,734	1,678	1,617	1,550
2,708	2,732	2,753	2,764	2,777	2,756	2,729	2,684	2,635
3,327	3,369	3,403	3,448	3,503	3,548	3,594	3,639	3,665
4,490	4,278	4,180	4,132	4,121	4,159	4,237	4,307	4,385
3,811	4,162	4,374	4,510	4,644	4,715	4,541	4,479	4,470
2,275	2,329	2,409	2,519	2,594	2,719	3,026	3,215	3,341
790	827	876	920	957	976	1,018	1,077	1,151
99	108	116	125	136	145	158	174	186
45,306	45,697	46,105	46,517	46,927	47,337	47,730	48,117	48,491
74.48%	74.47%	74.46%	74.44%	74.44%	74.44%	74.40%	74.37%	74.34%

2040
5
2
2
4
6
13
35
43
94
195
338
472
655
1,163
2,103
3,286
4,321
5,056
4,802
1,955
408
3
2
3
5
4
10
31
66
137
259
363
590
868
1,490
2,556
3,698
4,478
4,496
3,452
1,200
198
48,869
74.32%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	5	3	4	2	7	6
Females 5 - 9	4	7	5	2	2	3
Females 10 - 14	6	8	4	4	5	1
Females 15 - 19	8	11	9	9	11	4
Females 20 - 24	15	12	10	11	12	9
Females 25 - 29	23	14	21	14	24	27
Females 30 - 34	49	39	45	40	39	39
Females 35 - 39	103	103	90	85	96	66
Females 40 - 44	192	186	200	192	160	180
Females 45 - 49	360	311	314	297	330	291
Females 50 - 54	490	460	498	482	510	500
Females 55 - 59	706	741	690	671	665	691
Females 60 - 64	1,147	1,141	1,121	1,133	1,088	1,058
Females 65 - 69	1,592	1,509	1,455	1,478	1,431	1,529
Females 70 - 74	2,181	2,180	2,106	2,099	1,995	2,125
Females 75 - 79	3,014	3,181	2,906	2,845	2,834	2,952
Females 80 - 84	3,913	3,867	3,639	3,744	3,662	3,897
Females 85 - 89	3,872	4,061	4,007	3,790	3,837	4,074
Females 90 - 94	2,575	2,431	2,375	2,475	2,661	2,990
Females 95 - 99	1,040	1,066	998	1,080	1,093	1,127
Females 100+	179	170	218	202	209	224
Males 0 - 4	10	5	3	7	5	10
Males 5 - 9	1	4	5	6	4	3
Males 10 - 14	9	5	2	1	5	4
Males 15 - 19	10	10	10	9	10	11
Males 20 - 24	23	15	9	15	15	6
Males 25 - 29	23	27	21	36	32	18
Males 30 - 34	65	40	44	46	52	61
Males 35 - 39	127	132	111	109	92	92
Males 40 - 44	276	229	251	216	245	182
Males 45 - 49	408	472	397	406	363	380
Males 50 - 54	743	672	699	707	593	615
Males 55 - 59	1,156	1,112	979	1,010	967	967
Males 60 - 64	1,665	1,647	1,612	1,619	1,572	1,507
Males 65 - 69	2,094	2,187	2,059	1,946	1,975	2,058
Males 70 - 74	2,879	2,763	2,651	2,550	2,675	2,554
Males 75 - 79	3,378	3,116	3,123	3,201	3,050	3,123
Males 80 - 84	3,311	3,233	3,152	3,285	3,324	3,203
Males 85 - 89	2,352	2,382	2,513	2,399	2,600	2,707
Males 90 - 94	1,044	992	888	1,095	1,160	1,298
Males 95 - 99	241	256	293	282	292	288
Males 100+	21	37	29	31	28	34
Palliative Care Deaths	41,310	40,837	39,566	39,631	39,730	40,914
Percentage of All Deaths	73.79%	73.32%	73.47%	73.44%	74.04%	74.47%

2013	2014	2015	2016	2017	2018	2019	2020	2021
6	2	2	2	7	8	8	9	9
1	2	1	2	3	1	1	1	1
5	5	2	4	6	4	4	4	4
11	8	5	7	7	6	6	6	6
8	8	9	10	10	9	9	9	8
19	14	26	20	14	17	16	15	13
48	37	45	42	39	43	43	42	42
84	59	79	80	73	56	53	51	48
150	169	134	163	131	106	101	97	95
287	286	312	268	249	244	227	214	198
502	462	482	478	513	492	480	464	453
688	719	701	702	720	710	709	710	703
1,037	959	932	986	1,021	977	980	983	986
1,546	1,504	1,576	1,538	1,513	1,459	1,424	1,405	1,398
2,085	1,945	2,100	2,070	2,119	2,247	2,284	2,327	2,354
2,878	2,810	2,871	2,843	2,930	2,827	2,839	2,837	2,879
3,721	3,648	3,771	3,612	3,736	3,755	3,761	3,758	3,716
4,020	3,945	4,184	4,123	4,316	4,230	4,268	4,302	4,331
3,023	3,030	3,387	3,037	3,311	3,127	3,179	3,244	3,313
1,066	1,025	1,210	1,213	1,316	1,240	1,274	1,268	1,284
226	239	241	228	205	183	175	204	218
6	5	3	3	4	4	3	3	3
3	6	4	7	3	5	5	5	6
8	4	7	3	5	4	4	4	4
7	6	9	7	10	10	10	10	10
8	10	10	12	7	7	6	5	5
22	17	28	36	20	17	17	16	15
52	36	59	44	54	45	44	44	43
77	91	82	67	98	89	87	85	83
217	203	188	191	163	140	134	129	125
386	367	371	389	390	312	295	279	262
648	603	639	655	602	533	507	476	453
984	947	953	1,022	945	943	928	915	891
1,392	1,379	1,435	1,398	1,413	1,365	1,362	1,365	1,363
2,101	2,131	2,252	2,237	2,085	2,001	1,937	1,890	1,869
2,582	2,526	2,679	2,582	2,726	2,892	2,922	2,968	2,976
3,120	3,095	3,187	3,005	3,256	3,071	3,103	3,114	3,190
3,412	3,306	3,482	3,499	3,594	3,491	3,527	3,539	3,513
2,688	2,803	2,898	2,841	3,054	3,013	3,072	3,145	3,197
1,431	1,462	1,654	1,572	1,639	1,543	1,584	1,625	1,684
297	307	354	398	454	425	464	489	516
33	41	37	56	55	36	35	43	50
40,885	40,221	42,401	41,452	42,816	41,683	41,887	42,098	42,315
74.74%	74.16%	73.65%	73.08%	73.99%	74.23%	74.28%	74.33%	74.39%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
9	9	10	10	10	10	10	10	10
1	1	1	1	1	1	1	1	1
3	3	3	3	3	2	2	2	2
6	6	6	6	7	6	7	6	7
7	7	6	6	6	5	5	5	5
12	11	10	9	8	6	6	5	4
41	40	39	38	36	34	32	30	28
45	42	40	37	34	32	28	25	22
94	92	89	85	81	77	73	70	66
182	172	166	161	158	158	157	152	148
439	420	396	379	357	336	322	318	316
692	677	660	638	623	604	577	547	521
988	990	989	991	980	966	946	923	892
1,404	1,411	1,424	1,442	1,460	1,470	1,481	1,487	1,496
2,223	2,156	2,116	2,100	2,100	2,120	2,141	2,170	2,196
3,046	3,127	3,185	3,252	3,299	3,125	3,039	2,993	2,978
3,702	3,723	3,751	3,763	3,828	4,070	4,196	4,290	4,394
4,354	4,416	4,457	4,486	4,466	4,482	4,548	4,619	4,667
3,403	3,462	3,524	3,590	3,664	3,734	3,829	3,910	3,980
1,292	1,303	1,329	1,361	1,401	1,450	1,481	1,521	1,567
228	229	234	237	245	248	252	263	274
2	2	2	2	1	1	1	1	0
6	6	7	7	7	8	8	9	9
3	3	3	3	3	3	3	3	3
10	10	10	11	11	11	11	12	12
4	3	3	3	2	2	2	2	1
15	14	13	13	12	11	11	10	10
43	42	40	39	37	35	34	32	30
82	80	79	78	78	77	74	72	69
121	117	111	105	98	92	87	81	75
247	234	228	225	223	222	222	217	213
426	398	371	345	321	298	278	267	260
865	835	805	766	737	703	666	629	596
1,363	1,362	1,355	1,351	1,330	1,304	1,274	1,242	1,195
1,867	1,860	1,860	1,877	1,890	1,892	1,893	1,887	1,884
2,794	2,691	2,623	2,581	2,571	2,584	2,594	2,609	2,635
3,409	3,522	3,579	3,652	3,680	3,478	3,370	3,307	3,273
3,532	3,559	3,629	3,672	3,793	4,093	4,267	4,373	4,499
3,235	3,314	3,378	3,417	3,415	3,458	3,524	3,632	3,705
1,763	1,833	1,892	1,963	2,028	2,082	2,164	2,235	2,291
533	550	579	610	651	698	740	783	833
54	57	61	65	69	72	75	80	86
42,547	42,790	43,065	43,378	43,727	44,063	44,432	44,831	45,256
74.44%	74.50%	74.56%	74.63%	74.71%	74.78%	74.86%	74.94%	75.04%

2031	2032	2033	2034	2035	2036	2037	2038	2039
10	10	11	11	11	11	11	11	11
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	1
7	6	6	6	7	6	6	7	7
5	4	4	4	4	3	3	3	3
3	2	2	1	0	0	0	0	0
27	24	23	21	20	19	18	18	17
19	15	12	10	7	4	2	0	0
63	60	55	51	47	42	37	33	29
143	138	134	131	126	122	119	114	109
317	324	329	328	326	324	319	320	320
493	464	447	439	437	439	449	455	455
871	843	806	765	730	688	648	623	613
1,489	1,475	1,452	1,420	1,380	1,353	1,317	1,266	1,206
2,224	2,248	2,273	2,292	2,315	2,310	2,296	2,268	2,228
2,987	3,026	3,067	3,118	3,164	3,213	3,257	3,299	3,332
4,469	4,255	4,160	4,117	4,116	4,150	4,225	4,301	4,391
4,777	5,135	5,340	5,497	5,651	5,765	5,543	5,470	5,461
4,004	4,066	4,187	4,311	4,401	4,545	4,988	5,253	5,451
1,622	1,677	1,738	1,793	1,846	1,873	1,926	2,015	2,102
289	304	314	332	351	375	396	420	444
0	0	0	0	0	0	0	0	0
9	8	8	7	7	7	7	6	6
2	2	2	2	2	2	2	2	2
12	12	12	12	12	12	12	13	12
1	1	0	0	0	0	0	0	0
10	10	10	10	10	10	10	10	9
29	27	25	24	23	22	22	22	21
66	62	59	56	53	49	45	42	40
70	64	57	50	43	35	28	21	15
208	204	202	201	197	196	193	188	182
253	250	246	238	230	222	213	208	203
562	528	502	491	486	482	485	487	481
1,163	1,121	1,077	1,028	984	939	893	858	848
1,859	1,828	1,788	1,745	1,680	1,638	1,580	1,518	1,450
2,653	2,671	2,689	2,695	2,704	2,680	2,649	2,602	2,550
3,278	3,316	3,346	3,386	3,436	3,477	3,518	3,558	3,580
4,568	4,358	4,263	4,220	4,213	4,257	4,342	4,419	4,506
3,849	4,206	4,424	4,564	4,703	4,778	4,605	4,545	4,539
2,313	2,371	2,456	2,571	2,651	2,782	3,099	3,297	3,431
882	930	992	1,050	1,100	1,129	1,186	1,265	1,360
95	103	111	119	129	137	149	163	174
45,702	46,153	46,632	47,119	47,605	48,099	48,604	49,101	49,591
75.13%	75.21%	75.31%	75.40%	75.51%	75.63%	75.76%	75.89%	76.03%

2040
12
1
1
7
2
0
16
0
25
103
319
454
610
1,156
2,171
3,372
4,474
5,505
5,619
2,168
467
0
6
2
12
0
9
21
38
9
175
197
475
850
1,390
2,470
3,609
4,606
4,569
3,549
1,429
185
50,084
76.17%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	17	10	13	10	11	14
Females 5 - 9	6	7	5	4	6	5
Females 10 - 14	7	9	7	7	8	2
Females 15 - 19	12	16	11	16	15	5
Females 20 - 24	20	18	17	16	18	13
Females 25 - 29	28	19	29	23	37	33
Females 30 - 34	54	52	53	58	46	53
Females 35 - 39	125	125	106	102	109	80
Females 40 - 44	216	212	230	217	182	216
Females 45 - 49	412	353	352	339	369	327
Females 50 - 54	550	539	565	542	574	562
Females 55 - 59	800	831	769	759	754	769
Females 60 - 64	1,288	1,278	1,284	1,297	1,244	1,180
Females 65 - 69	1,820	1,713	1,659	1,691	1,629	1,705
Females 70 - 74	2,537	2,510	2,433	2,427	2,334	2,413
Females 75 - 79	3,590	3,790	3,466	3,434	3,349	3,474
Females 80 - 84	4,811	4,735	4,494	4,543	4,345	4,685
Females 85 - 89	4,857	5,084	5,039	4,785	4,769	4,993
Females 90 - 94	3,307	3,175	3,067	3,260	3,396	3,788
Females 95 - 99	1,377	1,395	1,326	1,429	1,409	1,475
Females 100+	247	237	279	274	265	300
Males 0 - 4	19	16	8	13	12	14
Males 5 - 9	4	7	7	9	9	5
Males 10 - 14	10	6	3	2	9	5
Males 15 - 19	17	21	15	15	18	16
Males 20 - 24	35	27	20	25	23	12
Males 25 - 29	35	37	32	43	44	26
Males 30 - 34	82	58	57	61	66	76
Males 35 - 39	159	159	133	134	113	127
Males 40 - 44	324	267	307	275	296	218
Males 45 - 49	464	535	471	463	429	444
Males 50 - 54	834	784	786	810	681	704
Males 55 - 59	1,277	1,245	1,115	1,170	1,094	1,081
Males 60 - 64	1,893	1,849	1,820	1,840	1,775	1,699
Males 65 - 69	2,355	2,466	2,354	2,231	2,280	2,319
Males 70 - 74	3,299	3,184	3,045	3,010	3,091	2,963
Males 75 - 79	3,977	3,763	3,671	3,741	3,565	3,670
Males 80 - 84	3,996	3,923	3,874	3,992	3,979	3,896
Males 85 - 89	2,918	2,973	3,168	3,029	3,235	3,335
Males 90 - 94	1,337	1,263	1,177	1,433	1,467	1,665
Males 95 - 99	330	342	395	396	394	395
Males 100+	30	49	46	59	45	53
Palliative Care Deaths	49,476	49,082	47,708	47,984	47,494	48,815
Percentage of All Deaths	88.38%	88.12%	88.59%	88.91%	88.51%	88.86%

2013	2014	2015	2016	2017	2018	2019	2020	2021
12	6	10	11	14	16	16	16	16
2	3	1	3	3	1	1	1	1
6	5	3	6	8	5	5	5	5
17	9	11	8	9	8	7	7	7
11	14	14	19	18	17	17	17	16
22	19	31	26	20	24	24	23	21
59	43	61	61	53	60	61	62	63
96	72	99	97	100	78	76	74	71
172	197	157	202	163	133	129	126	125
332	329	357	333	301	297	279	264	246
562	537	561	563	585	562	549	532	520
788	816	795	816	849	841	843	848	842
1,145	1,103	1,067	1,155	1,169	1,120	1,126	1,132	1,138
1,738	1,703	1,812	1,774	1,750	1,689	1,651	1,631	1,624
2,412	2,253	2,471	2,403	2,494	2,647	2,694	2,748	2,783
3,387	3,344	3,453	3,385	3,496	3,374	3,389	3,386	3,437
4,466	4,446	4,628	4,470	4,580	4,602	4,607	4,603	4,550
4,936	4,899	5,190	5,134	5,331	5,217	5,256	5,290	5,319
3,808	3,812	4,302	3,881	4,134	3,893	3,949	4,019	4,094
1,383	1,318	1,589	1,594	1,725	1,623	1,666	1,657	1,677
313	321	345	327	288	257	247	288	308
14	10	9	10	9	8	8	7	7
5	8	6	9	4	6	6	7	7
11	7	8	5	8	6	6	6	6
12	9	15	12	13	13	13	12	12
13	14	18	21	13	13	12	11	10
31	29	37	44	30	26	25	24	23
71	52	86	69	78	66	66	66	66
108	126	121	125	140	128	127	127	126
287	256	238	265	248	221	218	218	219
450	449	456	491	497	403	385	369	352
738	691	759	814	752	674	650	618	595
1,113	1,077	1,135	1,190	1,107	1,111	1,101	1,093	1,070
1,561	1,582	1,603	1,620	1,619	1,566	1,563	1,568	1,567
2,420	2,427	2,591	2,608	2,416	2,325	2,258	2,211	2,192
2,928	2,939	3,159	3,042	3,206	3,410	3,455	3,518	3,537
3,661	3,676	3,818	3,609	3,882	3,666	3,709	3,726	3,822
4,082	4,024	4,229	4,281	4,367	4,245	4,292	4,309	4,280
3,302	3,470	3,685	3,591	3,815	3,767	3,842	3,936	4,005
1,835	1,869	2,127	2,066	2,155	2,033	2,093	2,153	2,237
383	395	499	560	620	580	634	667	704
47	55	55	69	79	52	50	62	72
48,739	48,414	51,611	50,769	52,148	50,784	51,106	51,437	51,773
89.10%	89.26%	89.64%	89.51%	90.11%	90.44%	90.63%	90.82%	91.01%

							Projected	
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
16	16	16	16	16	16	16	16	16
1	1	1	1	0	0	0	0	0
5	5	5	4	4	4	4	4	4
8	7	7	8	8	7	8	7	7
16	15	14	14	14	14	14	14	15
20	19	18	16	15	14	13	11	11
63	63	64	63	62	60	59	57	55
68	66	64	62	59	58	54	52	48
126	125	123	120	117	113	111	109	105
228	217	211	207	205	206	207	203	200
505	483	457	438	414	390	374	370	368
833	817	800	776	762	741	710	676	647
1,143	1,147	1,149	1,153	1,143	1,129	1,108	1,083	1,049
1,634	1,644	1,660	1,684	1,706	1,721	1,735	1,744	1,757
2,631	2,555	2,511	2,494	2,497	2,524	2,552	2,588	2,623
3,638	3,734	3,805	3,885	3,943	3,735	3,633	3,579	3,561
4,532	4,556	4,589	4,602	4,681	4,976	5,128	5,242	5,367
5,339	5,407	5,450	5,476	5,444	5,456	5,529	5,608	5,658
4,195	4,257	4,323	4,392	4,473	4,547	4,652	4,739	4,813
1,685	1,698	1,731	1,771	1,822	1,883	1,921	1,972	2,030
323	325	332	338	350	354	361	376	393
6	6	5	5	5	4	4	3	3
7	7	8	8	8	8	9	9	9
7	7	7	6	7	7	6	6	6
12	12	13	13	13	14	14	14	14
9	8	7	7	6	6	6	6	5
22	21	20	19	18	17	16	15	15
66	66	65	63	62	60	58	56	54
126	126	127	127	128	129	128	126	124
221	223	222	220	218	216	216	217	216
335	322	318	318	320	324	327	325	324
568	539	509	481	455	428	406	398	393
1,046	1,017	986	944	915	879	839	798	761
1,568	1,567	1,561	1,557	1,535	1,506	1,472	1,436	1,384
2,196	2,196	2,202	2,229	2,251	2,261	2,269	2,269	2,273
3,329	3,215	3,141	3,099	3,096	3,120	3,139	3,166	3,206
4,090	4,232	4,305	4,399	4,438	4,200	4,075	4,004	3,967
4,306	4,342	4,430	4,486	4,636	5,006	5,222	5,355	5,513
4,055	4,157	4,240	4,292	4,292	4,348	4,434	4,574	4,668
2,348	2,447	2,532	2,634	2,727	2,807	2,925	3,028	3,111
727	749	790	831	887	951	1,008	1,066	1,135
78	82	87	94	100	104	108	116	125
52,130	52,497	52,905	53,355	53,852	54,343	54,871	55,438	56,033
91.21%	91.40%	91.60%	91.80%	92.00%	92.23%	92.45%	92.68%	92.91%

2031	2032	2033	2034	2035	2036	2037	2038	2039
16	16	16	16	17	16	16	16	16
0	0	0	0	0	0	0	0	0
3	4	3	3	3	3	3	3	3
8	7	7	7	7	7	7	7	7
15	15	14	14	14	14	13	13	13
10	10	9	9	8	8	7	7	6
54	50	49	47	47	47	47	48	48
44	41	37	34	31	27	24	21	19
103	102	98	94	90	85	79	75	70
195	190	187	185	180	178	176	170	165
370	379	385	385	383	381	376	378	378
614	580	561	554	553	558	573	583	585
1,026	995	954	907	867	819	773	745	734
1,750	1,736	1,711	1,676	1,630	1,599	1,559	1,500	1,431
2,659	2,691	2,723	2,749	2,779	2,776	2,763	2,732	2,687
3,573	3,620	3,670	3,731	3,787	3,846	3,899	3,950	3,991
5,457	5,194	5,077	5,023	5,021	5,061	5,150	5,242	5,349
5,783	6,208	6,447	6,628	6,804	6,933	6,656	6,560	6,540
4,831	4,896	5,030	5,167	5,264	5,425	5,940	6,243	6,465
2,099	2,168	2,245	2,315	2,380	2,415	2,481	2,593	2,703
414	436	451	478	507	541	573	608	643
3	2	2	2	2	1	1	1	1
9	8	8	7	7	6	7	6	6
6	6	6	6	6	6	6	6	6
14	14	14	13	14	14	14	14	14
5	5	5	4	4	4	3	3	3
14	15	14	14	14	14	14	14	14
52	49	47	46	45	44	45	45	45
120	116	113	109	105	100	95	91	89
217	217	213	209	204	196	189	182	174
322	321	323	326	326	329	330	327	323
391	393	395	390	385	380	374	374	374
723	684	655	646	643	643	652	661	657
1,347	1,300	1,249	1,194	1,144	1,092	1,040	999	989
2,250	2,219	2,177	2,131	2,059	2,014	1,949	1,878	1,800
3,236	3,267	3,297	3,313	3,333	3,312	3,283	3,232	3,177
3,978	4,029	4,072	4,125	4,192	4,247	4,303	4,357	4,390
5,601	5,347	5,234	5,184	5,179	5,237	5,345	5,443	5,553
4,853	5,306	5,585	5,767	5,946	6,044	5,829	5,757	5,753
3,149	3,235	3,359	3,525	3,643	3,832	4,280	4,563	4,759
1,201	1,266	1,350	1,428	1,497	1,536	1,613	1,719	1,849
137	150	160	172	187	199	216	238	253
56,653	57,288	57,956	58,636	59,309	59,989	60,705	61,405	62,084
93.13%	93.36%	93.59%	93.83%	94.08%	94.33%	94.63%	94.91%	95.18%

2040
17
0
3
7
13
5
48
16
65
159
378
586
732
1,373
2,621
4,039
5,449
6,584
6,651
2,785
678
0
6
6
14
3
13
45
87
168
317
373
655
992
1,731
3,085
4,431
5,680
5,795
4,934
1,942
269
62,757
95.44%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	3	1	3	1	6	3
Females 5 - 9	3	4	5	2	0	3
Females 10 - 14	3	5	4	1	4	0
Females 15 - 19	4	7	6	7	8	2
Females 20 - 24	8	8	4	8	6	6
Females 25 - 29	8	9	15	8	15	17
Females 30 - 34	32	16	25	17	22	21
Females 35 - 39	49	52	39	49	48	37
Females 40 - 44	105	104	113	116	90	105
Females 45 - 49	228	178	182	163	205	164
Females 50 - 54	273	266	295	293	293	326
Females 55 - 59	420	432	408	417	415	466
Females 60 - 64	685	640	683	674	685	664
Females 65 - 69	890	844	829	837	856	866
Females 70 - 74	1,048	1,077	1,057	1,077	1,020	1,079
Females 75 - 79	1,199	1,264	1,195	1,228	1,176	1,262
Females 80 - 84	1,157	1,203	1,170	1,210	1,179	1,303
Females 85 - 89	839	928	926	858	886	940
Females 90 - 94	406	381	368	426	417	488
Females 95 - 99	116	109	116	111	108	118
Females 100+	15	12	13	13	13	16
Males 0 - 4	9	1	2	6	3	7
Males 5 - 9	1	3	3	4	4	2
Males 10 - 14	7	5	2	0	3	1
Males 15 - 19	6	7	6	6	6	8
Males 20 - 24	11	12	4	8	9	2
Males 25 - 29	12	10	12	14	18	6
Males 30 - 34	15	10	13	19	18	20
Males 35 - 39	33	42	28	28	24	35
Males 40 - 44	66	69	76	52	80	64
Males 45 - 49	126	166	140	132	130	122
Males 50 - 54	284	267	277	286	236	258
Males 55 - 59	505	511	498	468	460	441
Males 60 - 64	821	808	788	825	776	781
Males 65 - 69	983	1,058	1,042	991	1,022	1,054
Males 70 - 74	1,333	1,312	1,299	1,244	1,352	1,313
Males 75 - 79	1,418	1,270	1,396	1,404	1,406	1,394
Males 80 - 84	1,186	1,165	1,138	1,262	1,284	1,237
Males 85 - 89	661	707	724	740	806	846
Males 90 - 94	253	250	222	276	299	338
Males 95 - 99	48	54	59	42	65	45
Males 100+	5	2	2	0	4	4
Cancer Deaths	15,274	15,269	15,187	15,323	15,457	15,864
Percentage of All Deaths	27.28%	27.41%	28.20%	28.39%	28.80%	28.88%

2013	2014	2015	2016	2017	2018	2019	2020	2021
4	2	2	1	5	6	6	6	7
1	2	1	1	3	2	2	2	2
2	4	1	4	4	3	3	3	3
9	6	3	4	5	4	4	4	5
4	5	7	7	6	6	6	5	5
9	10	19	13	8	10	10	10	10
30	20	32	23	24	26	26	25	25
49	34	36	49	44	35	34	34	33
84	99	66	95	63	50	47	44	42
168	166	182	153	149	145	134	125	115
310	298	304	288	322	313	308	301	297
434	443	421	435	438	433	433	435	432
644	592	554	555	566	537	535	532	529
919	868	913	863	878	850	832	824	823
1,077	1,081	1,096	1,045	1,091	1,164	1,191	1,221	1,244
1,238	1,248	1,222	1,225	1,323	1,292	1,312	1,326	1,361
1,208	1,196	1,202	1,198	1,233	1,252	1,266	1,278	1,276
942	990	980	989	963	946	958	968	977
492	504	519	489	514	485	492	502	511
106	103	134	142	149	141	145	144	146
18	23	21	19	14	12	11	13	14
6	4	2	2	2	2	1	1	0
2	6	3	6	2	3	3	3	4
2	2	6	1	4	3	3	3	3
6	5	5	5	5	5	5	5	5
4	4	4	8	3	3	2	2	2
12	5	19	13	8	7	6	6	5
16	14	23	21	18	15	16	16	17
22	29	25	21	31	29	29	29	29
65	64	64	70	57	51	51	52	53
141	138	145	168	132	107	102	97	93
264	248	288	268	242	216	206	195	187
474	462	469	448	413	412	406	400	389
724	745	730	726	679	654	651	651	648
1,101	1,125	1,209	1,192	1,066	1,032	1,007	991	988
1,298	1,307	1,334	1,272	1,389	1,487	1,517	1,554	1,573
1,368	1,411	1,425	1,351	1,436	1,361	1,382	1,393	1,434
1,327	1,256	1,273	1,352	1,427	1,399	1,428	1,446	1,449
874	922	845	898	957	954	982	1,016	1,043
353	342	442	396	421	398	411	424	442
47	51	63	77	104	98	109	116	124
4	6	4	6	5	3	2	2	1
15,858	15,840	16,093	15,899	16,203	15,949	16,075	16,206	16,343
28.99%	29.20%	27.95%	28.03%	28.00%	28.40%	28.51%	28.61%	28.73%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
7	7	7	7	7	7	8	8	8
2	2	2	2	2	2	2	2	2
3	3	3	2	2	2	2	2	2
5	5	5	5	5	5	6	5	6
5	4	4	4	4	4	4	4	4
10	10	9	9	9	9	8	8	8
24	23	23	22	20	19	18	16	15
33	32	32	31	31	31	30	29	28
40	38	36	33	30	27	24	22	19
105	98	94	90	87	86	84	81	78
292	282	269	260	248	236	228	228	229
426	417	408	395	387	376	360	342	327
526	522	517	514	503	492	477	461	441
830	837	847	862	875	885	894	901	910
1,182	1,154	1,139	1,137	1,145	1,163	1,181	1,204	1,226
1,456	1,511	1,556	1,605	1,646	1,575	1,548	1,540	1,547
1,284	1,303	1,326	1,342	1,378	1,479	1,538	1,587	1,640
985	1,001	1,013	1,022	1,021	1,027	1,044	1,063	1,077
525	533	542	551	562	572	586	597	607
147	149	152	156	161	166	170	175	181
14	14	14	14	14	14	13	14	14
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	6
3	3	3	3	3	3	2	2	2
5	5	5	5	5	5	5	5	5
1	1	1	1	1	1	0	0	0
5	5	4	4	3	3	3	3	2
17	17	17	17	17	17	16	16	16
29	29	29	30	30	31	30	30	30
54	55	56	56	56	56	57	58	59
88	84	83	83	83	84	85	84	83
177	167	156	147	137	128	121	118	115
378	365	352	335	322	307	291	275	261
646	644	639	635	624	610	594	578	555
995	1,000	1,008	1,026	1,041	1,051	1,061	1,066	1,073
1,490	1,448	1,424	1,414	1,421	1,441	1,459	1,480	1,507
1,540	1,599	1,633	1,674	1,695	1,610	1,567	1,545	1,536
1,470	1,494	1,538	1,570	1,636	1,780	1,872	1,935	2,007
1,066	1,102	1,134	1,158	1,168	1,194	1,228	1,277	1,314
466	486	505	527	547	564	590	612	630
129	135	143	152	164	178	190	203	218
1	0	0	0	0	0	0	0	0
16,461	16,588	16,731	16,903	17,096	17,242	17,402	17,579	17,787
28.80%	28.88%	28.97%	29.08%	29.21%	29.26%	29.32%	29.39%	29.49%

2031	2032	2033	2034	2035	2036	2037	2038	2039
8	8	8	8	8	8	8	8	9
2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2
6	5	6	6	6	6	6	6	6
4	4	3	3	3	3	3	3	3
8	8	8	9	8	9	9	8	8
14	12	11	10	10	9	8	8	7
27	25	24	23	21	20	19	17	17
16	14	11	8	5	2	0	0	0
74	70	67	64	60	57	54	50	47
232	240	246	248	249	250	249	252	254
309	292	282	278	277	279	286	290	291
427	409	387	364	343	320	298	284	276
909	903	892	876	854	840	821	792	757
1,248	1,270	1,291	1,309	1,329	1,334	1,334	1,324	1,308
1,567	1,604	1,641	1,684	1,725	1,768	1,809	1,849	1,885
1,682	1,615	1,593	1,590	1,602	1,629	1,672	1,715	1,765
1,105	1,191	1,241	1,281	1,320	1,350	1,300	1,286	1,287
610	619	637	655	668	689	755	794	823
187	194	201	208	214	217	224	234	245
14	15	15	15	16	16	17	17	18
0	0	0	0	0	0	0	0	0
6	5	5	4	5	4	4	4	4
2	2	2	2	2	2	2	2	2
5	5	5	5	6	6	6	6	6
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	1	1	1
15	15	14	14	14	14	15	15	15
29	28	28	27	26	25	24	23	23
60	60	60	60	59	58	56	55	53
83	82	83	83	83	83	84	83	81
114	113	112	110	108	105	103	101	100
246	231	220	215	212	211	212	213	210
538	517	495	471	450	428	406	389	384
1,067	1,058	1,043	1,026	996	979	952	922	888
1,531	1,555	1,578	1,595	1,614	1,613	1,608	1,592	1,573
1,546	1,571	1,593	1,619	1,651	1,678	1,706	1,733	1,752
2,055	1,977	1,949	1,945	1,957	1,994	2,049	2,102	2,159
1,377	1,518	1,611	1,676	1,742	1,785	1,735	1,726	1,738
640	659	686	722	748	789	883	944	987
232	247	266	283	299	309	328	352	381
0	0	0	0	0	0	0	0	0
17,998	18,146	18,320	18,502	18,698	18,894	19,047	19,206	19,366
29.59%	29.57%	29.59%	29.61%	29.66%	29.71%	29.69%	29.68%	29.69%

2040
9
2
2
6
3
8
6
16
0
42
256
291
272
728
1,282
1,924
1,813
1,300
848
253
18
0
4
2
6
0
1
15
22
52
80
99
208
383
858
1,536
1,774
2,224
1,764
1,025
403
0
19,535
29.71%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	2	2	1	1	0	2
Females 5 - 9	1	1	0	0	2	0
Females 10 - 14	2	2	0	3	0	1
Females 15 - 19	3	2	3	0	2	1
Females 20 - 24	6	3	6	3	5	3
Females 25 - 29	13	4	4	5	7	7
Females 30 - 34	12	14	19	17	14	16
Females 35 - 39	41	41	39	30	39	23
Females 40 - 44	60	63	67	62	59	59
Females 45 - 49	99	99	95	97	103	85
Females 50 - 54	173	152	159	141	158	125
Females 55 - 59	232	249	222	199	193	168
Females 60 - 64	346	374	334	348	314	300
Females 65 - 69	540	505	471	504	428	500
Females 70 - 74	825	783	729	718	704	717
Females 75 - 79	1,175	1,223	1,111	1,020	1,050	1,040
Females 80 - 84	1,586	1,470	1,385	1,429	1,369	1,413
Females 85 - 89	1,552	1,543	1,488	1,380	1,339	1,456
Females 90 - 94	962	894	872	911	923	958
Females 95 - 99	355	393	365	376	373	328
Females 100+	62	52	60	66	58	69
Males 0 - 4	1	2	0	1	2	3
Males 5 - 9	0	1	2	2	0	1
Males 10 - 14	1	0	0	1	2	3
Males 15 - 19	3	2	3	1	4	3
Males 20 - 24	10	3	4	3	4	4
Males 25 - 29	10	13	7	19	12	11
Males 30 - 34	42	23	28	23	28	34
Males 35 - 39	84	75	68	72	59	47
Males 40 - 44	186	135	144	138	142	107
Males 45 - 49	231	263	230	236	203	227
Males 50 - 54	397	337	362	378	312	310
Males 55 - 59	582	534	415	473	438	444
Males 60 - 64	722	702	695	668	667	625
Males 65 - 69	926	923	837	775	767	825
Males 70 - 74	1,196	1,083	998	1,021	998	946
Males 75 - 79	1,398	1,317	1,210	1,207	1,142	1,196
Males 80 - 84	1,419	1,306	1,307	1,248	1,235	1,147
Males 85 - 89	1,028	1,025	1,078	977	1,035	1,077
Males 90 - 94	450	407	356	467	438	482
Males 95 - 99	99	95	139	110	108	115
Males 100+	12	15	12	16	12	10
Organ Failure Deaths	16,844	16,130	15,325	15,146	14,748	14,888
Percentage of All Deaths	30.09%	28.96%	28.46%	28.07%	27.48%	27.10%

2013	2014	2015	2016	2017	2018	2019	2020	2021
2	0	0	1	2	2	2	2	2
0	0	0	1	0	0	0	0	0
3	1	1	0	2	1	1	1	1
2	2	1	2	2	2	2	2	2
4	1	1	2	3	3	2	2	2
7	3	6	6	5	5	5	4	3
14	11	12	15	13	15	15	16	16
30	17	31	26	20	14	12	11	9
48	61	55	47	52	43	42	42	43
94	94	97	85	74	73	69	65	61
146	114	135	148	151	142	136	128	122
194	213	221	200	221	217	215	213	210
282	278	280	316	349	338	343	348	354
465	482	466	502	482	462	448	439	434
663	589	695	707	722	757	761	767	767
1,001	937	1,008	970	927	874	857	836	827
1,286	1,239	1,308	1,249	1,212	1,188	1,160	1,130	1,088
1,343	1,347	1,424	1,398	1,384	1,324	1,303	1,281	1,257
991	946	1,096	960	1,018	942	939	939	940
329	320	376	372	421	394	402	398	401
68	74	84	67	61	54	51	58	61
0	1	1	1	2	2	2	2	2
1	0	0	0	1	2	2	2	2
4	2	1	2	0	0	0	0	0
1	1	4	2	4	4	4	4	4
4	5	5	4	4	4	4	3	3
8	12	7	18	10	9	9	8	8
30	22	28	20	30	24	24	23	22
45	53	48	40	56	50	48	46	44
139	119	105	104	86	71	65	59	53
209	212	202	184	228	183	174	165	156
338	304	298	336	309	272	258	241	227
442	409	418	485	459	456	447	439	426
568	525	592	565	612	591	590	591	590
809	834	829	842	840	798	764	738	722
976	940	1,021	968	982	1,025	1,020	1,019	1,005
1,188	1,146	1,147	1,127	1,148	1,064	1,055	1,040	1,045
1,263	1,224	1,307	1,250	1,238	1,174	1,157	1,131	1,094
955	1,012	1,076	991	1,059	1,018	1,010	1,006	994
559	581	592	569	558	511	511	510	513
127	113	143	146	156	143	154	159	165
12	16	19	21	25	16	15	18	20
14,650	14,260	15,140	14,749	14,928	14,267	14,077	13,887	13,696
26.78%	26.29%	26.30%	26.00%	25.80%	25.41%	24.96%	24.52%	24.08%

							Projected	
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
2	2	3	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	1	1
2	1	1	1	1	1	1	0	0
2	1	0	0	0	0	0	0	0
16	16	17	17	17	16	16	15	15
7	5	3	1	0	0	0	0	0
44	44	44	44	44	43	43	43	43
57	54	53	52	52	52	53	52	51
116	108	100	93	85	78	73	70	68
205	199	192	184	179	172	163	153	145
359	363	367	372	373	372	368	363	355
433	432	433	436	438	438	438	437	436
717	687	667	654	647	645	644	645	645
854	854	847	842	830	764	722	690	665
1,055	1,031	1,010	984	971	1,001	1,000	989	979
1,232	1,216	1,195	1,170	1,133	1,105	1,089	1,073	1,051
946	943	940	938	937	935	939	938	935
400	401	407	414	424	435	442	451	462
63	62	62	62	63	63	63	65	66
2	2	2	3	3	3	3	3	3
2	2	2	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	5
3	3	2	2	2	2	2	2	2
8	8	7	7	7	6	6	6	6
21	20	19	18	17	15	14	13	12
42	40	39	37	35	34	32	29	27
48	43	36	30	23	17	10	4	0
147	140	137	136	135	136	136	133	132
213	198	183	169	156	143	133	127	122
411	396	379	359	344	327	308	289	273
590	589	586	584	575	564	551	537	517
714	703	696	694	691	683	676	665	656
928	878	841	813	795	784	772	761	754
1,096	1,110	1,106	1,105	1,090	1,009	956	917	887
1,071	1,050	1,041	1,023	1,026	1,074	1,085	1,077	1,072
977	972	960	941	910	891	877	872	857
522	526	527	529	529	525	527	524	518
167	169	175	181	190	200	208	216	226
21	22	22	23	24	24	24	25	25
13,497	13,300	13,110	12,931	12,758	12,570	12,383	12,198	12,015
23.62%	23.16%	22.70%	22.25%	21.80%	21.33%	20.86%	20.39%	19.92%

2031	2032	2033	2034	2035	2036	2037	2038	2039
3	3	3	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
15	14	14	13	14	14	14	14	14
0	0	0	0	0	0	0	0	0
43	43	42	42	41	40	38	37	35
50	49	48	48	47	47	46	45	44
66	65	64	62	59	57	54	52	50
136	127	121	118	116	116	117	118	117
350	343	332	318	307	292	279	271	269
431	424	414	402	388	377	365	348	329
645	644	643	640	638	629	617	602	583
646	633	620	609	596	583	568	552	535
962	883	832	792	761	736	718	698	680
1,043	1,086	1,092	1,087	1,079	1,062	984	935	898
920	914	921	927	925	934	1,001	1,031	1,044
475	488	503	516	528	533	544	566	587
69	71	72	75	79	82	86	89	93
3	3	3	3	3	3	3	3	3
3	3	3	3	3	2	3	2	2
0	0	0	0	0	0	0	0	0
5	5	5	5	5	5	5	6	5
2	2	2	2	2	2	1	1	1
6	6	6	6	6	6	6	6	6
11	10	9	8	7	6	6	5	5
24	22	19	17	15	13	11	9	7
0	0	0	0	0	0	0	0	0
129	128	127	127	125	125	124	122	119
118	115	112	107	102	97	92	88	84
256	239	226	220	216	213	213	213	209
503	485	466	444	425	406	386	371	367
639	620	599	577	548	526	501	474	446
743	733	722	708	694	672	649	622	594
867	856	843	831	821	808	795	781	763
1,051	968	913	870	835	810	792	771	751
856	898	906	895	881	853	782	732	692
503	495	491	492	485	485	514	518	510
235	243	255	264	272	274	282	295	312
26	27	28	28	29	29	30	30	30
11,836	11,647	11,457	11,260	11,057	10,842	10,630	10,411	10,188
19.46%	18.98%	18.50%	18.02%	17.54%	17.05%	16.57%	16.09%	15.62%

2040
3
0
0
1
0
0
14
0
34
43
47
115
271
313
561
518
660
869
1,051
602
96
3
2
0
5
1
6
4
6
0
115
80
205
367
421
561
746
731
657
498
321
29
9,957
15.14%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	0	0	0	0	0	0
Females 5 - 9	0	0	0	0	0	0
Females 10 - 14	0	0	0	0	0	0
Females 15 - 19	0	0	0	0	0	0
Females 20 - 24	0	0	0	0	0	0
Females 25 - 29	0	0	0	0	0	0
Females 30 - 34	0	0	0	0	0	0
Females 35 - 39	0	0	0	0	0	0
Females 40 - 44	0	0	0	0	0	0
Females 45 - 49	1	1	2	1	0	0
Females 50 - 54	0	5	0	1	2	0
Females 55 - 59	2	7	3	1	4	4
Females 60 - 64	14	13	15	9	13	14
Females 65 - 69	28	19	32	25	23	40
Females 70 - 74	71	86	73	87	65	98
Females 75 - 79	194	231	206	214	213	275
Females 80 - 84	438	466	406	438	497	598
Females 85 - 89	611	695	778	737	837	948
Females 90 - 94	588	578	585	624	777	955
Females 95 - 99	309	313	273	351	378	435
Females 100+	71	69	91	86	90	102
Males 0 - 4	0	0	0	0	0	0
Males 5 - 9	0	0	0	0	0	0
Males 10 - 14	0	0	0	0	0	0
Males 15 - 19	0	0	0	0	0	0
Males 20 - 24	0	0	0	0	0	0
Males 25 - 29	0	0	0	0	0	0
Males 30 - 34	0	0	0	0	0	0
Males 35 - 39	0	0	0	0	0	0
Males 40 - 44	0	0	0	0	0	0
Males 45 - 49	1	0	0	1	0	0
Males 50 - 54	1	2	3	1	1	3
Males 55 - 59	2	2	2	3	1	2
Males 60 - 64	12	11	22	16	14	16
Males 65 - 69	29	24	28	29	17	37
Males 70 - 74	70	79	77	58	76	75
Males 75 - 79	144	139	140	181	164	179
Males 80 - 84	221	271	249	276	336	360
Males 85 - 89	228	220	275	270	380	402
Males 90 - 94	134	154	136	176	208	271
Males 95 - 99	45	52	50	61	77	77
Males 100+	2	12	9	11	6	15
Dementia Deaths	3,216	3,449	3,455	3,657	4,179	4,906
Percentage of All Deaths	5.74%	6.19%	6.42%	6.78%	7.79%	8.93%

2013	2014	2015	2016	2017	2018	2019	2020	2021
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0
1	0	1	2	1	1	1	1	1
1	7	6	9	2	2	2	2	2
17	12	14	16	21	21	22	23	24
36	24	51	46	38	38	38	38	39
105	94	108	115	119	131	139	147	154
251	282	290	308	361	365	383	399	421
652	666	691	633	788	828	866	902	928
1,021	945	1,162	1,096	1,316	1,349	1,421	1,492	1,562
1,000	1,035	1,176	1,091	1,269	1,243	1,308	1,380	1,454
420	409	485	495	543	525	553	564	585
107	97	98	103	97	88	86	101	109
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
2	2	2	2	1	1	1	1	1
1	4	3	3	5	5	6	6	6
8	15	11	10	11	11	11	11	11
36	33	35	45	31	30	29	29	29
78	68	93	105	113	125	131	139	144
194	204	257	217	313	312	332	350	376
352	398	438	426	511	522	554	582	604
451	479	566	548	665	692	742	798	849
288	328	374	378	424	419	450	483	522
74	87	91	108	131	126	142	154	168
9	12	8	22	16	11	12	15	19
5,107	5,201	5,962	5,778	6,776	6,846	7,230	7,617	8,008
9.34%	9.59%	10.36%	10.19%	11.71%	12.19%	12.82%	13.45%	14.08%

							Projected	
2022	2023	2024	2025	2026	2027	2028	2029	2030
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	1	1
25	26	26	27	28	28	29	29	29
41	42	43	45	47	48	50	51	52
151	151	153	157	161	168	174	181	189
463	494	521	551	577	565	567	575	589
960	1,001	1,044	1,083	1,139	1,249	1,327	1,398	1,473
1,630	1,713	1,789	1,860	1,911	1,977	2,065	2,158	2,240
1,540	1,612	1,687	1,765	1,848	1,930	2,026	2,117	2,203
602	621	647	677	711	750	781	818	858
116	118	122	125	131	134	138	145	153
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
6	6	7	7	7	7	7	7	7
11	11	11	11	11	11	11	11	10
29	29	29	30	30	30	30	31	31
140	140	141	143	147	153	158	164	170
420	454	480	510	535	524	527	535	548
633	664	704	739	791	883	952	1,007	1,068
898	959	1,018	1,070	1,110	1,165	1,229	1,309	1,379
569	615	659	708	757	803	862	919	970
178	188	203	219	239	262	283	306	332
21	24	26	30	33	36	39	44	49
8,436	8,870	9,315	9,761	10,216	10,727	11,258	11,805	12,351
14.76%	15.44%	16.13%	16.79%	17.45%	18.21%	18.97%	19.73%	20.48%

2031	2032	2033	2034	2035	2036	2037	2038	2039
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1
29	29	28	28	27	26	25	25	25
53	54	54	54	54	53	53	52	50
196	203	210	217	225	229	233	235	236
607	633	658	687	715	743	772	800	827
1,540	1,505	1,511	1,533	1,571	1,622	1,690	1,760	1,837
2,354	2,595	2,766	2,917	3,068	3,201	3,145	3,170	3,231
2,263	2,346	2,464	2,586	2,690	2,828	3,158	3,383	3,568
904	950	1,002	1,050	1,098	1,132	1,182	1,255	1,328
163	173	181	193	207	223	238	254	271
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
6	6	6	6	7	7	7	7	8
10	10	9	9	9	8	8	8	8
30	30	30	29	28	28	27	26	25
176	182	188	193	199	202	205	206	207
567	592	616	642	671	699	727	755	780
1,118	1,098	1,104	1,123	1,152	1,194	1,249	1,302	1,359
1,478	1,665	1,803	1,914	2,027	2,115	2,092	2,118	2,168
1,008	1,063	1,131	1,216	1,287	1,385	1,581	1,722	1,834
358	384	417	449	478	499	532	576	629
55	63	70	77	87	95	107	121	133
12,920	13,585	14,253	14,929	15,602	16,294	17,035	17,780	18,528
21.24%	22.14%	23.02%	23.89%	24.75%	25.62%	26.55%	27.48%	28.40%

2040
0
0
0
0
0
0
0
0
0
0
2
1
26
49
234
855
1,912
3,323
3,738
1,389
288
0
0
0
0
0
0
0
0
0
0
1
8
8
24
205
807
1,422
2,235
1,940
670
146
19,284
29.33%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	0	0	0	0	1	1
Females 5 - 9	0	2	0	0	0	0
Females 10 - 14	1	1	0	0	1	0
Females 15 - 19	1	2	0	2	1	1
Females 20 - 24	1	1	0	0	1	0
Females 25 - 29	2	1	2	1	2	3
Females 30 - 34	5	9	1	6	3	2
Females 35 - 39	13	10	12	6	9	6
Females 40 - 44	27	19	20	14	11	16
Females 45 - 49	32	33	35	36	22	42
Females 50 - 54	44	37	44	47	57	49
Females 55 - 59	52	53	57	54	53	53
Females 60 - 64	102	114	89	102	76	80
Females 65 - 69	134	141	123	112	124	123
Females 70 - 74	237	234	247	217	206	231
Females 75 - 79	446	463	394	383	395	375
Females 80 - 84	732	728	678	667	617	583
Females 85 - 89	870	895	815	815	775	730
Females 90 - 94	619	578	550	514	544	589
Females 95 - 99	260	251	244	242	234	246
Females 100+	31	37	54	37	48	37
Males 0 - 4	0	2	1	0	0	0
Males 5 - 9	0	0	0	0	0	0
Males 10 - 14	1	0	0	0	0	0
Males 15 - 19	1	1	1	2	0	0
Males 20 - 24	2	0	1	4	2	0
Males 25 - 29	1	4	2	3	2	1
Males 30 - 34	8	7	3	4	6	7
Males 35 - 39	10	15	15	9	9	10
Males 40 - 44	24	25	31	26	23	11
Males 45 - 49	50	43	27	37	30	31
Males 50 - 54	61	66	57	42	44	44
Males 55 - 59	67	65	64	66	68	80
Males 60 - 64	110	126	107	110	115	85
Males 65 - 69	156	182	152	151	169	142
Males 70 - 74	280	289	277	227	249	220
Males 75 - 79	418	390	377	409	338	354
Males 80 - 84	485	491	458	499	469	459
Males 85 - 89	435	430	436	412	379	382
Males 90 - 94	207	181	174	176	215	207
Males 95 - 99	49	55	45	69	42	51
Males 100+	2	8	6	4	6	5
Other Palliative Care Deaths	5,976	5,989	5,599	5,505	5,346	5,256
Percentage of All Deaths	10.67%	10.75%	10.40%	10.20%	9.96%	9.57%

2013	2014	2015	2016	2017	2018	2019	2020	2021
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0
0	2	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1
4	6	1	4	2	2	2	1	1
5	8	12	5	9	7	7	6	6
18	9	13	21	16	13	12	11	11
23	26	32	30	26	26	25	24	22
45	50	42	40	39	37	35	33	32
59	56	53	58	59	59	59	60	60
94	77	84	99	85	81	80	80	80
126	130	146	127	115	110	106	103	102
240	181	201	203	187	194	192	191	189
388	343	351	340	319	297	287	276	269
575	547	570	532	503	486	468	448	424
714	663	618	640	653	610	586	561	535
540	545	596	497	510	457	440	424	407
211	193	215	204	203	180	173	161	152
33	45	38	39	33	29	28	32	34
0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0
2	0	0	0	1	1	1	1	1
0	0	0	0	1	1	1	1	1
0	1	1	0	0	0	0	0	0
2	0	2	5	2	2	2	2	2
6	0	8	3	6	5	5	5	5
10	9	9	6	11	10	10	11	11
13	20	18	17	20	18	18	18	18
35	17	24	37	30	22	20	17	14
44	49	51	49	50	44	42	40	38
67	72	63	86	68	69	70	70	70
92	94	102	97	111	109	110	112	114
155	139	179	158	148	141	136	132	130
230	211	231	237	242	254	254	256	254
370	334	358	310	359	334	334	331	334
470	428	464	471	418	396	389	380	367
408	390	411	404	373	349	337	325	311
231	211	246	229	236	214	211	208	207
49	56	57	67	63	56	59	59	60
8	7	6	7	9	6	6	8	10
5,270	4,920	5,206	5,026	4,909	4,621	4,507	4,390	4,270
9.63%	9.07%	9.04%	8.86%	8.48%	8.23%	7.99%	7.75%	7.51%

						Projected		
2022	2023	2024	2025	2026	2027	2028	2029	2030
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
5	5	5	4	4	4	3	3	2
10	10	9	8	7	7	6	5	4
21	20	20	20	20	20	21	20	20
30	28	26	24	23	21	19	19	18
60	59	58	57	56	55	53	50	49
79	79	78	78	76	75	73	70	67
101	100	100	100	100	100	99	98	98
174	164	157	152	148	145	142	140	137
273	268	261	254	246	221	203	189	177
404	387	371	353	340	341	331	317	302
508	485	460	433	402	374	349	325	298
393	374	355	336	317	297	278	258	236
142	132	123	114	106	97	87	77	67
35	35	36	36	37	37	38	39	40
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
4	4	4	4	4	3	3	3	3
11	11	11	12	12	12	12	12	12
19	19	19	19	19	19	19	20	20
12	10	8	7	5	4	2	0	0
36	33	31	29	27	25	24	23	22
69	68	67	65	64	62	60	58	56
116	117	118	120	120	119	118	117	114
129	128	127	128	128	127	127	125	125
236	225	217	211	208	207	205	204	204
353	359	360	363	360	336	320	310	302
358	351	347	340	341	356	358	355	352
295	281	266	248	227	208	190	174	155
207	205	202	199	195	189	186	180	173
59	58	58	58	58	59	59	58	58
11	12	13	14	16	17	18	20	22
4,155	4,035	3,914	3,791	3,669	3,541	3,409	3,274	3,138
7.27%	7.03%	6.78%	6.52%	6.27%	6.01%	5.74%	5.47%	5.20%

2031	2032	2033	2034	2035	2036	2037	2038	2039
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	2	1	1	0	0	0	0	0
4	3	2	2	1	0	0	0	0
20	20	20	20	20	20	20	20	20
18	18	17	17	16	16	15	14	14
46	44	43	42	43	43	45	46	46
65	62	59	56	53	49	46	44	43
96	94	91	88	84	82	78	74	70
135	132	129	126	122	118	113	107	101
166	157	148	138	129	119	108	98	86
286	251	225	202	182	163	146	127	109
275	263	240	213	184	152	112	78	45
211	187	166	144	119	95	73	46	15
56	44	32	19	5	0	0	0	0
42	44	45	48	50	53	56	59	62
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	1
12	12	12	12	12	11	11	11	10
20	20	20	20	20	19	19	18	17
0	0	0	0	0	0	0	0	0
22	21	21	20	20	19	19	18	18
54	52	50	50	51	51	53	54	54
112	110	107	103	100	97	93	91	91
122	119	116	113	108	104	100	95	91
203	202	201	199	197	193	188	182	177
298	297	295	293	293	291	290	288	285
344	316	297	281	269	260	253	244	237
137	124	104	79	53	25	0	0	0
162	154	147	141	131	124	122	113	100
57	56	55	53	51	47	44	42	39
25	28	31	34	38	42	47	53	57
2,997	2,839	2,681	2,521	2,357	2,199	2,056	1,927	1,791
4.93%	4.63%	4.33%	4.03%	3.74%	3.46%	3.20%	2.98%	2.75%

2040
0
0
0
0
1
0
0
0
0
19
13
46
42
66
94
75
89
12
0
0
64
0
0
1
1
0
2
1
10
17
0
17
55
92
86
169
282
229
0
85
35
62
1,668
2.54%

Group	2007	2008	2009	2010	2011
Females 0 - 4	0	0	0	0	0
Females 5 - 9	1	1	0	1	0
Females 10 - 14	0	1	1	0	0
Females 15 - 19	1	1	1	2	1
Females 20 - 24	0	3	0	0	1
Females 25 - 29	1	0	2	0	0
Females 30 - 34	6	2	6	5	2
Females 35 - 39	6	5	4	4	6
Females 40 - 44	24	12	12	18	10
Females 45 - 49	37	26	30	38	37
Females 50 - 54	55	46	46	60	61
Females 55 - 59	105	103	103	101	112
Females 60 - 64	194	194	184	206	186
Females 65 - 69	340	305	297	322	310
Females 70 - 74	518	519	466	566	503
Females 75 - 79	813	934	818	863	785
Females 80 - 84	1,363	1,294	1,284	1,362	1,270
Females 85 - 89	1,410	1,551	1,588	1,541	1,458
Females 90 - 94	1,017	955	936	1,055	1,019
Females 95 - 99	425	409	392	410	430
Females 100+	67	73	64	73	89
Males 0 - 4	0	0	0	0	1
Males 5 - 9	0	0	0	0	0
Males 10 - 14	1	1	0	0	2
Males 15 - 19	2	1	1	0	0
Males 20 - 24	3	1	1	0	1
Males 25 - 29	1	2	0	0	1
Males 30 - 34	2	4	0	7	5
Males 35 - 39	14	8	4	10	3
Males 40 - 44	9	12	18	19	18
Males 45 - 49	35	41	31	31	31
Males 50 - 54	68	72	73	69	63
Males 55 - 59	151	147	154	128	114
Males 60 - 64	282	263	264	287	259
Males 65 - 69	467	497	438	448	464
Males 70 - 74	732	686	739	678	733
Males 75 - 79	1,053	931	1,002	1,003	956
Males 80 - 84	1,130	1,142	1,108	1,209	1,186
Males 85 - 89	870	875	1,009	932	1,014
Males 90 - 94	411	368	348	424	458
Males 95 - 99	92	111	109	135	118
Males 100+	10	14	10	12	10
Deaths with More Than 1 Condition	11,716	11,610	11,543	12,019	11,717
Percentage of All Deaths	20.93%	20.84%	21.43%	22.27%	21.84%
Percentage of Palliative Care Deaths	23.68%	23.65%	24.20%	25.05%	24.67%

(underlying and contributory causes)

Baseline								
2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
1	1	0	0	0	1	1	1	1
1	0	0	0	0	0	0	0	0
0	1	0	0	1	1	1	1	1
0	2	0	1	1	0	0	0	0
0	0	1	0	2	0	0	0	0
1	4	2	2	2	2	3	3	3
0	1	2	4	2	5	6	6	6
6	9	3	8	8	8	7	7	7
13	10	10	13	20	13	10	9	9
32	23	26	35	33	35	36	34	33
67	54	61	70	73	75	74	74	73
94	109	116	110	120	133	134	136	139
197	198	176	220	212	222	217	223	228
301	318	326	403	377	377	369	365	365
551	549	535	635	639	626	677	701	727
917	919	894	999	1,051	1,038	1,025	1,053	1,076
1,290	1,348	1,297	1,506	1,469	1,551	1,583	1,611	1,634
1,540	1,528	1,615	1,837	1,894	2,035	2,038	2,100	2,160
1,177	1,159	1,250	1,547	1,412	1,567	1,502	1,550	1,605
441	411	412	572	570	623	594	619	623
75	70	97	98	88	84	75	73	86
1	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	1	0	0	0	0	0
0	1	1	4	0	1	1	1	1
0	1	0	0	0	0	0	0	0
0	1	1	1	4	4	4	4	4
6	2	2	4	3	3	3	3	3
6	5	6	10	4	12	11	11	11
9	8	12	18	13	13	12	13	13
30	31	23	31	44	40	33	31	30
65	64	50	87	93	91	84	84	83
142	146	132	159	184	153	156	157	158
279	249	281	309	354	313	310	316	324
459	483	481	627	595	534	519	509	504
688	724	716	864	839	921	1,002	1,037	1,078
979	1,005	1,031	1,138	1,152	1,225	1,175	1,208	1,233
1,193	1,193	1,282	1,500	1,518	1,595	1,585	1,637	1,678
1,036	1,078	1,170	1,287	1,305	1,390	1,397	1,450	1,511
555	563	599	752	744	799	766	801	837
109	111	125	170	180	206	195	217	231
11	13	17	16	17	29	19	19	23
12,272	12,393	12,752	15,038	15,024	15,725	15,623	16,061	16,497
22.34%	22.66%	23.51%	26.12%	26.49%	27.17%	27.82%	28.48%	29.13%
25.14%	25.43%	26.34%	29.14%	29.59%	30.15%	30.76%	31.43%	32.07%

								Projected
2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
1	2	2	2	2	2	2	2	2
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	3	3	3	3	3	3	3	3
6	5	5	5	5	5	5	5	4
7	7	7	8	8	8	8	8	8
8	7	7	6	5	5	4	3	2
32	30	29	30	30	30	31	32	33
73	72	70	68	66	64	61	60	60
140	141	140	139	137	136	134	130	126
234	240	245	250	256	258	260	259	258
368	375	382	390	401	411	419	427	434
749	720	710	709	715	727	746	765	787
1,116	1,206	1,263	1,313	1,367	1,414	1,365	1,353	1,356
1,640	1,658	1,691	1,728	1,758	1,813	1,953	2,041	2,114
2,218	2,273	2,349	2,415	2,474	2,507	2,559	2,640	2,725
1,661	1,730	1,783	1,838	1,895	1,958	2,019	2,095	2,163
639	650	664	685	709	738	772	796	826
92	97	98	101	103	108	109	112	117
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3
11	11	11	11	11	11	11	11	10
14	15	15	16	17	17	18	18	19
29	28	27	27	27	27	28	28	28
82	81	80	78	76	74	72	70	71
157	155	153	151	146	144	140	135	130
331	338	345	350	356	358	358	357	354
504	510	515	522	533	543	551	558	563
1,107	1,063	1,047	1,043	1,049	1,068	1,096	1,122	1,152
1,284	1,394	1,464	1,511	1,566	1,602	1,538	1,512	1,506
1,701	1,745	1,794	1,866	1,924	2,025	2,226	2,362	2,464
1,563	1,609	1,676	1,737	1,785	1,813	1,864	1,929	2,019
883	941	995	1,044	1,101	1,156	1,205	1,273	1,335
247	259	270	288	307	331	359	385	412
27	30	32	34	37	40	42	44	48
16,936	17,404	17,883	18,376	18,880	19,404	19,966	20,545	21,139
29.77%	30.45%	31.13%	31.81%	32.48%	33.15%	33.89%	34.62%	35.34%
32.71%	33.39%	34.06%	34.73%	35.39%	36.03%	36.74%	37.44%	38.13%

2030	2031	2032	2033	2034	2035	2036	2037	2038
2	2	2	2	2	2	2	2	2
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	3	3	3	4	4	4	4	4
4	4	3	3	3	3	3	3	3
8	8	8	8	8	8	8	7	7
2	1	0	0	0	0	0	0	0
33	33	33	33	34	34	35	35	35
61	62	65	67	68	69	70	70	71
122	117	112	109	109	110	113	117	120
254	253	249	243	234	228	218	209	205
443	446	447	445	441	433	429	423	411
809	831	853	875	894	916	926	933	934
1,374	1,402	1,445	1,489	1,539	1,587	1,637	1,686	1,734
2,193	2,258	2,177	2,155	2,158	2,183	2,227	2,293	2,361
2,797	2,907	3,173	3,348	3,497	3,646	3,772	3,675	3,675
2,226	2,263	2,323	2,416	2,512	2,590	2,700	2,991	3,179
860	899	939	982	1,023	1,063	1,088	1,129	1,191
123	131	138	144	153	163	175	186	198
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	5
3	3	3	3	3	3	3	3	3
10	10	10	9	9	9	8	8	7
20	21	21	22	22	22	22	22	22
28	28	28	29	29	29	30	30	30
72	73	76	78	80	81	82	83	85
126	121	116	113	113	114	115	118	121
348	344	338	331	321	313	303	294	287
569	569	566	560	553	539	532	519	504
1,186	1,218	1,250	1,282	1,309	1,338	1,350	1,358	1,357
1,513	1,537	1,577	1,614	1,656	1,704	1,747	1,792	1,837
2,579	2,664	2,584	2,569	2,584	2,621	2,689	2,785	2,877
2,090	2,204	2,443	2,606	2,726	2,848	2,933	2,865	2,865
1,388	1,423	1,480	1,554	1,650	1,725	1,835	2,072	2,233
443	473	504	543	580	613	635	673	723
52	57	63	68	74	81	87	95	105
21,746	22,371	23,034	23,710	24,395	25,084	25,785	26,487	27,196
36.06%	36.78%	37.54%	38.29%	39.04%	39.79%	40.55%	41.29%	42.03%
38.81%	39.49%	40.21%	40.91%	41.60%	42.29%	42.98%	43.63%	44.29%

2039	2040
2	2
0	0
2	1
0	0
0	0
4	4
3	3
7	7
0	0
35	35
73	74
122	124
205	208
396	384
930	918
1,778	1,826
2,437	2,511
3,717	3,796
3,327	3,460
1,254	1,304
210	223
0	0
0	0
0	0
1	1
0	0
5	5
3	3
7	7
22	22
30	29
87	89
122	123
288	293
488	473
1,354	1,333
1,873	1,912
2,976	3,087
2,898	2,955
2,354	2,466
784	831
113	121
27,907	28,629
42.78%	43.54%
44.95%	45.62%

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How many people will need palliative care in Scotland by 2040? A mixed method study of projected palliative care need and recommendations for service delivery

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How many people will need palliative care in Scotland by 2040? A mixed method study of projected palliative care need and recommendations for service delivery

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Abstract

Objective

To estimate future palliative care need and complexity of need in Scotland, and to identify priorities for future service delivery.

Design

We estimated the prevalence of palliative care need by analysing the proportion of deaths from defined chronic progressive illnesses. We described linear projections up to 2040 using national death registry data and official mortality forecasts. An expert consultation and subsequent online consensus survey generated recommendations on meeting future palliative care need.

Setting

Scotland, population of 5.4m.

Participants

All decedents in Scotland over 11 years (2007-2017). The consultation had 34 participants; 24 completed the consensus survey.

Primary and secondary outcomes

Estimates of past and future palliative care need in Scotland from 2007 up to 2040. Multimorbidity was operationalised as two or more registered causes of death from different disease groups (cancer, organ failure, dementia, other). Consultation and survey data were analysed descriptively.

Results

We project that by 2040, the number of people requiring palliative care will increase by at least 14%; and by 20% if we factor in multimorbidity. The number of people dying from

multiple diseases associated with different disease groups is projected to increase from 27% of all deaths in 2017 to 43% by 2040. To address increased need and complexity, experts prioritised sustained investment in a national digital platform, roll-out of integrated electronic health and social care records; and approaches that remain person-centred.

Conclusions

By 2040 more people in Scotland are projected to die with palliative care needs, and the complexity of need will increase markedly. Service delivery models must adapt to serve growing demand and complexity associated with dying from multiple diseases from different disease groups. We need sustained investment in secure, accessible, integrated and person-centred health and social care digital systems, to improve care co-ordination and optimise palliative care for people across care settings.

Keywords

Forecasting, multimorbidity, palliative care, needs assessment, chronic disease, aging, frailty, health policy

Strengths and limitations of this study

- First study to project estimates of future palliative care need for Scotland.
- Used a range of estimation methods accounting for both underlying and contributory causes of deaths to produce robust projections.
- The expert consultation and consensus survey ensured that recommendations were grounded in practice.
- We drew on death registry data that relies on accurate completion of death certificates.
- Our definition of multimorbidity was relatively restrictive – decedents were required to have two major illnesses from different disease groups both of which would individually confer palliative care need.

Background

Worldwide, deaths are expected to rise from 55 million in 2016 to 75 million by 2040[1]. Non-communicable diseases accounted for 72% of global deaths in 2016, and are forecast to account for 81% of deaths by 2040.[1] Globally, the proportion of people aged 80 or over increased by 76.5% between 2000 and 2015.[2] The growing number of older people and increased prevalence of chronic conditions indicate that more people would benefit from a palliative approach to care over the next two decades.

Demographic changes and shifts in disease patterns at a national level will impact population palliative care need. An analysis based on data from 2006 to 2014 in England and Wales projected that up to 87.6% of people who die could benefit from palliative care by 2040.[3] In Ireland, a similar analysis based on data from 2007 to 2015 projected that palliative care need will increase, and will be indicated for 83% of those who die by 2046.[4] However, existing projection studies use data based on 'main underlying cause of death' only, excluding people who may have had a contributory cause of death (but not a main underlying cause) associated with palliative care need. For instance, population palliative care need estimates using 'main underlying cause of death' would only include people who died from Alzheimer's disease when it is listed as the 'main underlying cause' on their death certificate. Models that use data on 'main underlying cause of death' may therefore underestimate the true extent of population palliative care need; models that incorporate both main underlying and contributory causes of death are required.

Increased longevity in developed and developing countries comes with greater multimorbidity. Multimorbidity describes the co-existence of two or more chronic conditions which may be a physical non-communicable disease, a mental health condition or infectious

disease of long duration.[5 6] Data from Scotland has shown that 65% of people aged 65 to 84 years have two or more long term disorders; rising to 81.5% for people aged 85 and over.[7] Only 5.3% of people with dementia have no other long term disorder.[8] Despite the recognition that multimorbidity is the norm in high income countries,[5] there has been little consideration of the implications for palliative care. To inform future palliative care service design, there is a need to better understand multimorbidity due to the presence of advanced progressive diseases. As a starting point, we need estimates of the number of people dying from multiple diseases associated with palliative care need now and in the future.

The aim of this study was to estimate, and project future palliative care need and complexity of need in Scotland up to 2040. Extending previous work, we sought to estimate and project the number of people dying from more than one disease associated with palliative care need. Furthermore, we planned an expert consultation and consensus survey to generate recommendations for future palliative care service delivery. This novel analysis sought to provide a more comprehensive picture of future palliative care need and complexity of need than previously described.

Methods

Design

Mixed methods consisting of: i) simple linear modelling of routinely available national death registry data and mortality projections for Scotland; ii) expert consultation and online consensus survey to generate recommendations for service design and delivery based on our projections.

Setting

Scotland, a high-income Western European country with a population of 5.4 million; 57,870 people died in 2017.[9] Mortality forecasts project that annual deaths will increase by 13.6% to 65,756 by 2040.[10]

Data sources

Deaths by age, gender and cause from 2007 to 2017. We obtained aggregate level data on deaths by age, gender and cause for an 11-year period (2007-2017 inclusive) from Public Health Scotland (previously known as Information Services Division (ISD) Scotland). The aggregate data were derived from the National Records of Scotland (NRS) individual-level deaths database held by Public Health Scotland.

Mortality projections for Scotland are published by the Office for National Statistics.[10] The mortality projections used in this analysis were based on the 2016 principal population projections for Scotland up to 2040. We used projections up to 2040 to allow comparison with studies in other countries.

Generating estimates of population palliative care need

Palliative care need at a population level has been estimated using a variety of methods. Gomez-Batiste et al. estimated that 75% of all those who die have palliative care needs.[11] Other approaches use disease specific mortality data and identify diseases using International Classification of Disease codes (ICD-10) that are associated with palliative care need to generate estimates.[12 13] Murtagh et al. estimated that in high income countries 63% to 97% of people who die might benefit from palliative care depending on the estimation method used.[13]

Based on this previous work, we estimated and projected palliative care need in three ways as described below.

Estimation Method 1: 75% of all deaths

Method 1 is based on that used by Gomez-Batiste et al.[11] It assumes that 75% of people in high-income countries die from chronic progressive diseases with evolving and increasing healthcare needs. Consequently, 75% of people at the end of life may benefit from a palliative care approach, irrespective of whether that is delivered by palliative care specialists or other health professionals. We calculated palliative care need as 75% of all deaths in 2017, and projected this proportion up to 2040.

Estimation Method 2: Palliative care need based on ICD-10 codes associated with main underlying cause of death

Method 2 takes a diagnosis-based approach, applying ICD-10 diagnostic codes previously used to estimate population palliative care need (Supplementary file 1).[3 13] To project future palliative care need, we modelled two scenarios (2A and 2B). For Method 2A we calculated the number and proportion of age and gender specific deaths in 2017 where an ICD-10 code associated with palliative care was recorded as the main underlying cause of death, then applied this proportion to mortality forecasts for each year up to 2040, with no adjustments. For Method 2B we calculated the mean annual change in the proportion of deaths requiring palliative care between 2007 and 2017. We assumed the mean annual change would continue in a linear fashion and applied the resulting proportion to mortality forecasts up to 2040. We

chose Method 2B for sub-analyses projecting future needs by age and disease group as it enabled comparison with data reported in other published studies.[3 4]

Estimation Method 3: Palliative care need based on ICD-10 codes associated with main underlying* and *all contributory cause(s) of death

Method 3 adopts a diagnostic based approach, using the same ICD-10 diagnostic codes outlined in Method 2 to estimate the number of people dying from diseases associated with palliative care need. However, for Method 3, our estimate of palliative care need was the number of people for whom a palliative care relevant disease was recorded as *either* the main underlying cause of death, or a contributory cause. Thus, Method 3 should yield the most accurate and comprehensive estimate of deaths associated with palliative care need in a calendar year. To project future need using this method we calculated the number and proportion of age and gender specific deaths from 2007 to 2017 where an ICD-10 code associated with palliative care was recorded as *either* the main underlying or contributory cause of death. As for Method 2B we assumed the mean annual change in the proportion of deaths associated with palliative care need over the baseline period would continue to occur in a linear fashion, and applied the resulting mean annual change to mortality forecasts up to 2040.

Defining, estimating, and projecting multimorbidity associated with advanced progressive diseases

We wanted to estimate and project the number of people dying from multimorbidity associated with palliative care need. Given that some diseases are closely related and may

represent similar disease processes (e.g. related cancers), we chose to define multimorbidity as people dying from two or more chronic diseases associated with palliative care need from more than one of four disease groups - cancer, organ failure, dementia or other (includes neurological conditions and stroke). This definition indicates care complexity, given the distinct illness trajectories, needs and configuration of services associated with diseases from each group, which when experienced together greatly increase symptom burden and need for care co-ordination. To generate this estimate we calculated the mean annual change in the proportion of deaths due to two or more diseases from different disease groups over the 11-year period. We assumed the mean annual change would continue to occur in a linear fashion and applied the resulting mean annual change in the proportion of deaths associated with diseases from different disease groups to mortality forecasts up to 2040.

Expert consultation and consensus survey

We used an abbreviated MORECare Transparent Expert Consultation (TEC) process, consisting of a modified nominal group technique, to generate recommendations in response to projected palliative care need. This was followed by a consensus survey to rank and ascertain consensus on each recommendation for the future delivery of palliative care.[14] A purposive sample of approximately 50 stakeholders from palliative care, primary care and social care along with commissioners, service providers, government representatives, researchers, patient/ carer groups and charities were invited to take part. Potential participants were identified by co-authors; some were known to the co-authors and had participated in previous consultations. A half-day consultation took place on 3 September 2019. Projections of future palliative care need, based on the quantitative data analysis, were presented. Participants were assigned to one of four groups designed to maximise group heterogeneity in terms of background, role, and experience. Each group discussed the

palliative care need projections, critical issues emerging from the data, and then generated recommendations in response. Individual participants completed a recommendations form in response to the question "What actions need to be prioritised to meet future palliative care need by 2040", and each group identified the group priorities on a white board during the discussion. Individual and group level priorities were collected. These were subsequently recorded in Microsoft Excel, synthesized, and used to develop specific statements for the follow-up consensus survey. One month later, participants received the follow-up survey by email stating the recommendations generated at the event. Participants were asked to rate the extent to which they agreed with each recommendation from one to nine (strongly disagree to strongly agree), using free-text spaces to add comments explaining their judgements. One completion reminder was sent after two weeks.

Survey data was analysed in Excel using descriptive statistics. Informed by guidance on consensus methods,[15] we categorised each recommendation as follows to ascertain level of agreement for each statement: scores of 1-3 (recommendation not indicated), 4 – 6 (equivocal) and 7 to 9 (recommendation indicated). We then examined the dispersion of scores for each statement to determine degree of consensus. Where the interquartile range fell within each 3-point region outlined we judged there to be '*close agreement'* for the recommendation; but where ratings fell across each of these regions, we judged that there was '*broad agreement'*.

Patient and public involvement (PPI)

A member of the Marie Curie Voices group (patient and carer representative group) participated in the expert consultation and survey and shared his perspectives on the meaning of the findings for patient and family care at the expert consultation event. Three PPI

representatives from the Marie Curie Voices group commented on the draft manuscript and survey findings. These comments were used to inform study implications.

Reporting guidelines

We used the Strengthening the Reporting of Observational Studies in Epidemiology guidelines to inform reporting (see online supplementary file 1).

Ethical approval

For the trend analysis, we used anonymised, aggregate level data, generated by Public Health Scotland; consequently, ethical approval was not required. The Usher Research Ethics Committee at the University of Edinburgh approved the expert consultation and consensus survey (No: 1938). Written consent was provided by all participants for the consultation and survey.

RESULTS

Estimated palliative care need in Scotland 2007 to 2017

During this 11 year period, registered deaths in Scotland rose by 3.4% (55,984 to 57,870).[9] Using various methods to estimate population level palliative care need, we estimated that the number of people who died with palliative care needs in Scotland in 2017 ranged from 43,403 (Method 1) to 52,148 (Method 3), an increase from 2007 irrespective of method used (Table 1). See Supplementary file 2 for data by year.

Projections of population level palliative care need in Scotland from 2018 to 2040

Deaths in Scotland are projected to reach 65,756 by 2040, a 13.6% increase from 2017.[16] Irrespective of the projection method used, the number of people dying of disease(s)

associated with palliative care need is projected to increase. By 2040, we estimate that between 74% and 95% of those who die might benefit from a palliative care approach (Table 1). See Supplementary file 2 for data by year.

Table 1: Number and percentage of people who die with palliative care (PC) needs in Scotland based on different estimation and projection methods

Projection Method	Description	2007 No. of deaths with PC need (total deaths 55,984)	2007 % of all deaths with PC need	2017 No. of deaths with PC need (total deaths 57,870)	2017 % of all deaths with PC need	2030 No. of deaths with PC need (projected deaths 60,310)	2030 % of all deaths with PC need	2040 No. of projected deaths with PC needs (projected deaths 65,756)	2040 % of all projected deaths with PC need
1	75% of all deaths	41,988	75%	43,403	75%	45,233	75%	49,317	75%
2A	ICD-10 codes associated with **underlying cause of death only**, assuming proportion of palliative care needs remains constant	41,310	74%	42,816	74%	44,912	74%	48,869	74%
2B	ICD-10 codes associated with **underlying cause of death only**, assuming an annual change based on annual change 2007-17	41,310	74%	42,816	74%	45,256	75%	50,084	76%
3	ICD codes associated with **underlying OR contributory cause of death** assuming an annual change based on annual change 2007-17	49,476	88.%	52,148	90%	56,033	93%	62,757	95%

Projections of palliative care need by age group up to 2040

Based on projection method 2B, the number of people who die aged 0 to 74 years with palliative care needs is projected to fall, while those aged 75 and over will increase (Figure 1). The greatest increase will occur for those aged 85 and above. People aged 85 or older will account for just under half (47%) of those dying with palliative care needs by 2040 (23,491 of 50,084 projected deaths associated with palliative care need).

Insert Figure 1 about here.

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths based on method 2B.

Projections of underlying cause of death by disease group up to 2040

Based on projection method 2B, deaths with cancer as the main underlying cause of death are projected to rise from 16,203 in 2017 to 19,535 in 2040 (21% increase). Deaths where dementia is the main underlying cause of death are projected to rise from 6,776 in 2017 to 19,284 (185% increase); while deaths from organ failure are projected to continue to fall (from 14,928 in 2017 to 9,957 by 2040) as are deaths from other conditions requiring palliative care (4,909 in 2017 to 1,668 in 2040) (Figure 2).

Insert Figure 2 about here.

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths based on method 2B.

Proportion of people dying with multimorbidity associated with advanced progressive diseases across different disease groups

In 2017, overall, 15,725 people died with multimorbidity, i.e. at least two diseases associated with palliative care need from different disease groups (27.2% of all deaths). The number of people projected to die with multimorbidity is projected to increase by 82% to 28,629 by 2040, accounting for 43.5% of all deaths or 45.6% of all palliative care deaths using projection method 3 (Figure 3). The proportion of those who die with multimorbidity is projected to increase by 60% (27.2% to 43.5%). The increases will mainly occur for those in the older age groups (Figure 4). If current trends continue, by 2040, we project that 52% of those aged 85-99 will die from two or more diseases associated with palliative care need from different disease groups.

Insert Figure 3 about here

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected deaths.

Insert Figure 4 about here.

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

Note: Data for 2007 and 2017 is actual deaths; data for 2030 and 2040 is projected. Given the small number of deaths, the data for the 0-44 age group are too small to be visible.

Expert consultation and consensus survey

34 participants participated in the consultation (Supplementary file 1) and 24 completed the follow-up online survey (70.5% response rate). Following de-duplication and synthesis of initial consultation data, 33 potential recommendations relating to nine areas were identified and included in the online survey (Supplementary file 1). Two participants were judged to have misunderstood the survey rating scale as their agreement scores were in the opposite direction of their free-text comments; these were excluded.

There was close or broad agreement that 32 of the 33 proposed recommendations across all nine areas are indicated (Supplementary file 1). Recommendations relating to digital health and person-centred care scored most highly. Agreement scores were highest for: investment in a national digital health platform (M = 8.5, SD = 0.7); roll-out of shared electronic health and social care records across all settings so they can be accessed by all relevant care professionals as well as the patients themselves (M = 8.5, SD = 0.9), prioritising the patient or family perspective when providing services to meet their needs (M= 8.5, SD=1.0) and encouraging systems promoting person centred as opposed to task oriented care (M = 8.3, SD = 1.1).

Discussion

Principal findings

This study projects an estimate of palliative care need in Scotland, showing that between 14% (method 2) and 20% (method 3 factoring in multimorbidities) more people may need palliative care by 2040 compared to 2017. Cancer and dementia will increase as the main

underlying causes of death. For the first time, we project multimorbidity associated with palliative care needs, operationalised as the proportion of people dying from multiple chronic progressive diseases across different disease groups. We show that this proportion will rise by 60%, accounting for nearly half of all palliative care deaths (46%) by 2040. Over half of those aged between 85 and 89 are projected to die from multimorbidity associated with palliative care need, indicating increased complexity of needs. Experts recommended sustained investment in digital systems, such as electronic care co-ordination systems accessible to patients, carers and professionals, alongside prioritisation of person-centred approaches.

Strengths and weaknesses

We used a range of estimation methods accounting for both main underlying and contributory causes of deaths, which increases the robustness of our findings to inform policy and practice. The expert consultation and consensus survey ensured implications of the quantitative findings were grounded in practice. However future consultations should also consider including representatives from other professional groups including psychology, spiritual care and other specialities such as neurology and internal medicine.

Based on data available at the time of analysis, we applied linear models as we were primarily interested in projections of what may occur if recent trends continue. Our projections should not be interpreted as a forecast of what will happen, rather they provide a starting point for discussions around what may occur under different assumptions, and what actions might be needed in response. We used a disease count approach to estimate multimorbidity relevant to population palliative care need as this is straight-forward to estimate and replicate. Alternative approaches based on multimorbidity indices are increasingly common,[17] though cannot be used with cause of death data alone. Our definition

of multimorbidity was relatively restrictive – decedents were required to have two major illnesses from different disease groups both of which would individually confer palliative care need. Our models draw on trends over an 11-year period up to and including 2017 and project these trends forward. We have drawn on death registry data that relies on accurate completion of death certificates. We cannot account for changes in how cause of death is recorded over time, though previous changes have had minor impact on population level coding.[18] Nor can we account for changes in medical treatments that may change the distribution of deaths by underlying cause in the future. Significant advances in the treatment of cancer or dementia might result in lower numbers dying from these diseases than is currently projected.

We also need to be prepared for more sudden increases in mortality as we have seen with COVID-19. Our estimates make no adjustment for the ongoing COVID-19 pandemic which has particularly affected people aged 75 or over who accounted for 76% of the 4,649 COVID-related deaths registered in Scotland by 1 November 2020.[19] Excess deaths relating to, but not directly caused by, COVID-19 have also occurred.[20] The long-term consequences of the virus are not yet known though recovery for some is often slow and may result in longer lasting morbidities. This spike in deaths may be followed by changes in age-specific mortality rates in following months and years. We judge that the impact of this will not change the main conclusions of this paper, that the need for palliative care will significantly rise over the next 20 years, with the number of people dying with complex needs increasing markedly.

Findings in relation to existing evidence

Our findings that palliative care need in Scotland is projected to increase by 2040 reflect findings from other population palliative care projections in England and Wales[3] and

Ireland.[4] As in these studies, in Scotland we project that the greatest increase in palliative care need will be for people aged 85 and above, reflecting an ageing population in each country. As for England and Wales,[3] deaths where cancer and dementia is the main underlying cause are projected to increase while the numbers dying from organ failure as the main underlying cause are projected to fall. Deaths from 'other diseases' are projected to decrease, in part due to reductions in mortality from cerebrovascular diseases and HIV, also noted in the wider literature.[21 22] In contrast to projections for England and Wales based on underlying cause of death only[3] we did not find an increase in the proportion of people dying with palliative care needs over time (methods 2A and 2B). This may be due in part to the way deaths are recorded. In Scotland, the underlying cause has remained stable while contributory causes associated with palliative care needs have increased. Further research is needed to explore these differences.

We extended previous work, by modelling future palliative care need using both main underlying cause of death and contributory causes (method 3). This method results in a higher estimate of future palliative care need compared with other methods that examine underlying cause only. Based on method 3, we estimated that in 2017, 90% of all deaths were associated with palliative care need, and that this is projected to increase to 95% by 2040. These higher estimates are aligned with the maximal estimates reported by Murtagh colleagues, who also used contributory cause of death to estimate palliative care in England and Wales for 2006 to 2008.[13] In contrast to more conservative estimates based only on main underlying cause only, data that also accounts for contributory causes show that the vast majority of people dying now, and in the future, may benefit from a palliative care approach.

Implications for clinicians, service mangers and policymakers

Multimorbidity is becoming the norm, starting earlier in the life course and rising steeply with age.[7 23] It is widely recognised that health and social care services need to move away from a focus on care of people with single diseases towards systems that meet the needs of people with multiple diseases.[6 24] Palliative care services also need to adapt. The hospice model is still based predominantly on care of people with a primary diagnosis of cancer;[25] specialist services need to evolve to take account of multimorbidity and the associated symptom burden and uncertainty as end of life approaches. Dementia is increasingly common and previous research has shown that mental health comorbidities frequently occur alongside physical comorbidities.[7] The palliative care service needs of patients or family members with dementia or mental health conditions need to be explicitly considered as new services are designed. More people are expected to die in care homes over the next two decades, and care homes may become the most common place of death in England and Wales by 2040.[26 27] Multimorbidity, including dementia, is common amongst residents.[28-30] Models whereby specialist palliative care services support care homes to identify and provide palliative care for residents approaching end of life, alongside the broad expertise from multiple disciplines, need to be commonplace.

Primary care providers need to be trained as 'expert generalists'[24] and need to work more closely with palliative care specialists to enhance communication and coordination across the health and social care system. Electronic care co-ordination systems are vital to support co-ordinated care, enabling the sharing of key clinical information and personal preferences across all care settings and unscheduled care services; sustained investment in these systems is a priority.[31 32] As identified previously, [33-35] there is a need for palliative care education and training for non-specialist health and social care workers in all settings. Training and education in the challenges of caring for people dying with multimorbidity is required. This

might usefully involve exposure to primary care, geriatrics, mental health and dementia care.[36] As found previously,[27] greater investment in increasing and retaining the community health and social care workforce to meet the projected increases in palliative care need is recommended.

Unanswered questions and future research

Research on dying from multiple chronic diseases requiring palliative care input is needed – which combinations of diseases are most prevalent, and how well served are those who die from multimorbidity compared to those with a single or dominant illness. Research focusing on the co-existence of mental health disorders with physical disorders at the end of life was not addressed here but needs to be prioritised in the future. We also need to better understand how well equipped health and social care professionals are to care for people with multimorbidity at the end of life; what types of care models are needed; what education, training and support is required, and for whom. Since the COVID-19 pandemic, research is required to examine the extent to which COVID-19 has influenced mortality trends and future projections of palliative care need across the UK.

Conclusion

By 2040, irrespective of the estimation method used, we project that many more people in Scotland will die with palliative care needs, particularly in the oldest age groups; and care complexity will increase. Current models of palliative care must adapt to meet increased need amongst those aged 85 and over, most dying from multiple diseases, often including dementia. There is a need for sustained investment in a national digital health and social care system, that remains person centred, to improve care co-ordination and optimise palliative care for people wherever they reside.

Author contributions: AMF, RM, AEB and SE conceived the study. AMF obtained the funding. AMF, AEB, SE, DC, RM, RMA, AI, SM, CE, IJH and SAM were involved in study design. DC, RMA and AMF sourced the data. DC undertook the data analysis under the supervision of AMF, AEB, SE and RMA. AMF analysed data from the expert consultation with guidance from AEB and CE. AMF wrote the first draft of the manuscript, with all authors contributing to the subsequent and final drafts.

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Competing Interests:

The authors declare: financial support to DC, AEB and SE as above; and no financial relationships with any organisations that might have an interest in the submitted work in the previous three years. AMF and RM are employed by Marie Curie, a charity that provides palliative and end of life care to people with a terminal illness across the UK.

Patient consent: Not required

Data sharing statement: Any queries about Public Health Scotland data sources should be directed to Rosalia Munoz-Arroyo at rosalia.munoz-arroyo@phs.scot .

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Figures

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

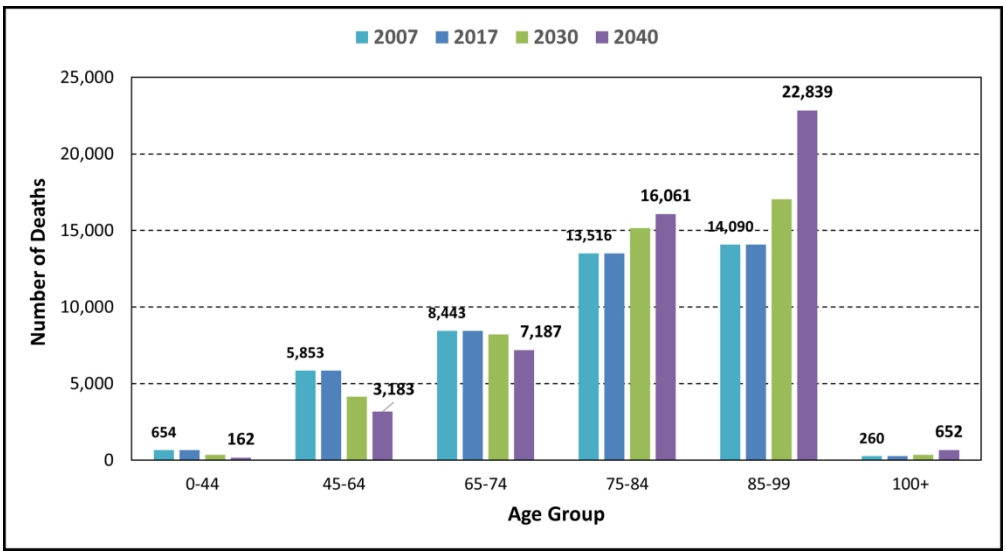

Figure 1: Projected estimates of the number of people dying in Scotland with palliative care needs by age up to 2040 using method 2B

191x104mm (300 x 300 DPI)

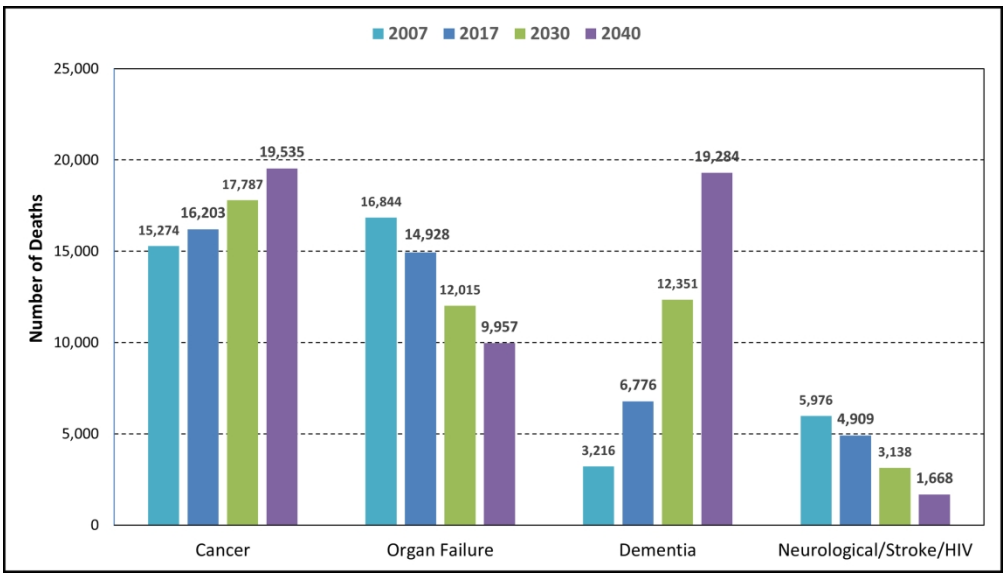

Figure 2: Projected underlying cause of death associated with palliative care need by disease group up to 2040 using method 2B

216x122mm (300 x 300 DPI)

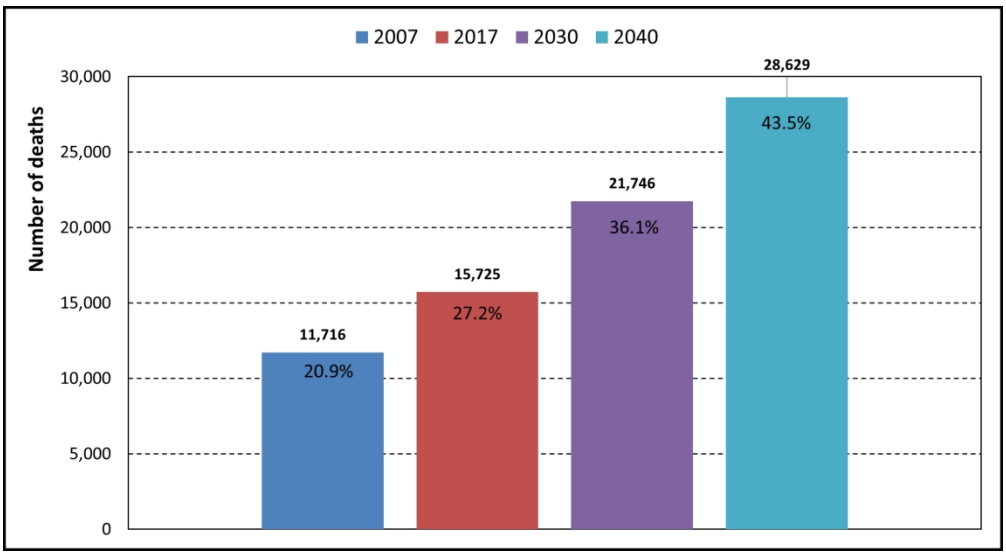

Figure 3: Projected number and percentage of people in Scotland dying from multimorbidity associated with palliative care need, 2017 to 2040

191x104mm (300 x 300 DPI)

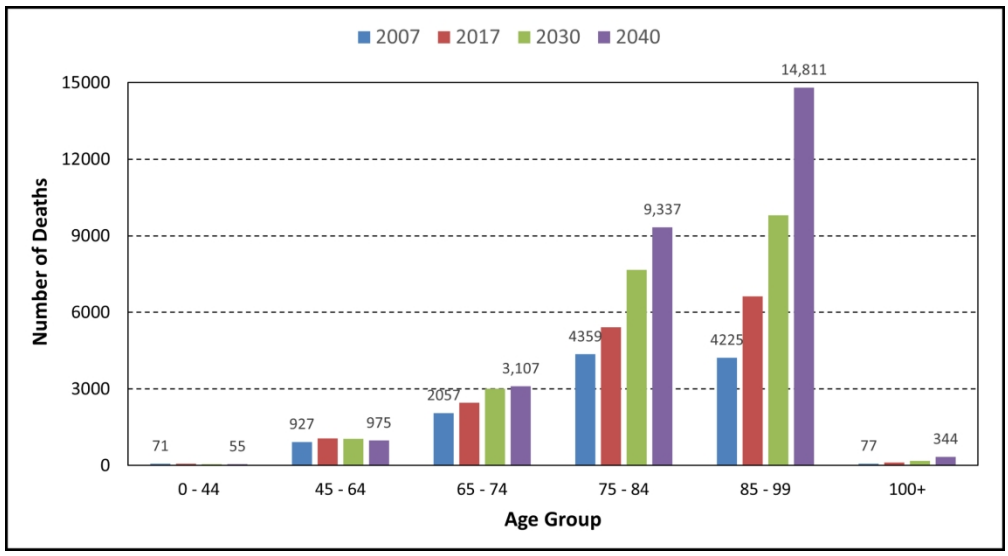

Figure 4: Projected number of people in Scotland dying from multimorbidity associated with palliative care need by age, 2017 to 2040

191x104mm (300 x 300 DPI)

Supplementary File 1

Page 2:

International Classification of Disease-10 codes used to estimate palliative care need

Page 3:

Role of participants in the expert consultation

Page 4 - 8:

Strength of agreement with survey items

International Classification of Disease-10 codes used to estimate palliative care need

Disease Group	ICD10 Code	Conditions included
Cancer	C00 – C97	All deaths from malignant neoplasms.
Organ Failure	I00 – I52 (excl. I12 &I13) J40-47, J96 I12, I13, N17, N18, N28 K70 - 77	Heart disease and heart failure. Chronic lower respiratory disease, respiratory failure. Reno-vascular disease, renal failure. Liver disease.
Dementia	F01, F03, G30, R54	Dementia, vascular dementia, Alzheimer's disease, senility.
Other	G10, G12.2, G20, G23.1, G35, G90.3 I60 – I69 B20-24	Huntington's disease, motor neurone disease, Parkinson's disease, progressive supranuclear palsy, multiple sclerosis, multi-system atrophy. Haemorrhagic, ischaemic and unspecified stroke. HIV

Source: Murtagh FEM, Verne J, Bausewein C, et al. How many people need palliative care? 2014. DOI: https://doi.org/10.1177/0269216313489367.

Role of participants in the expert consultation

Area/role	Number of participants
Service manager (3 x NHS; 2 x Hospices)	5
Policy (Government x 1, Specialist palliative care x 2; palliative care x 1; independent care sector x 1)	4
Data analyst (Government)	4
GP	4
Researcher (University x 2; charity x 2)	4
Palliative care specialist (doctor x 2; nurse x 2)	4
Quality Improvement Facilitator (NHS)	2
Hospice manager	2
PPI	1
Project manager (Advocacy organisation)	1
Volunteer (Hospice)	1
Administrator	1
Chief Executive (advocacy organisation)	1
Grand Total	**34**

Strength of agreement with survey items

Area	Recommended actions	Agreement rating 1 (strongly disagree) to 9 (strongly agree)						Action indicated, equivocal or not indicated	Consensus / Strength of agreement
		Mean	SD	Median	IQR	Min	Max		
Digital technology	Invest in the national digital platform so it is fully resourced and can be used by all	8.5	0.7	9	1	7	9	Indicated	Close agreement
	Ensure that integrated electronic care records are accessible to all health and social care professionals involved in the care of the person, and the person themselves	8.5	0.9	9	1	6	9	Indicated	Close agreement
	Adopt digital technology such as videoconferencing and telemedicine to facilitate access to support for people with palliative care needs and their carers at home	7.6	1.5	8	3	4	9	Indicated	Broad agreement
Person centred approach	Prioritise the patient/carer perspective, value the views of the person receiving care and use this information to provide services tailored to their needs.	8.5	1.0	9	1	5	9	Indicated	Close agreement
	Encourage systems that promote person centred rather than task-oriented care	8.3	1.1	9	1	5	9	Indicated	Close agreement
	Personalise settings that aren't home (hospices, care home, hospital)	7.8	1.3	8	2	5	9	Indicated	Close agreement

Specialist/generalist palliative care	Increase capacity and enhance community specialist palliative care services to support primary care	7.8	1.1	8	2	6	9	Indicated	Close agreement
	Prioritise models that improve communication between specialist and non-specialist services to improve the patient journey	7.7	1.4	8	2	5	9	Indicated	Close agreement
	Build specialist palliative care capacity to provide education and support to generalists.	7.3	1.2	7.5	2	5	9	Indicated	Close agreement
Informal carer & community support	Create opportunities to facilitate and improve conversations around death and dying both in clinical practice and in society in general.	8.0	1.2	8.5	2	5	9	Indicated	Close agreement
	Support communities to start compassionate community initiatives with a focus on improving people's experiences of deteriorating health, death, dying and bereavement, by providing advice on ways to do this.	7.9	1.2	8	2	5	9	Indicated	Close agreement
	Build community capacity for informal care; not just formal volunteers, but also "active, engaged citizens"	7.9	1.2	8	2	5	9	Indicated	Close agreement
Research, data & evidence	Collect and collate care data to increase understanding of unmet needs in order to inform service design and workforce planning	7.9	1.0	8	2	5	9	Indicated	Close agreement
	Access and use evidence to improve our understanding of people's needs	7.8	1.1	8	2	5	9	Indicated	Close agreement

	and outcomes in palliative care and inform service planning.								
Workforce	Better integrate workforce planning and investment to meet projected increases in future palliative care need	8.0	1.4	8.5	2	4	9	Indicated	Close agreement
	Increase investment in the community-based workforce including GPs, community nurses, social care staff and nurse specialists	7.9	1.5	8.5	2	4	9	Indicated	Close agreement
	Prioritise investment in recruitment, retention, education and training for social care staff	7.7	1.5	8	2	4	9	Indicated	Close agreement
	Promote approaches that make both health and social care professionals feel part of the same team.	7.5	1.5	8	3	4	9	Indicated	Broad agreement
Governance and commissioning	Encourage Scottish Government to invest in palliative care and to re-establish palliative care policy framework and recommendations	8.1	1.4	9	1	5	9	Indicated	Close agreement
	Conduct evidence based strategic planning to facilitate decision-making regarding models of care and resource use	7.5	1.4	8	3	4	9	Indicated	Broad agreement
	Increase accountability for embedding existing evidence based good practice	6.9	1.5	7	2	4	9	Indicated	Broad agreement
Models or approaches to care	Realign palliative care in the health service system. Move away from focus on disease specific and episodic care to management of complex needs	7.5	1.3	8	2	5	9	Indicated	Close agreement

	Improve efficiency and flexibility of bed use in community settings (e.g. respite admissions to NHS complex care units or care homes) to benefit more people	7.5	1.4	8	2	4	9	Indicated	Close agreement
	Improve coordination and greater use of multi-disciplinary teams for people with dementia	7.4	1.5	7.5	2	4	9	Indicated	Close agreement
	Reform commissioning processes in social care to enable compassion-led, relationship-centred, time flexible care.	7.4	1.4	7	3	5	9	Indicated	Broad agreement
	Promote use of formal tools and approaches to improve early identification for a palliative care approach	7.3	1.4	7	3	5	9	Indicated	Broad agreement
Staff training and wellbeing	Train care home and social care staff in the principles of palliative care to increase their confidence in identifying and caring for people at the end of life	8.1	0.9	8	2	6	9	Indicated	Close agreement
	Promote and encourage self-compassion, self-reliance and empathy amongst staff	7.3	1.8	8	3	4	9	Indicated	Broad agreement
	Invest in palliative care training for generalists in all settings	7.6	1.5	8	3	5	9	Indicated	Broad agreement
	Increase social care staff training to recognise and respond to clients' psychological needs	7.2	1.5	7	3	5	9	Indicated	Broad agreement
	Prioritise education and training in communication and listening skills	7.2	1.7	7	3	3	9	Indicated	Broad agreement

	Organisations providing care should invest in compassionate and supportive systems for their staff	7.3	1.4	7	3	5	9	Indicated	Broad agreement
	Provide education and training for leaders including compassionate care.	6.5	1.6	6.5	2	3	9	Equivocal	Broad agreement

Data Sources (blue tabs)

All Deaths - extracted from the NRS deaths database held by PHS

PC Deaths (Underlying Cause) - extracted from the NRS deaths database held by PHS, based on 'underly

PC Deaths (All Causes) - extracted from the NRS deaths database held by PHS, based on both 'underlyin

ONS Mortality Projections - published by the ONS

Projection Methods (orange tabs)

Method 1

Method 2A

Method 2B

Method 3

Projections by Condition Using Method 2B (green tabs)

Cancer

Organ Failure

Dementia

Other PC Deaths

Projection of Multimorbidity Using Method 3 (red tab)

Multimorbidity

Acronyms

NRS	National Records of Scotland
ONS	Office for National Statistics
PC	Palliative care
PHS	Public Health Scotland

ving cause of death' only
g cause of death' and 'contributory causes of death'

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	144	130	113	118	117	101	107
Female	5 - 9	11	11	11	6	10	13	5
Female	10 - 14	14	18	19	13	12	7	11
Female	15 - 19	50	55	47	52	43	30	44
Female	20 - 24	52	68	64	59	52	55	38
Female	25 - 29	62	70	75	70	89	87	60
Female	30 - 34	104	102	109	121	104	99	113
Female	35 - 39	197	194	181	165	188	141	152
Female	40 - 44	293	303	327	287	269	292	246
Female	45 - 49	483	449	448	427	470	419	422
Female	50 - 54	641	634	663	640	691	660	658
Female	55 - 59	918	930	863	846	860	851	884
Female	60 - 64	1393	1385	1388	1426	1359	1298	1242
Female	65 - 69	1980	1851	1785	1824	1767	1836	1871
Female	70 - 74	2752	2709	2610	2621	2501	2619	2585
Female	75 - 79	3877	4111	3766	3684	3623	3753	3671
Female	80 - 84	5206	5188	4859	4923	4735	5081	4844
Female	85 - 89	5347	5557	5506	5220	5248	5422	5341
Female	90 - 94	3714	3584	3385	3591	3730	4177	4203
Female	95 - 99	1552	1579	1498	1600	1569	1649	1531
Female	100+	301	268	311	311	311	332	347
Male	0 - 4	177	162	161	142	158	153	119
Male	5 - 9	13	19	14	18	17	19	9
Male	10 - 14	31	16	13	11	14	17	18
Male	15 - 19	127	106	105	95	78	61	71
Male	20 - 24	207	174	149	151	153	107	112
Male	25 - 29	188	224	221	196	188	194	155
Male	30 - 34	273	279	227	234	251	257	227
Male	35 - 39	371	376	336	318	334	312	280
Male	40 - 44	537	492	548	481	513	436	492
Male	45 - 49	674	746	665	669	635	655	666
Male	50 - 54	1011	969	963	972	850	896	924
Male	55 - 59	1471	1418	1282	1343	1256	1267	1303
Male	60 - 64	2101	2063	2030	2045	1955	1884	1764
Male	65 - 69	2540	2649	2538	2423	2460	2508	2609
Male	70 - 74	3542	3403	3272	3224	3291	3172	3157
Male	75 - 79	4238	4063	3908	4012	3817	3949	3940
Male	80 - 84	4309	4227	4153	4258	4300	4168	4375
Male	85 - 89	3152	3230	3444	3271	3513	3612	3588
Male	90 - 94	1505	1421	1305	1579	1630	1832	2025
Male	95 - 99	393	407	441	452	448	459	438
Male	100+	33	60	51	69	52	57	53

2014	2015	2016	2017
105	90	106	84
7	3	10	10
12	7	13	17
29	24	31	31
57	35	57	44
62	75	70	58
104	120	125	102
129	176	178	207
273	258	292	264
433	462	452	403
629	677	668	687
910	904	935	952
1220	1179	1275	1277
1851	1965	1923	1887
2391	2617	2573	2636
3630	3666	3619	3726
4828	4992	4800	4894
5308	5596	5505	5730
4160	4689	4209	4422
1459	1739	1764	1871
353	399	363	323
127	117	115	118
16	12	19	7
20	12	13	19
52	59	67	53
113	100	108	98
146	159	206	167
176	234	238	259
291	288	292	339
472	448	530	446
659	683	721	735
890	946	1031	982
1249	1329	1367	1304
1750	1795	1807	1799
2624	2805	2844	2603
3163	3404	3245	3403
3924	4079	3843	4128
4316	4535	4547	4619
3732	3946	3827	4064
2049	2319	2223	2334
454	568	624	679
65	62	86	89

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	5	3	4	2	7	6	6
Female	5 - 9	4	7	5	2	2	3	1
Female	10 - 14	6	8	4	4	5	1	5
Female	15 - 19	8	11	9	9	11	4	11
Female	20 - 24	15	12	10	11	12	9	8
Female	25 - 29	23	14	21	14	24	27	19
Female	30 - 34	49	39	45	40	39	39	48
Female	35 - 39	103	103	90	85	96	66	84
Female	40 - 44	192	186	200	192	160	180	150
Female	45 - 49	360	311	314	297	330	291	287
Female	50 - 54	490	460	498	482	510	500	502
Female	55 - 59	706	741	690	671	665	691	688
Female	60 - 64	1147	1141	1121	1133	1088	1058	1037
Female	65 - 69	1592	1509	1455	1478	1431	1529	1546
Female	70 - 74	2181	2180	2106	2099	1995	2125	2085
Female	75 - 79	3014	3181	2906	2845	2834	2952	2878
Female	80 - 84	3913	3867	3639	3744	3662	3897	3721
Female	85 - 89	3872	4061	4007	3790	3837	4074	4020
Female	90 - 94	2575	2431	2375	2475	2661	2990	3023
Female	95 - 99	1040	1066	998	1080	1093	1127	1066
Female	100+	179	170	218	202	209	224	226
Male	0 - 4	10	5	3	7	5	10	6
Male	5 - 9	1	4	5	6	4	3	3
Male	10 - 14	9	5	2	1	5	4	8
Male	15 - 19	10	10	10	9	10	11	7
Male	20 - 24	23	15	9	15	15	6	8
Male	25 - 29	23	27	21	36	32	18	22
Male	30 - 34	65	40	44	46	52	61	52
Male	35 - 39	127	132	111	109	92	92	77
Male	40 - 44	276	229	251	216	245	182	217
Male	45 - 49	408	472	397	406	363	380	386
Male	50 - 54	743	672	699	707	593	615	648
Male	55 - 59	1156	1112	979	1010	967	967	984
Male	60 - 64	1665	1647	1612	1619	1572	1507	1392
Male	65 - 69	2094	2187	2059	1946	1975	2058	2101
Male	70 - 74	2879	2763	2651	2550	2675	2554	2582
Male	75 - 79	3378	3116	3123	3201	3050	3123	3120
Male	80 - 84	3311	3233	3152	3285	3324	3203	3412
Male	85 - 89	2352	2382	2513	2399	2600	2707	2688
Male	90 - 94	1044	992	888	1095	1160	1298	1431
Male	95 - 99	241	256	293	282	292	288	297
Male	100+	21	37	29	31	28	34	33

2014	2015	2016	2017
2	2	2	7
2	1	2	3
5	2	4	6
8	5	7	7
8	9	10	10
14	26	20	14
37	45	42	39
59	79	80	73
169	134	163	131
286	312	268	249
462	482	478	513
719	701	702	720
959	932	986	1021
1504	1576	1538	1513
1945	2100	2070	2119
2810	2871	2843	2930
3648	3771	3612	3736
3945	4184	4123	4316
3030	3387	3037	3311
1025	1210	1213	1316
239	241	228	205
5	3	3	4
6	4	7	3
4	7	3	5
6	9	7	10
10	10	12	7
17	28	36	20
36	59	44	54
91	82	67	98
203	188	191	163
367	371	389	390
603	639	655	602
947	953	1022	945
1379	1435	1398	1413
2131	2252	2237	2085
2526	2679	2582	2726
3095	3187	3005	3256
3306	3482	3499	3594
2803	2898	2841	3054
1462	1654	1572	1639
307	354	398	454
41	37	56	55

Gender	Age Group	2007	2008	2009	2010	2011	2012	2013
Female	0 - 4	17	10	13	10	11	14	12
Female	5 - 9	6	7	5	4	6	5	2
Female	10 - 14	7	9	7	7	8	2	6
Female	15 - 19	12	16	11	16	15	5	17
Female	20 - 24	20	18	17	16	18	13	11
Female	25 - 29	28	19	29	23	37	33	22
Female	30 - 34	54	52	53	58	46	53	59
Female	35 - 39	125	125	106	102	109	80	96
Female	40 - 44	216	212	230	217	182	216	172
Female	45 - 49	412	353	352	339	369	327	332
Female	50 - 54	550	539	565	542	574	562	562
Female	55 - 59	800	831	769	759	754	769	788
Female	60 - 64	1,288	1,278	1,284	1,297	1,244	1,180	1,145
Female	65 - 69	1,820	1,713	1,659	1,691	1,629	1,705	1,738
Female	70 - 74	2,537	2,510	2,433	2,427	2,334	2,413	2,412
Female	75 - 79	3,590	3,790	3,466	3,434	3,349	3,474	3,387
Female	80 - 84	4,811	4,735	4,494	4,543	4,345	4,685	4,466
Female	85 - 89	4,857	5,084	5,039	4,785	4,769	4,993	4,936
Female	90 - 94	3,307	3,175	3,067	3,260	3,396	3,788	3,808
Female	95 - 99	1,377	1,395	1,326	1,429	1,409	1,475	1,383
Female	100+	247	237	279	274	265	300	313
Male	0 - 4	19	16	8	13	12	14	14
Male	5 - 9	4	7	7	9	9	5	5
Male	10 - 14	10	6	3	2	9	5	11
Male	15 - 19	17	21	15	15	18	16	12
Male	20 - 24	35	27	20	25	23	12	13
Male	25 - 29	35	37	32	43	44	26	31
Male	30 - 34	82	58	57	61	66	76	71
Male	35 - 39	159	159	133	134	113	127	108
Male	40 - 44	324	267	307	275	296	218	287
Male	45 - 49	464	535	471	463	429	444	450
Male	50 - 54	834	784	786	810	681	704	738
Male	55 - 59	1,277	1,245	1,115	1,170	1,094	1,081	1,113
Male	60 - 64	1,893	1,849	1,820	1,840	1,775	1,699	1,561
Male	65 - 69	2,355	2,466	2,354	2,231	2,280	2,319	2,420
Male	70 - 74	3,299	3,184	3,045	3,010	3,091	2,963	2,928
Male	75 - 79	3,977	3,763	3,671	3,741	3,565	3,670	3,661
Male	80 - 84	3,996	3,923	3,874	3,992	3,979	3,896	4,082
Male	85 - 89	2,918	2,973	3,168	3,029	3,235	3,335	3,302
Male	90 - 94	1,337	1,263	1,177	1,433	1,467	1,665	1,835
Male	95 - 99	330	342	395	396	394	395	383
Male	100+	30	49	46	59	45	53	47

2014	2015	2016	2017
6	10	11	14
3	1	3	3
5	3	6	8
9	11	8	9
14	14	19	18
19	31	26	20
43	61	61	53
72	99	97	100
197	157	202	163
329	357	333	301
537	561	563	585
816	795	816	849
1,103	1,067	1,155	1,169
1,703	1,812	1,774	1,750
2,253	2,471	2,403	2,494
3,344	3,453	3,385	3,496
4,446	4,628	4,470	4,580
4,899	5,190	5,134	5,331
3,812	4,302	3,881	4,134
1,318	1,589	1,594	1,725
321	345	327	288
10	9	10	9
8	6	9	4
7	8	5	8
9	15	12	13
14	18	21	13
29	37	44	30
52	86	69	78
126	121	125	140
256	238	265	248
449	456	491	497
691	759	814	752
1,077	1,135	1,190	1,107
1,582	1,603	1,620	1,619
2,427	2,591	2,608	2,416
2,939	3,159	3,042	3,206
3,676	3,818	3,609	3,882
4,024	4,229	4,281	4,367
3,470	3,685	3,591	3,815
1,869	2,127	2,066	2,155
395	499	560	620
55	55	69	79

Gender	Age Group	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
Female	0 - 4	92	91	88	87	85	83
Female	5 - 9	5	5	5	5	5	5
Female	10 - 14	11	11	11	11	11	11
Female	15 - 19	26	24	24	24	24	23
Female	20 - 24	42	42	41	38	37	35
Female	25 - 29	73	74	73	71	68	67
Female	30 - 34	116	118	119	121	122	122
Female	35 - 39	166	167	168	167	168	168
Female	40 - 44	220	217	217	220	226	229
Female	45 - 49	404	384	369	349	329	317
Female	50 - 54	661	646	626	612	595	570
Female	55 - 59	941	941	944	936	923	904
Female	60 - 64	1225	1233	1240	1248	1255	1261
Female	65 - 69	1820	1777	1754	1745	1754	1763
Female	70 - 74	2791	2833	2882	2912	2746	2660
Female	75 - 79	3591	3602	3595	3644	3852	3949
Female	80 - 84	4911	4911	4900	4838	4813	4832
Female	85 - 89	5594	5623	5646	5663	5671	5730
Female	90 - 94	4145	4184	4239	4297	4383	4427
Female	95 - 99	1754	1794	1777	1792	1794	1801
Female	100+	286	273	316	335	348	348
Male	0 - 4	111	109	106	104	102	101
Male	5 - 9	10	10	10	10	10	10
Male	10 - 14	15	14	14	14	14	14
Male	15 - 19	49	47	43	42	40	40
Male	20 - 24	97	92	88	82	75	71
Male	25 - 29	144	140	136	129	124	119
Male	30 - 34	218	219	219	220	220	218
Male	35 - 39	312	311	312	311	311	313
Male	40 - 44	400	398	402	407	415	423
Male	45 - 49	597	572	549	524	500	481
Male	50 - 54	887	862	826	802	771	738
Male	55 - 59	1312	1303	1296	1272	1246	1214
Male	60 - 64	1740	1737	1743	1742	1743	1743
Male	65 - 69	2505	2432	2381	2361	2365	2364
Male	70 - 74	3615	3659	3721	3737	3514	3389
Male	75 - 79	3897	3942	3960	4061	4345	4494
Male	80 - 84	4481	4522	4532	4493	4511	4540
Male	85 - 89	4007	4082	4176	4243	4290	4392
Male	90 - 94	2194	2250	2306	2387	2496	2591
Male	95 - 99	630	683	713	747	765	783
Male	100+	59	57	70	82	89	94

2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028	2028 - 2029	2029 - 2030	2030 - 2031	2031 - 2032
82	79	77	75	74	72	70	69
5	5	5	5	5	5	5	5
11	9	9	9	9	9	9	8
23	23	23	22	23	21	21	21
33	33	33	33	33	33	33	33
65	63	62	58	56	53	53	52
123	122	120	116	114	109	106	103
170	170	171	174	172	171	169	164
231	231	230	228	228	230	228	230
314	313	315	322	328	328	328	326
539	517	489	461	443	438	437	439
883	855	837	812	777	738	705	667
1264	1270	1260	1246	1224	1197	1161	1137
1779	1803	1825	1839	1853	1861	1873	1864
2607	2583	2580	2601	2623	2654	2683	2713
4018	4098	4153	3929	3817	3755	3732	3739
4861	4869	4946	5251	5405	5518	5643	5731
5762	5777	5730	5729	5792	5861	5900	6017
4475	4526	4588	4643	4729	4796	4849	4845
1829	1865	1911	1968	2001	2046	2099	2163
353	356	366	368	372	385	399	418
99	97	95	91	89	88	85	84
10	10	10	10	10	10	10	10
14	13	13	13	12	12	11	11
39	39	39	38	37	36	35	34
68	67	65	64	65	65	62	63
114	109	103	97	93	89	86	85
215	210	205	198	191	185	179	171
315	318	322	325	323	319	315	307
424	424	424	425	429	435	437	442
477	477	481	488	494	491	491	488
703	670	638	606	580	573	571	573
1180	1133	1100	1059	1013	966	924	879
1736	1732	1707	1675	1638	1598	1540	1499
2371	2399	2423	2433	2442	2442	2445	2420
3308	3260	3253	3274	3291	3315	3353	3381
4571	4670	4710	4457	4323	4247	4207	4218
4624	4673	4821	5196	5410	5537	5690	5770
4473	4522	4516	4569	4653	4793	4885	5072
2672	2769	2856	2929	3041	3137	3211	3239
819	855	906	964	1014	1065	1125	1182
100	108	115	120	125	135	145	160

2032 - 2033	2033 - 2034	2034 - 2035	2035 - 2036	2036 - 2037	2037 - 2038	2038 - 2039	2039 - 2040
67	66	66	65	63	62	60	60
5	5	5	5	5	5	5	5
9	8	8	8	8	8	8	8
19	19	19	19	18	18	18	18
33	32	32	31	30	28	28	28
52	54	56	55	55	55	54	53
97	95	91	91	90	90	92	92
159	155	150	145	139	133	127	125
233	229	228	224	218	210	204	197
323	324	326	324	326	329	325	322
450	458	458	456	454	449	451	452
629	607	598	596	600	615	624	625
1104	1059	1008	965	912	862	831	820
1847	1819	1780	1730	1696	1652	1588	1514
2739	2765	2784	2808	2798	2778	2740	2688
3784	3831	3890	3943	3999	4049	4097	4134
5448	5319	5256	5247	5282	5369	5458	5563
6444	6677	6849	7015	7131	6831	6717	6682
4888	5000	5114	5187	5322	5802	6072	6260
2226	2297	2360	2418	2444	2502	2606	2707
437	449	472	497	527	554	584	614
83	82	80	79	77	77	76	76
8	8	7	7	6	6	5	5
11	11	11	10	10	10	10	10
33	32	31	31	30	30	30	29
61	61	59	58	57	54	53	52
86	85	85	85	86	85	84	83
163	156	152	149	147	149	150	149
298	290	281	273	262	249	239	234
447	443	439	433	421	410	399	386
488	492	497	498	504	507	503	497
581	588	586	584	581	578	583	588
834	801	791	790	792	805	817	815
1447	1391	1329	1274	1216	1158	1113	1102
2387	2342	2292	2214	2165	2095	2019	1935
3410	3437	3450	3467	3441	3407	3351	3290
4271	4315	4371	4441	4498	4556	4613	4647
5498	5372	5311	5296	5345	5445	5535	5636
5538	5821	6002	6180	6274	6043	5960	5948
3316	3430	3587	3694	3872	4309	4578	4758
1237	1310	1376	1432	1459	1522	1611	1721
175	188	202	220	235	256	282	301

2040 - 2041
60
5
7
18
28
53
92
122
190
316
452
624
819
1451
2616
4179
5660
6712
6413
2780
643
74
5
10
28
52
82
150
230
375
489
592
814
1105
1860
3191
4689
5755
5983
4916
1795
321

	Baseline						
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
75% of Deaths	41,988	41,775	40,391	40,475	40,246	41,203	41,025

2014	2015	2016	2017	2018	2019	2020	2021	2022
40,679	43,180	42,541	43,403	42,116	42,293	42,478	42,664	42,866

					Projected			
2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
43,078	43,319	43,592	43,899	44,190	44,513	44,864	45,233	45,624

2032	2033	2034	2035	2036	2037	2038	2039	2040
46,024	46,442	46,867	47,283	47,696	48,114	48,525	48,922	49,317

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	5	3	4	2	7	6
Females 5 - 9	4	7	5	2	2	3
Females 10 - 14	6	8	4	4	5	1
Females 15 - 19	8	11	9	9	11	4
Females 20 - 24	15	12	10	11	12	9
Females 25 - 29	23	14	21	14	24	27
Females 30 - 34	49	39	45	40	39	39
Females 35 - 39	103	103	90	85	96	66
Females 40 - 44	192	186	200	192	160	180
Females 45 - 49	360	311	314	297	330	291
Females 50 - 54	490	460	498	482	510	500
Females 55 - 59	706	741	690	671	665	691
Females 60 - 64	1,147	1,141	1,121	1,133	1,088	1,058
Females 65 - 69	1,592	1,509	1,455	1,478	1,431	1,529
Females 70 - 74	2,181	2,180	2,106	2,099	1,995	2,125
Females 75 - 79	3,014	3,181	2,906	2,845	2,834	2,952
Females 80 - 84	3,913	3,867	3,639	3,744	3,662	3,897
Females 85 - 89	3,872	4,061	4,007	3,790	3,837	4,074
Females 90 - 94	2,575	2,431	2,375	2,475	2,661	2,990
Females 95 - 99	1,040	1,066	998	1,080	1,093	1,127
Females 100+	179	170	218	202	209	224
Males 0 - 4	10	5	3	7	5	10
Males 5 - 9	1	4	5	6	4	3
Males 10 - 14	9	5	2	1	5	4
Males 15 - 19	10	10	10	9	10	11
Males 20 - 24	23	15	9	15	15	6
Males 25 - 29	23	27	21	36	32	18
Males 30 - 34	65	40	44	46	52	61
Males 35 - 39	127	132	111	109	92	92
Males 40 - 44	276	229	251	216	245	182
Males 45 - 49	408	472	397	406	363	380
Males 50 - 54	743	672	699	707	593	615
Males 55 - 59	1,156	1,112	979	1,010	967	967
Males 60 - 64	1,665	1,647	1,612	1,619	1,572	1,507
Males 65 - 69	2,094	2,187	2,059	1,946	1,975	2,058
Males 70 - 74	2,879	2,763	2,651	2,550	2,675	2,554
Males 75 - 79	3,378	3,116	3,123	3,201	3,050	3,123
Males 80 - 84	3,311	3,233	3,152	3,285	3,324	3,203
Males 85 - 89	2,352	2,382	2,513	2,399	2,600	2,707
Males 90 - 94	1,044	992	888	1,095	1,160	1,298
Males 95 - 99	241	256	293	282	292	288
Males 100+	21	37	29	31	28	34
Palliative Care Deaths	41,310	40,837	39,566	39,631	39,730	40,914
Percentage of All Deaths	73.79%	73.32%	73.47%	73.44%	74.04%	74.47%

2013	2014	2015	2016	2017	2018	2019	2020	2021
6	2	2	2	7	8	8	7	7
1	2	1	2	3	2	2	2	2
5	5	2	4	6	4	4	4	4
11	8	5	7	7	6	5	5	5
8	8	9	10	10	10	10	9	9
19	14	26	20	14	18	18	18	17
48	37	45	42	39	44	45	46	46
84	59	79	80	73	59	59	59	59
150	169	134	163	131	109	108	108	109
287	286	312	268	249	250	237	228	216
502	462	482	478	513	494	482	467	457
688	719	701	702	720	712	712	714	708
1,037	959	932	986	1,021	979	986	991	998
1,546	1,504	1,576	1,538	1,513	1,459	1,425	1,406	1,399
2,085	1,945	2,100	2,070	2,119	2,244	2,277	2,317	2,341
2,878	2,810	2,871	2,843	2,930	2,824	2,832	2,827	2,866
3,721	3,648	3,771	3,612	3,736	3,749	3,749	3,741	3,693
4,020	3,945	4,184	4,123	4,316	4,214	4,235	4,253	4,266
3,023	3,030	3,387	3,037	3,311	3,104	3,133	3,174	3,217
1,066	1,025	1,210	1,213	1,316	1,234	1,262	1,250	1,260
226	239	241	228	205	182	173	201	213
6	5	3	3	4	4	4	4	4
3	6	4	7	3	4	4	4	4
8	4	7	3	5	4	4	4	4
7	6	9	7	10	9	9	8	8
8	10	10	12	7	7	7	6	6
22	17	28	36	20	17	17	16	15
52	36	59	44	54	45	46	46	46
77	91	82	67	98	90	90	90	90
217	203	188	191	163	146	145	147	149
386	367	371	389	390	317	304	291	278
648	603	639	655	602	544	528	506	492
984	947	953	1,022	945	951	944	939	922
1,392	1,379	1,435	1,398	1,413	1,367	1,364	1,369	1,368
2,101	2,131	2,252	2,237	2,085	2,007	1,948	1,907	1,891
2,582	2,526	2,679	2,582	2,726	2,896	2,931	2,981	2,994
3,120	3,095	3,187	3,005	3,256	3,074	3,109	3,123	3,203
3,412	3,306	3,482	3,499	3,594	3,487	3,519	3,526	3,496
2,688	2,803	2,898	2,841	3,054	3,011	3,068	3,138	3,189
1,431	1,462	1,654	1,572	1,639	1,541	1,580	1,619	1,676
297	307	354	398	454	421	457	477	499
33	41	37	56	55	36	35	43	51
40,885	40,221	42,401	41,452	42,816	41,678	41,873	42,072	42,275
74.74%	74.16%	73.65%	73.08%	73.99%	74.22%	74.26%	74.28%	74.32%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
7	7	7	7	6	6	6	6	6
2	2	2	2	2	2	2	2	2
4	4	4	3	3	3	3	3	3
5	5	5	5	5	5	5	5	5
8	8	8	8	8	8	8	8	8
16	16	16	15	15	14	14	13	13
47	47	47	47	46	44	44	42	41
59	59	60	60	60	61	61	60	60
112	114	115	115	114	113	113	114	113
203	196	194	193	195	199	203	203	203
444	426	402	386	365	344	331	327	326
698	684	668	647	633	614	588	558	533
1,003	1,008	1,011	1,015	1,007	996	979	957	928
1,406	1,414	1,426	1,446	1,463	1,475	1,486	1,492	1,502
2,207	2,138	2,096	2,076	2,074	2,091	2,109	2,133	2,157
3,029	3,105	3,160	3,223	3,266	3,090	3,002	2,953	2,935
3,674	3,689	3,711	3,717	3,776	4,009	4,126	4,212	4,308
4,272	4,316	4,340	4,351	4,316	4,315	4,363	4,415	4,444
3,282	3,315	3,351	3,389	3,435	3,476	3,541	3,591	3,631
1,262	1,267	1,286	1,312	1,344	1,384	1,407	1,439	1,476
221	221	224	226	232	234	236	244	253
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
4	4	4	3	3	3	3	3	3
8	8	7	7	7	7	7	7	7
5	5	5	5	5	5	5	5	4
15	14	14	13	12	12	11	11	10
46	45	45	44	43	41	40	39	37
90	90	91	92	93	94	93	92	91
152	155	155	155	155	155	157	159	160
265	255	253	253	255	259	262	261	261
473	452	431	411	391	371	356	351	350
903	880	855	821	797	767	734	700	670
1,369	1,369	1,364	1,360	1,341	1,316	1,287	1,255	1,210
1,894	1,894	1,899	1,922	1,941	1,949	1,956	1,956	1,958
2,815	2,715	2,650	2,611	2,606	2,623	2,636	2,656	2,686
3,427	3,545	3,605	3,684	3,715	3,516	3,410	3,350	3,318
3,510	3,533	3,598	3,636	3,751	4,043	4,209	4,308	4,427
3,224	3,300	3,361	3,398	3,394	3,433	3,497	3,602	3,671
1,753	1,819	1,876	1,944	2,006	2,057	2,135	2,203	2,255
512	524	548	572	606	645	678	712	752
55	58	62	67	71	74	77	83	90
42,489	42,711	42,961	43,247	43,565	43,860	44,184	44,536	44,912
74.34%	74.36%	74.38%	74.41%	74.43%	74.44%	74.44%	74.45%	74.47%

2031	2032	2033	2034	2035	2036	2037	2038	2039
6	6	6	6	5	5	5	5	5
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
5	4	4	4	4	4	4	4	4
8	8	7	7	7	7	6	6	6
13	13	13	14	13	13	13	13	13
39	37	36	35	35	34	34	35	35
58	56	55	53	51	49	47	45	44
114	116	114	113	111	108	104	101	98
201	200	200	201	200	201	203	201	199
328	336	342	342	341	339	335	337	338
504	476	459	452	451	454	465	472	473
909	883	847	806	772	729	689	664	656
1,495	1,481	1,458	1,427	1,387	1,360	1,325	1,273	1,214
2,181	2,202	2,223	2,238	2,257	2,249	2,233	2,203	2,161
2,940	2,976	3,013	3,059	3,101	3,145	3,184	3,222	3,251
4,375	4,159	4,060	4,012	4,005	4,032	4,099	4,167	4,247
4,532	4,854	5,029	5,159	5,284	5,371	5,145	5,059	5,033
3,628	3,660	3,744	3,829	3,884	3,985	4,344	4,546	4,687
1,521	1,566	1,616	1,660	1,701	1,719	1,760	1,833	1,904
265	277	285	300	315	334	352	371	390
3	3	3	3	3	3	3	3	3
4	3	3	3	3	3	3	2	2
3	3	3	3	3	3	3	3	3
6	6	6	6	6	6	6	6	5
5	4	4	4	4	4	4	4	4
10	10	10	10	10	10	10	10	10
36	34	33	32	31	31	31	31	31
89	86	84	81	79	76	72	69	68
162	163	162	160	158	154	150	146	141
259	259	261	264	264	267	269	267	264
351	356	360	359	358	356	354	357	360
637	604	580	573	573	574	583	592	591
1,177	1,137	1,093	1,044	1,001	955	910	874	866
1,938	1,912	1,876	1,836	1,773	1,734	1,678	1,617	1,550
2,708	2,732	2,753	2,764	2,777	2,756	2,729	2,684	2,635
3,327	3,369	3,403	3,448	3,503	3,548	3,594	3,639	3,665
4,490	4,278	4,180	4,132	4,121	4,159	4,237	4,307	4,385
3,811	4,162	4,374	4,510	4,644	4,715	4,541	4,479	4,470
2,275	2,329	2,409	2,519	2,594	2,719	3,026	3,215	3,341
790	827	876	920	957	976	1,018	1,077	1,151
99	108	116	125	136	145	158	174	186
45,306	45,697	46,105	46,517	46,927	47,337	47,730	48,117	48,491
74.48%	74.47%	74.46%	74.44%	74.44%	74.44%	74.40%	74.37%	74.34%

2040
5
2
2
4
6
13
35
43
94
195
338
472
655
1,163
2,103
3,286
4,321
5,056
4,802
1,955
408
3
2
3
5
4
10
31
66
137
259
363
590
868
1,490
2,556
3,698
4,478
4,496
3,452
1,200
198
48,869
74.32%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	5	3	4	2	7	6
Females 5 - 9	4	7	5	2	2	3
Females 10 - 14	6	8	4	4	5	1
Females 15 - 19	8	11	9	9	11	4
Females 20 - 24	15	12	10	11	12	9
Females 25 - 29	23	14	21	14	24	27
Females 30 - 34	49	39	45	40	39	39
Females 35 - 39	103	103	90	85	96	66
Females 40 - 44	192	186	200	192	160	180
Females 45 - 49	360	311	314	297	330	291
Females 50 - 54	490	460	498	482	510	500
Females 55 - 59	706	741	690	671	665	691
Females 60 - 64	1,147	1,141	1,121	1,133	1,088	1,058
Females 65 - 69	1,592	1,509	1,455	1,478	1,431	1,529
Females 70 - 74	2,181	2,180	2,106	2,099	1,995	2,125
Females 75 - 79	3,014	3,181	2,906	2,845	2,834	2,952
Females 80 - 84	3,913	3,867	3,639	3,744	3,662	3,897
Females 85 - 89	3,872	4,061	4,007	3,790	3,837	4,074
Females 90 - 94	2,575	2,431	2,375	2,475	2,661	2,990
Females 95 - 99	1,040	1,066	998	1,080	1,093	1,127
Females 100+	179	170	218	202	209	224
Males 0 - 4	10	5	3	7	5	10
Males 5 - 9	1	4	5	6	4	3
Males 10 - 14	9	5	2	1	5	4
Males 15 - 19	10	10	10	9	10	11
Males 20 - 24	23	15	9	15	15	6
Males 25 - 29	23	27	21	36	32	18
Males 30 - 34	65	40	44	46	52	61
Males 35 - 39	127	132	111	109	92	92
Males 40 - 44	276	229	251	216	245	182
Males 45 - 49	408	472	397	406	363	380
Males 50 - 54	743	672	699	707	593	615
Males 55 - 59	1,156	1,112	979	1,010	967	967
Males 60 - 64	1,665	1,647	1,612	1,619	1,572	1,507
Males 65 - 69	2,094	2,187	2,059	1,946	1,975	2,058
Males 70 - 74	2,879	2,763	2,651	2,550	2,675	2,554
Males 75 - 79	3,378	3,116	3,123	3,201	3,050	3,123
Males 80 - 84	3,311	3,233	3,152	3,285	3,324	3,203
Males 85 - 89	2,352	2,382	2,513	2,399	2,600	2,707
Males 90 - 94	1,044	992	888	1,095	1,160	1,298
Males 95 - 99	241	256	293	282	292	288
Males 100+	21	37	29	31	28	34
Palliative Care Deaths	41,310	40,837	39,566	39,631	39,730	40,914
Percentage of All Deaths	73.79%	73.32%	73.47%	73.44%	74.04%	74.47%

2013	2014	2015	2016	2017	2018	2019	2020	2021
6	2	2	2	7	8	8	9	9
1	2	1	2	3	1	1	1	1
5	5	2	4	6	4	4	4	4
11	8	5	7	7	6	6	6	6
8	8	9	10	10	9	9	9	8
19	14	26	20	14	17	16	15	13
48	37	45	42	39	43	43	42	42
84	59	79	80	73	56	53	51	48
150	169	134	163	131	106	101	97	95
287	286	312	268	249	244	227	214	198
502	462	482	478	513	492	480	464	453
688	719	701	702	720	710	709	710	703
1,037	959	932	986	1,021	977	980	983	986
1,546	1,504	1,576	1,538	1,513	1,459	1,424	1,405	1,398
2,085	1,945	2,100	2,070	2,119	2,247	2,284	2,327	2,354
2,878	2,810	2,871	2,843	2,930	2,827	2,839	2,837	2,879
3,721	3,648	3,771	3,612	3,736	3,755	3,761	3,758	3,716
4,020	3,945	4,184	4,123	4,316	4,230	4,268	4,302	4,331
3,023	3,030	3,387	3,037	3,311	3,127	3,179	3,244	3,313
1,066	1,025	1,210	1,213	1,316	1,240	1,274	1,268	1,284
226	239	241	228	205	183	175	204	218
6	5	3	3	4	4	3	3	3
3	6	4	7	3	5	5	5	6
8	4	7	3	5	4	4	4	4
7	6	9	7	10	10	10	10	10
8	10	10	12	7	7	6	5	5
22	17	28	36	20	17	17	16	15
52	36	59	44	54	45	44	44	43
77	91	82	67	98	89	87	85	83
217	203	188	191	163	140	134	129	125
386	367	371	389	390	312	295	279	262
648	603	639	655	602	533	507	476	453
984	947	953	1,022	945	943	928	915	891
1,392	1,379	1,435	1,398	1,413	1,365	1,362	1,365	1,363
2,101	2,131	2,252	2,237	2,085	2,001	1,937	1,890	1,869
2,582	2,526	2,679	2,582	2,726	2,892	2,922	2,968	2,976
3,120	3,095	3,187	3,005	3,256	3,071	3,103	3,114	3,190
3,412	3,306	3,482	3,499	3,594	3,491	3,527	3,539	3,513
2,688	2,803	2,898	2,841	3,054	3,013	3,072	3,145	3,197
1,431	1,462	1,654	1,572	1,639	1,543	1,584	1,625	1,684
297	307	354	398	454	425	464	489	516
33	41	37	56	55	36	35	43	50
40,885	40,221	42,401	41,452	42,816	41,683	41,887	42,098	42,315
74.74%	74.16%	73.65%	73.08%	73.99%	74.23%	74.28%	74.33%	74.39%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
9	9	10	10	10	10	10	10	10
1	1	1	1	1	1	1	1	1
3	3	3	3	3	2	2	2	2
6	6	6	6	7	6	7	6	7
7	7	6	6	6	5	5	5	5
12	11	10	9	8	6	6	5	4
41	40	39	38	36	34	32	30	28
45	42	40	37	34	32	28	25	22
94	92	89	85	81	77	73	70	66
182	172	166	161	158	158	157	152	148
439	420	396	379	357	336	322	318	316
692	677	660	638	623	604	577	547	521
988	990	989	991	980	966	946	923	892
1,404	1,411	1,424	1,442	1,460	1,470	1,481	1,487	1,496
2,223	2,156	2,116	2,100	2,100	2,120	2,141	2,170	2,196
3,046	3,127	3,185	3,252	3,299	3,125	3,039	2,993	2,978
3,702	3,723	3,751	3,763	3,828	4,070	4,196	4,290	4,394
4,354	4,416	4,457	4,486	4,466	4,482	4,548	4,619	4,667
3,403	3,462	3,524	3,590	3,664	3,734	3,829	3,910	3,980
1,292	1,303	1,329	1,361	1,401	1,450	1,481	1,521	1,567
228	229	234	237	245	248	252	263	274
2	2	2	2	1	1	1	1	0
6	6	7	7	7	8	8	9	9
3	3	3	3	3	3	3	3	3
10	10	10	11	11	11	11	12	12
4	3	3	3	2	2	2	2	1
15	14	13	13	12	11	11	10	10
43	42	40	39	37	35	34	32	30
82	80	79	78	78	77	74	72	69
121	117	111	105	98	92	87	81	75
247	234	228	225	223	222	222	217	213
426	398	371	345	321	298	278	267	260
865	835	805	766	737	703	666	629	596
1,363	1,362	1,355	1,351	1,330	1,304	1,274	1,242	1,195
1,867	1,860	1,860	1,877	1,890	1,892	1,893	1,887	1,884
2,794	2,691	2,623	2,581	2,571	2,584	2,594	2,609	2,635
3,409	3,522	3,579	3,652	3,680	3,478	3,370	3,307	3,273
3,532	3,559	3,629	3,672	3,793	4,093	4,267	4,373	4,499
3,235	3,314	3,378	3,417	3,415	3,458	3,524	3,632	3,705
1,763	1,833	1,892	1,963	2,028	2,082	2,164	2,235	2,291
533	550	579	610	651	698	740	783	833
54	57	61	65	69	72	75	80	86
42,547	42,790	43,065	43,378	43,727	44,063	44,432	44,831	45,256
74.44%	74.50%	74.56%	74.63%	74.71%	74.78%	74.86%	74.94%	75.04%

2031	2032	2033	2034	2035	2036	2037	2038	2039
10	10	11	11	11	11	11	11	11
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	1
7	6	6	6	7	6	6	7	7
5	4	4	4	4	3	3	3	3
3	2	2	1	0	0	0	0	0
27	24	23	21	20	19	18	18	17
19	15	12	10	7	4	2	0	0
63	60	55	51	47	42	37	33	29
143	138	134	131	126	122	119	114	109
317	324	329	328	326	324	319	320	320
493	464	447	439	437	439	449	455	455
871	843	806	765	730	688	648	623	613
1,489	1,475	1,452	1,420	1,380	1,353	1,317	1,266	1,206
2,224	2,248	2,273	2,292	2,315	2,310	2,296	2,268	2,228
2,987	3,026	3,067	3,118	3,164	3,213	3,257	3,299	3,332
4,469	4,255	4,160	4,117	4,116	4,150	4,225	4,301	4,391
4,777	5,135	5,340	5,497	5,651	5,765	5,543	5,470	5,461
4,004	4,066	4,187	4,311	4,401	4,545	4,988	5,253	5,451
1,622	1,677	1,738	1,793	1,846	1,873	1,926	2,015	2,102
289	304	314	332	351	375	396	420	444
0	0	0	0	0	0	0	0	0
9	8	8	7	7	7	7	6	6
2	2	2	2	2	2	2	2	2
12	12	12	12	12	12	12	13	12
1	1	0	0	0	0	0	0	0
10	10	10	10	10	10	10	10	9
29	27	25	24	23	22	22	22	21
66	62	59	56	53	49	45	42	40
70	64	57	50	43	35	28	21	15
208	204	202	201	197	196	193	188	182
253	250	246	238	230	222	213	208	203
562	528	502	491	486	482	485	487	481
1,163	1,121	1,077	1,028	984	939	893	858	848
1,859	1,828	1,788	1,745	1,680	1,638	1,580	1,518	1,450
2,653	2,671	2,689	2,695	2,704	2,680	2,649	2,602	2,550
3,278	3,316	3,346	3,386	3,436	3,477	3,518	3,558	3,580
4,568	4,358	4,263	4,220	4,213	4,257	4,342	4,419	4,506
3,849	4,206	4,424	4,564	4,703	4,778	4,605	4,545	4,539
2,313	2,371	2,456	2,571	2,651	2,782	3,099	3,297	3,431
882	930	992	1,050	1,100	1,129	1,186	1,265	1,360
95	103	111	119	129	137	149	163	174
45,702	46,153	46,632	47,119	47,605	48,099	48,604	49,101	49,591
75.13%	75.21%	75.31%	75.40%	75.51%	75.63%	75.76%	75.89%	76.03%

2040
12
1
1
7
2
0
16
0
25
103
319
454
610
1,156
2,171
3,372
4,474
5,505
5,619
2,168
467
0
6
2
12
0
9
21
38
9
175
197
475
850
1,390
2,470
3,609
4,606
4,569
3,549
1,429
185
50,084
76.17%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	17	10	13	10	11	14
Females 5 - 9	6	7	5	4	6	5
Females 10 - 14	7	9	7	7	8	2
Females 15 - 19	12	16	11	16	15	5
Females 20 - 24	20	18	17	16	18	13
Females 25 - 29	28	19	29	23	37	33
Females 30 - 34	54	52	53	58	46	53
Females 35 - 39	125	125	106	102	109	80
Females 40 - 44	216	212	230	217	182	216
Females 45 - 49	412	353	352	339	369	327
Females 50 - 54	550	539	565	542	574	562
Females 55 - 59	800	831	769	759	754	769
Females 60 - 64	1,288	1,278	1,284	1,297	1,244	1,180
Females 65 - 69	1,820	1,713	1,659	1,691	1,629	1,705
Females 70 - 74	2,537	2,510	2,433	2,427	2,334	2,413
Females 75 - 79	3,590	3,790	3,466	3,434	3,349	3,474
Females 80 - 84	4,811	4,735	4,494	4,543	4,345	4,685
Females 85 - 89	4,857	5,084	5,039	4,785	4,769	4,993
Females 90 - 94	3,307	3,175	3,067	3,260	3,396	3,788
Females 95 - 99	1,377	1,395	1,326	1,429	1,409	1,475
Females 100+	247	237	279	274	265	300
Males 0 - 4	19	16	8	13	12	14
Males 5 - 9	4	7	7	9	9	5
Males 10 - 14	10	6	3	2	9	5
Males 15 - 19	17	21	15	15	18	16
Males 20 - 24	35	27	20	25	23	12
Males 25 - 29	35	37	32	43	44	26
Males 30 - 34	82	58	57	61	66	76
Males 35 - 39	159	159	133	134	113	127
Males 40 - 44	324	267	307	275	296	218
Males 45 - 49	464	535	471	463	429	444
Males 50 - 54	834	784	786	810	681	704
Males 55 - 59	1,277	1,245	1,115	1,170	1,094	1,081
Males 60 - 64	1,893	1,849	1,820	1,840	1,775	1,699
Males 65 - 69	2,355	2,466	2,354	2,231	2,280	2,319
Males 70 - 74	3,299	3,184	3,045	3,010	3,091	2,963
Males 75 - 79	3,977	3,763	3,671	3,741	3,565	3,670
Males 80 - 84	3,996	3,923	3,874	3,992	3,979	3,896
Males 85 - 89	2,918	2,973	3,168	3,029	3,235	3,335
Males 90 - 94	1,337	1,263	1,177	1,433	1,467	1,665
Males 95 - 99	330	342	395	396	394	395
Males 100+	30	49	46	59	45	53
Palliative Care Deaths	49,476	49,082	47,708	47,984	47,494	48,815
Percentage of All Deaths	88.38%	88.12%	88.59%	88.91%	88.51%	88.86%

2013	2014	2015	2016	2017	2018	2019	2020	2021
12	6	10	11	14	16	16	16	16
2	3	1	3	3	1	1	1	1
6	5	3	6	8	5	5	5	5
17	9	11	8	9	8	7	7	7
11	14	14	19	18	17	17	17	16
22	19	31	26	20	24	24	23	21
59	43	61	61	53	60	61	62	63
96	72	99	97	100	78	76	74	71
172	197	157	202	163	133	129	126	125
332	329	357	333	301	297	279	264	246
562	537	561	563	585	562	549	532	520
788	816	795	816	849	841	843	848	842
1,145	1,103	1,067	1,155	1,169	1,120	1,126	1,132	1,138
1,738	1,703	1,812	1,774	1,750	1,689	1,651	1,631	1,624
2,412	2,253	2,471	2,403	2,494	2,647	2,694	2,748	2,783
3,387	3,344	3,453	3,385	3,496	3,374	3,389	3,386	3,437
4,466	4,446	4,628	4,470	4,580	4,602	4,607	4,603	4,550
4,936	4,899	5,190	5,134	5,331	5,217	5,256	5,290	5,319
3,808	3,812	4,302	3,881	4,134	3,893	3,949	4,019	4,094
1,383	1,318	1,589	1,594	1,725	1,623	1,666	1,657	1,677
313	321	345	327	288	257	247	288	308
14	10	9	10	9	8	8	7	7
5	8	6	9	4	6	6	7	7
11	7	8	5	8	6	6	6	6
12	9	15	12	13	13	13	12	12
13	14	18	21	13	13	12	11	10
31	29	37	44	30	26	25	24	23
71	52	86	69	78	66	66	66	66
108	126	121	125	140	128	127	127	126
287	256	238	265	248	221	218	218	219
450	449	456	491	497	403	385	369	352
738	691	759	814	752	674	650	618	595
1,113	1,077	1,135	1,190	1,107	1,111	1,101	1,093	1,070
1,561	1,582	1,603	1,620	1,619	1,566	1,563	1,568	1,567
2,420	2,427	2,591	2,608	2,416	2,325	2,258	2,211	2,192
2,928	2,939	3,159	3,042	3,206	3,410	3,455	3,518	3,537
3,661	3,676	3,818	3,609	3,882	3,666	3,709	3,726	3,822
4,082	4,024	4,229	4,281	4,367	4,245	4,292	4,309	4,280
3,302	3,470	3,685	3,591	3,815	3,767	3,842	3,936	4,005
1,835	1,869	2,127	2,066	2,155	2,033	2,093	2,153	2,237
383	395	499	560	620	580	634	667	704
47	55	55	69	79	52	50	62	72
48,739	48,414	51,611	50,769	52,148	50,784	51,106	51,437	51,773
89.10%	89.26%	89.64%	89.51%	90.11%	90.44%	90.63%	90.82%	91.01%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
16	16	16	16	16	16	16	16	16
1	1	1	1	0	0	0	0	0
5	5	5	4	4	4	4	4	4
8	7	7	8	8	7	8	7	7
16	15	14	14	14	14	14	14	15
20	19	18	16	15	14	13	11	11
63	63	64	63	62	60	59	57	55
68	66	64	62	59	58	54	52	48
126	125	123	120	117	113	111	109	105
228	217	211	207	205	206	207	203	200
505	483	457	438	414	390	374	370	368
833	817	800	776	762	741	710	676	647
1,143	1,147	1,149	1,153	1,143	1,129	1,108	1,083	1,049
1,634	1,644	1,660	1,684	1,706	1,721	1,735	1,744	1,757
2,631	2,555	2,511	2,494	2,497	2,524	2,552	2,588	2,623
3,638	3,734	3,805	3,885	3,943	3,735	3,633	3,579	3,561
4,532	4,556	4,589	4,602	4,681	4,976	5,128	5,242	5,367
5,339	5,407	5,450	5,476	5,444	5,456	5,529	5,608	5,658
4,195	4,257	4,323	4,392	4,473	4,547	4,652	4,739	4,813
1,685	1,698	1,731	1,771	1,822	1,883	1,921	1,972	2,030
323	325	332	338	350	354	361	376	393
6	6	5	5	5	4	4	3	3
7	7	8	8	8	8	9	9	9
7	7	7	6	7	7	6	6	6
12	12	13	13	13	14	14	14	14
9	8	7	7	6	6	6	6	5
22	21	20	19	18	17	16	15	15
66	66	65	63	62	60	58	56	54
126	126	127	127	128	129	128	126	124
221	223	222	220	218	216	216	217	216
335	322	318	318	320	324	327	325	324
568	539	509	481	455	428	406	398	393
1,046	1,017	986	944	915	879	839	798	761
1,568	1,567	1,561	1,557	1,535	1,506	1,472	1,436	1,384
2,196	2,196	2,202	2,229	2,251	2,261	2,269	2,269	2,273
3,329	3,215	3,141	3,099	3,096	3,120	3,139	3,166	3,206
4,090	4,232	4,305	4,399	4,438	4,200	4,075	4,004	3,967
4,306	4,342	4,430	4,486	4,636	5,006	5,222	5,355	5,513
4,055	4,157	4,240	4,292	4,292	4,348	4,434	4,574	4,668
2,348	2,447	2,532	2,634	2,727	2,807	2,925	3,028	3,111
727	749	790	831	887	951	1,008	1,066	1,135
78	82	87	94	100	104	108	116	125
52,130	52,497	52,905	53,355	53,852	54,343	54,871	55,438	56,033
91.21%	91.40%	91.60%	91.80%	92.00%	92.23%	92.45%	92.68%	92.91%

2031	2032	2033	2034	2035	2036	2037	2038	2039
16	16	16	16	17	16	16	16	16
0	0	0	0	0	0	0	0	0
3	4	3	3	3	3	3	3	3
8	7	7	7	7	7	7	7	7
15	15	14	14	14	14	13	13	13
10	10	9	9	8	8	7	7	6
54	50	49	47	47	47	47	48	48
44	41	37	34	31	27	24	21	19
103	102	98	94	90	85	79	75	70
195	190	187	185	180	178	176	170	165
370	379	385	385	383	381	376	378	378
614	580	561	554	553	558	573	583	585
1,026	995	954	907	867	819	773	745	734
1,750	1,736	1,711	1,676	1,630	1,599	1,559	1,500	1,431
2,659	2,691	2,723	2,749	2,779	2,776	2,763	2,732	2,687
3,573	3,620	3,670	3,731	3,787	3,846	3,899	3,950	3,991
5,457	5,194	5,077	5,023	5,021	5,061	5,150	5,242	5,349
5,783	6,208	6,447	6,628	6,804	6,933	6,656	6,560	6,540
4,831	4,896	5,030	5,167	5,264	5,425	5,940	6,243	6,465
2,099	2,168	2,245	2,315	2,380	2,415	2,481	2,593	2,703
414	436	451	478	507	541	573	608	643
3	2	2	2	2	1	1	1	1
9	8	8	7	7	6	7	6	6
6	6	6	6	6	6	6	6	6
14	14	14	13	14	14	14	14	14
5	5	5	4	4	4	3	3	3
14	15	14	14	14	14	14	14	14
52	49	47	46	45	44	45	45	45
120	116	113	109	105	100	95	91	89
217	217	213	209	204	196	189	182	174
322	321	323	326	326	329	330	327	323
391	393	395	390	385	380	374	374	374
723	684	655	646	643	643	652	661	657
1,347	1,300	1,249	1,194	1,144	1,092	1,040	999	989
2,250	2,219	2,177	2,131	2,059	2,014	1,949	1,878	1,800
3,236	3,267	3,297	3,313	3,333	3,312	3,283	3,232	3,177
3,978	4,029	4,072	4,125	4,192	4,247	4,303	4,357	4,390
5,601	5,347	5,234	5,184	5,179	5,237	5,345	5,443	5,553
4,853	5,306	5,585	5,767	5,946	6,044	5,829	5,757	5,753
3,149	3,235	3,359	3,525	3,643	3,832	4,280	4,563	4,759
1,201	1,266	1,350	1,428	1,497	1,536	1,613	1,719	1,849
137	150	160	172	187	199	216	238	253
56,653	57,288	57,956	58,636	59,309	59,989	60,705	61,405	62,084
93.13%	93.36%	93.59%	93.83%	94.08%	94.33%	94.63%	94.91%	95.18%

2040
17
0
3
7
13
5
48
16
65
159
378
586
732
1,373
2,621
4,039
5,449
6,584
6,651
2,785
678
0
6
6
14
3
13
45
87
168
317
373
655
992
1,731
3,085
4,431
5,680
5,795
4,934
1,942
269
62,757
95.44%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	3	1	3	1	6	3
Females 5 - 9	3	4	5	2	0	3
Females 10 - 14	3	5	4	1	4	0
Females 15 - 19	4	7	6	7	8	2
Females 20 - 24	8	8	4	8	6	6
Females 25 - 29	8	9	15	8	15	17
Females 30 - 34	32	16	25	17	22	21
Females 35 - 39	49	52	39	49	48	37
Females 40 - 44	105	104	113	116	90	105
Females 45 - 49	228	178	182	163	205	164
Females 50 - 54	273	266	295	293	293	326
Females 55 - 59	420	432	408	417	415	466
Females 60 - 64	685	640	683	674	685	664
Females 65 - 69	890	844	829	837	856	866
Females 70 - 74	1,048	1,077	1,057	1,077	1,020	1,079
Females 75 - 79	1,199	1,264	1,195	1,228	1,176	1,262
Females 80 - 84	1,157	1,203	1,170	1,210	1,179	1,303
Females 85 - 89	839	928	926	858	886	940
Females 90 - 94	406	381	368	426	417	488
Females 95 - 99	116	109	116	111	108	118
Females 100+	15	12	13	13	13	16
Males 0 - 4	9	1	2	6	3	7
Males 5 - 9	1	3	3	4	4	2
Males 10 - 14	7	5	2	0	3	1
Males 15 - 19	6	7	6	6	6	8
Males 20 - 24	11	12	4	8	9	2
Males 25 - 29	12	10	12	14	18	6
Males 30 - 34	15	10	13	19	18	20
Males 35 - 39	33	42	28	28	24	35
Males 40 - 44	66	69	76	52	80	64
Males 45 - 49	126	166	140	132	130	122
Males 50 - 54	284	267	277	286	236	258
Males 55 - 59	505	511	498	468	460	441
Males 60 - 64	821	808	788	825	776	781
Males 65 - 69	983	1,058	1,042	991	1,022	1,054
Males 70 - 74	1,333	1,312	1,299	1,244	1,352	1,313
Males 75 - 79	1,418	1,270	1,396	1,404	1,406	1,394
Males 80 - 84	1,186	1,165	1,138	1,262	1,284	1,237
Males 85 - 89	661	707	724	740	806	846
Males 90 - 94	253	250	222	276	299	338
Males 95 - 99	48	54	59	42	65	45
Males 100+	5	2	2	0	4	4
Cancer Deaths	15,274	15,269	15,187	15,323	15,457	15,864
Percentage of All Deaths	27.28%	27.41%	28.20%	28.39%	28.80%	28.88%

2013	2014	2015	2016	2017	2018	2019	2020	2021
4	2	2	1	5	6	6	6	7
1	2	1	1	3	2	2	2	2
2	4	1	4	4	3	3	3	3
9	6	3	4	5	4	4	4	5
4	5	7	7	6	6	6	5	5
9	10	19	13	8	10	10	10	10
30	20	32	23	24	26	26	25	25
49	34	36	49	44	35	34	34	33
84	99	66	95	63	50	47	44	42
168	166	182	153	149	145	134	125	115
310	298	304	288	322	313	308	301	297
434	443	421	435	438	433	433	435	432
644	592	554	555	566	537	535	532	529
919	868	913	863	878	850	832	824	823
1,077	1,081	1,096	1,045	1,091	1,164	1,191	1,221	1,244
1,238	1,248	1,222	1,225	1,323	1,292	1,312	1,326	1,361
1,208	1,196	1,202	1,198	1,233	1,252	1,266	1,278	1,276
942	990	980	989	963	946	958	968	977
492	504	519	489	514	485	492	502	511
106	103	134	142	149	141	145	144	146
18	23	21	19	14	12	11	13	14
6	4	2	2	2	2	1	1	0
2	6	3	6	2	3	3	3	4
2	2	6	1	4	3	3	3	3
6	5	5	5	5	5	5	5	5
4	4	4	8	3	3	2	2	2
12	5	19	13	8	7	6	6	5
16	14	23	21	18	15	16	16	17
22	29	25	21	31	29	29	29	29
65	64	64	70	57	51	51	52	53
141	138	145	168	132	107	102	97	93
264	248	288	268	242	216	206	195	187
474	462	469	448	413	412	406	400	389
724	745	730	726	679	654	651	651	648
1,101	1,125	1,209	1,192	1,066	1,032	1,007	991	988
1,298	1,307	1,334	1,272	1,389	1,487	1,517	1,554	1,573
1,368	1,411	1,425	1,351	1,436	1,361	1,382	1,393	1,434
1,327	1,256	1,273	1,352	1,427	1,399	1,428	1,446	1,449
874	922	845	898	957	954	982	1,016	1,043
353	342	442	396	421	398	411	424	442
47	51	63	77	104	98	109	116	124
4	6	4	6	5	3	2	2	1
15,858	15,840	16,093	15,899	16,203	15,949	16,075	16,206	16,343
28.99%	29.20%	27.95%	28.03%	28.00%	28.40%	28.51%	28.61%	28.73%

							Projected	
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
7	7	7	7	7	7	8	8	8
2	2	2	2	2	2	2	2	2
3	3	3	2	2	2	2	2	2
5	5	5	5	5	5	6	5	6
5	4	4	4	4	4	4	4	4
10	10	9	9	9	9	8	8	8
24	23	23	22	20	19	18	16	15
33	32	32	31	31	31	30	29	28
40	38	36	33	30	27	24	22	19
105	98	94	90	87	86	84	81	78
292	282	269	260	248	236	228	228	229
426	417	408	395	387	376	360	342	327
526	522	517	514	503	492	477	461	441
830	837	847	862	875	885	894	901	910
1,182	1,154	1,139	1,137	1,145	1,163	1,181	1,204	1,226
1,456	1,511	1,556	1,605	1,646	1,575	1,548	1,540	1,547
1,284	1,303	1,326	1,342	1,378	1,479	1,538	1,587	1,640
985	1,001	1,013	1,022	1,021	1,027	1,044	1,063	1,077
525	533	542	551	562	572	586	597	607
147	149	152	156	161	166	170	175	181
14	14	14	14	14	14	13	14	14
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	6
3	3	3	3	3	3	2	2	2
5	5	5	5	5	5	5	5	5
1	1	1	1	1	1	0	0	0
5	5	4	4	3	3	3	3	2
17	17	17	17	17	17	16	16	16
29	29	29	30	30	31	30	30	30
54	55	56	56	56	56	57	58	59
88	84	83	83	83	84	85	84	83
177	167	156	147	137	128	121	118	115
378	365	352	335	322	307	291	275	261
646	644	639	635	624	610	594	578	555
995	1,000	1,008	1,026	1,041	1,051	1,061	1,066	1,073
1,490	1,448	1,424	1,414	1,421	1,441	1,459	1,480	1,507
1,540	1,599	1,633	1,674	1,695	1,610	1,567	1,545	1,536
1,470	1,494	1,538	1,570	1,636	1,780	1,872	1,935	2,007
1,066	1,102	1,134	1,158	1,168	1,194	1,228	1,277	1,314
466	486	505	527	547	564	590	612	630
129	135	143	152	164	178	190	203	218
1	0	0	0	0	0	0	0	0
16,461	16,588	16,731	16,903	17,096	17,242	17,402	17,579	17,787
28.80%	28.88%	28.97%	29.08%	29.21%	29.26%	29.32%	29.39%	29.49%

2031	2032	2033	2034	2035	2036	2037	2038	2039
8	8	8	8	8	8	8	8	9
2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2
6	5	6	6	6	6	6	6	6
4	4	3	3	3	3	3	3	3
8	8	8	9	8	9	9	8	8
14	12	11	10	10	9	8	8	7
27	25	24	23	21	20	19	17	17
16	14	11	8	5	2	0	0	0
74	70	67	64	60	57	54	50	47
232	240	246	248	249	250	249	252	254
309	292	282	278	277	279	286	290	291
427	409	387	364	343	320	298	284	276
909	903	892	876	854	840	821	792	757
1,248	1,270	1,291	1,309	1,329	1,334	1,334	1,324	1,308
1,567	1,604	1,641	1,684	1,725	1,768	1,809	1,849	1,885
1,682	1,615	1,593	1,590	1,602	1,629	1,672	1,715	1,765
1,105	1,191	1,241	1,281	1,320	1,350	1,300	1,286	1,287
610	619	637	655	668	689	755	794	823
187	194	201	208	214	217	224	234	245
14	15	15	15	16	16	17	17	18
0	0	0	0	0	0	0	0	0
6	5	5	4	5	4	4	4	4
2	2	2	2	2	2	2	2	2
5	5	5	5	6	6	6	6	6
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	1	1	1
15	15	14	14	14	14	15	15	15
29	28	28	27	26	25	24	23	23
60	60	60	60	59	58	56	55	53
83	82	83	83	83	83	84	83	81
114	113	112	110	108	105	103	101	100
246	231	220	215	212	211	212	213	210
538	517	495	471	450	428	406	389	384
1,067	1,058	1,043	1,026	996	979	952	922	888
1,531	1,555	1,578	1,595	1,614	1,613	1,608	1,592	1,573
1,546	1,571	1,593	1,619	1,651	1,678	1,706	1,733	1,752
2,055	1,977	1,949	1,945	1,957	1,994	2,049	2,102	2,159
1,377	1,518	1,611	1,676	1,742	1,785	1,735	1,726	1,738
640	659	686	722	748	789	883	944	987
232	247	266	283	299	309	328	352	381
0	0	0	0	0	0	0	0	0
17,998	18,146	18,320	18,502	18,698	18,894	19,047	19,206	19,366
29.59%	29.57%	29.59%	29.61%	29.66%	29.71%	29.69%	29.68%	29.69%

2040
9
2
2
6
3
8
6
16
0
42
256
291
272
728
1,282
1,924
1,813
1,300
848
253
18
0
4
2
6
0
1
15
22
52
80
99
208
383
858
1,536
1,774
2,224
1,764
1,025
403
0
19,535
29.71%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	2	2	1	1	0	2
Females 5 - 9	1	1	0	0	2	0
Females 10 - 14	2	2	0	3	0	1
Females 15 - 19	3	2	3	0	2	1
Females 20 - 24	6	3	6	3	5	3
Females 25 - 29	13	4	4	5	7	7
Females 30 - 34	12	14	19	17	14	16
Females 35 - 39	41	41	39	30	39	23
Females 40 - 44	60	63	67	62	59	59
Females 45 - 49	99	99	95	97	103	85
Females 50 - 54	173	152	159	141	158	125
Females 55 - 59	232	249	222	199	193	168
Females 60 - 64	346	374	334	348	314	300
Females 65 - 69	540	505	471	504	428	500
Females 70 - 74	825	783	729	718	704	717
Females 75 - 79	1,175	1,223	1,111	1,020	1,050	1,040
Females 80 - 84	1,586	1,470	1,385	1,429	1,369	1,413
Females 85 - 89	1,552	1,543	1,488	1,380	1,339	1,456
Females 90 - 94	962	894	872	911	923	958
Females 95 - 99	355	393	365	376	373	328
Females 100+	62	52	60	66	58	69
Males 0 - 4	1	2	0	1	2	3
Males 5 - 9	0	1	2	2	0	1
Males 10 - 14	1	0	0	1	2	3
Males 15 - 19	3	2	3	1	4	3
Males 20 - 24	10	3	4	3	4	4
Males 25 - 29	10	13	7	19	12	11
Males 30 - 34	42	23	28	23	28	34
Males 35 - 39	84	75	68	72	59	47
Males 40 - 44	186	135	144	138	142	107
Males 45 - 49	231	263	230	236	203	227
Males 50 - 54	397	337	362	378	312	310
Males 55 - 59	582	534	415	473	438	444
Males 60 - 64	722	702	695	668	667	625
Males 65 - 69	926	923	837	775	767	825
Males 70 - 74	1,196	1,083	998	1,021	998	946
Males 75 - 79	1,398	1,317	1,210	1,207	1,142	1,196
Males 80 - 84	1,419	1,306	1,307	1,248	1,235	1,147
Males 85 - 89	1,028	1,025	1,078	977	1,035	1,077
Males 90 - 94	450	407	356	467	438	482
Males 95 - 99	99	95	139	110	108	115
Males 100+	12	15	12	16	12	10
Organ Failure Deaths	16,844	16,130	15,325	15,146	14,748	14,888
Percentage of All Deaths	30.09%	28.96%	28.46%	28.07%	27.48%	27.10%

2013	2014	2015	2016	2017	2018	2019	2020	2021
2	0	0	1	2	2	2	2	2
0	0	0	1	0	0	0	0	0
3	1	1	0	2	1	1	1	1
2	2	1	2	2	2	2	2	2
4	1	1	2	3	3	2	2	2
7	3	6	6	5	5	5	4	3
14	11	12	15	13	15	15	16	16
30	17	31	26	20	14	12	11	9
48	61	55	47	52	43	42	42	43
94	94	97	85	74	73	69	65	61
146	114	135	148	151	142	136	128	122
194	213	221	200	221	217	215	213	210
282	278	280	316	349	338	343	348	354
465	482	466	502	482	462	448	439	434
663	589	695	707	722	757	761	767	767
1,001	937	1,008	970	927	874	857	836	827
1,286	1,239	1,308	1,249	1,212	1,188	1,160	1,130	1,088
1,343	1,347	1,424	1,398	1,384	1,324	1,303	1,281	1,257
991	946	1,096	960	1,018	942	939	939	940
329	320	376	372	421	394	402	398	401
68	74	84	67	61	54	51	58	61
0	1	1	1	2	2	2	2	2
1	0	0	0	1	2	2	2	2
4	2	1	2	0	0	0	0	0
1	1	4	2	4	4	4	4	4
4	5	5	4	4	4	4	3	3
8	12	7	18	10	9	9	8	8
30	22	28	20	30	24	24	23	22
45	53	48	40	56	50	48	46	44
139	119	105	104	86	71	65	59	53
209	212	202	184	228	183	174	165	156
338	304	298	336	309	272	258	241	227
442	409	418	485	459	456	447	439	426
568	525	592	565	612	591	590	591	590
809	834	829	842	840	798	764	738	722
976	940	1,021	968	982	1,025	1,020	1,019	1,005
1,188	1,146	1,147	1,127	1,148	1,064	1,055	1,040	1,045
1,263	1,224	1,307	1,250	1,238	1,174	1,157	1,131	1,094
955	1,012	1,076	991	1,059	1,018	1,010	1,006	994
559	581	592	569	558	511	511	510	513
127	113	143	146	156	143	154	159	165
12	16	19	21	25	16	15	18	20
14,650	14,260	15,140	14,749	14,928	14,267	14,077	13,887	13,696
26.78%	26.29%	26.30%	26.00%	25.80%	25.41%	24.96%	24.52%	24.08%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
2	2	3	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	1	1
2	1	1	1	1	1	1	0	0
2	1	0	0	0	0	0	0	0
16	16	17	17	17	16	16	15	15
7	5	3	1	0	0	0	0	0
44	44	44	44	44	43	43	43	43
57	54	53	52	52	52	53	52	51
116	108	100	93	85	78	73	70	68
205	199	192	184	179	172	163	153	145
359	363	367	372	373	372	368	363	355
433	432	433	436	438	438	438	437	436
717	687	667	654	647	645	644	645	645
854	854	847	842	830	764	722	690	665
1,055	1,031	1,010	984	971	1,001	1,000	989	979
1,232	1,216	1,195	1,170	1,133	1,105	1,089	1,073	1,051
946	943	940	938	937	935	939	938	935
400	401	407	414	424	435	442	451	462
63	62	62	62	63	63	63	65	66
2	2	2	3	3	3	3	3	3
2	2	2	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	5
3	3	2	2	2	2	2	2	2
8	8	7	7	7	6	6	6	6
21	20	19	18	17	15	14	13	12
42	40	39	37	35	34	32	29	27
48	43	36	30	23	17	10	4	0
147	140	137	136	135	136	136	133	132
213	198	183	169	156	143	133	127	122
411	396	379	359	344	327	308	289	273
590	589	586	584	575	564	551	537	517
714	703	696	694	691	683	676	665	656
928	878	841	813	795	784	772	761	754
1,096	1,110	1,106	1,105	1,090	1,009	956	917	887
1,071	1,050	1,041	1,023	1,026	1,074	1,085	1,077	1,072
977	972	960	941	910	891	877	872	857
522	526	527	529	529	525	527	524	518
167	169	175	181	190	200	208	216	226
21	22	22	23	24	24	24	25	25
13,497	13,300	13,110	12,931	12,758	12,570	12,383	12,198	12,015
23.62%	23.16%	22.70%	22.25%	21.80%	21.33%	20.86%	20.39%	19.92%

2031	2032	2033	2034	2035	2036	2037	2038	2039
3	3	3	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
15	14	14	13	14	14	14	14	14
0	0	0	0	0	0	0	0	0
43	43	42	42	41	40	38	37	35
50	49	48	48	47	47	46	45	44
66	65	64	62	59	57	54	52	50
136	127	121	118	116	116	117	118	117
350	343	332	318	307	292	279	271	269
431	424	414	402	388	377	365	348	329
645	644	643	640	638	629	617	602	583
646	633	620	609	596	583	568	552	535
962	883	832	792	761	736	718	698	680
1,043	1,086	1,092	1,087	1,079	1,062	984	935	898
920	914	921	927	925	934	1,001	1,031	1,044
475	488	503	516	528	533	544	566	587
69	71	72	75	79	82	86	89	93
3	3	3	3	3	3	3	3	3
3	3	3	3	3	2	3	2	2
0	0	0	0	0	0	0	0	0
5	5	5	5	5	5	5	6	5
2	2	2	2	2	2	1	1	1
6	6	6	6	6	6	6	6	6
11	10	9	8	7	6	6	5	5
24	22	19	17	15	13	11	9	7
0	0	0	0	0	0	0	0	0
129	128	127	127	125	125	124	122	119
118	115	112	107	102	97	92	88	84
256	239	226	220	216	213	213	213	209
503	485	466	444	425	406	386	371	367
639	620	599	577	548	526	501	474	446
743	733	722	708	694	672	649	622	594
867	856	843	831	821	808	795	781	763
1,051	968	913	870	835	810	792	771	751
856	898	906	895	881	853	782	732	692
503	495	491	492	485	485	514	518	510
235	243	255	264	272	274	282	295	312
26	27	28	28	29	29	30	30	30
11,836	11,647	11,457	11,260	11,057	10,842	10,630	10,411	10,188
19.46%	18.98%	18.50%	18.02%	17.54%	17.05%	16.57%	16.09%	15.62%

2040
3
0
0
1
0
0
14
0
34
43
47
115
271
313
561
518
660
869
1,051
602
96
3
2
0
5
1
6
4
6
0
115
80
205
367
421
561
746
731
657
498
321
29
9,957
15.14%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	0	0	0	0	0	0
Females 5 - 9	0	0	0	0	0	0
Females 10 - 14	0	0	0	0	0	0
Females 15 - 19	0	0	0	0	0	0
Females 20 - 24	0	0	0	0	0	0
Females 25 - 29	0	0	0	0	0	0
Females 30 - 34	0	0	0	0	0	0
Females 35 - 39	0	0	0	0	0	0
Females 40 - 44	0	0	0	0	0	0
Females 45 - 49	1	1	2	1	0	0
Females 50 - 54	0	5	0	1	2	0
Females 55 - 59	2	7	3	1	4	4
Females 60 - 64	14	13	15	9	13	14
Females 65 - 69	28	19	32	25	23	40
Females 70 - 74	71	86	73	87	65	98
Females 75 - 79	194	231	206	214	213	275
Females 80 - 84	438	466	406	438	497	598
Females 85 - 89	611	695	778	737	837	948
Females 90 - 94	588	578	585	624	777	955
Females 95 - 99	309	313	273	351	378	435
Females 100+	71	69	91	86	90	102
Males 0 - 4	0	0	0	0	0	0
Males 5 - 9	0	0	0	0	0	0
Males 10 - 14	0	0	0	0	0	0
Males 15 - 19	0	0	0	0	0	0
Males 20 - 24	0	0	0	0	0	0
Males 25 - 29	0	0	0	0	0	0
Males 30 - 34	0	0	0	0	0	0
Males 35 - 39	0	0	0	0	0	0
Males 40 - 44	0	0	0	0	0	0
Males 45 - 49	1	0	0	1	0	0
Males 50 - 54	1	2	3	1	1	3
Males 55 - 59	2	2	2	3	1	2
Males 60 - 64	12	11	22	16	14	16
Males 65 - 69	29	24	28	29	17	37
Males 70 - 74	70	79	77	58	76	75
Males 75 - 79	144	139	140	181	164	179
Males 80 - 84	221	271	249	276	336	360
Males 85 - 89	228	220	275	270	380	402
Males 90 - 94	134	154	136	176	208	271
Males 95 - 99	45	52	50	61	77	77
Males 100+	2	12	9	11	6	15
Dementia Deaths	3,216	3,449	3,455	3,657	4,179	4,906
Percentage of All Deaths	5.74%	6.19%	6.42%	6.78%	7.79%	8.93%

2013	2014	2015	2016	2017	2018	2019	2020	2021
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0
1	0	1	2	1	1	1	1	1
1	7	6	9	2	2	2	2	2
17	12	14	16	21	21	22	23	24
36	24	51	46	38	38	38	38	39
105	94	108	115	119	131	139	147	154
251	282	290	308	361	365	383	399	421
652	666	691	633	788	828	866	902	928
1,021	945	1,162	1,096	1,316	1,349	1,421	1,492	1,562
1,000	1,035	1,176	1,091	1,269	1,243	1,308	1,380	1,454
420	409	485	495	543	525	553	564	585
107	97	98	103	97	88	86	101	109
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
2	2	2	2	1	1	1	1	1
1	4	3	3	5	5	6	6	6
8	15	11	10	11	11	11	11	11
36	33	35	45	31	30	29	29	29
78	68	93	105	113	125	131	139	144
194	204	257	217	313	312	332	350	376
352	398	438	426	511	522	554	582	604
451	479	566	548	665	692	742	798	849
288	328	374	378	424	419	450	483	522
74	87	91	108	131	126	142	154	168
9	12	8	22	16	11	12	15	19
5,107	5,201	5,962	5,778	6,776	6,846	7,230	7,617	8,008
9.34%	9.59%	10.36%	10.19%	11.71%	12.19%	12.82%	13.45%	14.08%

							Projected	
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	1	1
25	26	26	27	28	28	29	29	29
41	42	43	45	47	48	50	51	52
151	151	153	157	161	168	174	181	189
463	494	521	551	577	565	567	575	589
960	1,001	1,044	1,083	1,139	1,249	1,327	1,398	1,473
1,630	1,713	1,789	1,860	1,911	1,977	2,065	2,158	2,240
1,540	1,612	1,687	1,765	1,848	1,930	2,026	2,117	2,203
602	621	647	677	711	750	781	818	858
116	118	122	125	131	134	138	145	153
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
6	6	7	7	7	7	7	7	7
11	11	11	11	11	11	11	11	10
29	29	29	30	30	30	30	31	31
140	140	141	143	147	153	158	164	170
420	454	480	510	535	524	527	535	548
633	664	704	739	791	883	952	1,007	1,068
898	959	1,018	1,070	1,110	1,165	1,229	1,309	1,379
569	615	659	708	757	803	862	919	970
178	188	203	219	239	262	283	306	332
21	24	26	30	33	36	39	44	49
8,436	8,870	9,315	9,761	10,216	10,727	11,258	11,805	12,351
14.76%	15.44%	16.13%	16.79%	17.45%	18.21%	18.97%	19.73%	20.48%

2031	2032	2033	2034	2035	2036	2037	2038	2039
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1
29	29	28	28	27	26	25	25	25
53	54	54	54	54	53	53	52	50
196	203	210	217	225	229	233	235	236
607	633	658	687	715	743	772	800	827
1,540	1,505	1,511	1,533	1,571	1,622	1,690	1,760	1,837
2,354	2,595	2,766	2,917	3,068	3,201	3,145	3,170	3,231
2,263	2,346	2,464	2,586	2,690	2,828	3,158	3,383	3,568
904	950	1,002	1,050	1,098	1,132	1,182	1,255	1,328
163	173	181	193	207	223	238	254	271
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
6	6	6	6	7	7	7	7	8
10	10	9	9	9	8	8	8	8
30	30	30	29	28	28	27	26	25
176	182	188	193	199	202	205	206	207
567	592	616	642	671	699	727	755	780
1,118	1,098	1,104	1,123	1,152	1,194	1,249	1,302	1,359
1,478	1,665	1,803	1,914	2,027	2,115	2,092	2,118	2,168
1,008	1,063	1,131	1,216	1,287	1,385	1,581	1,722	1,834
358	384	417	449	478	499	532	576	629
55	63	70	77	87	95	107	121	133
12,920	13,585	14,253	14,929	15,602	16,294	17,035	17,780	18,528
21.24%	22.14%	23.02%	23.89%	24.75%	25.62%	26.55%	27.48%	28.40%

2040
0
0
0
0
0
0
0
0
0
0
2
1
26
49
234
855
1,912
3,323
3,738
1,389
288
0
0
0
0
0
0
0
0
0
0
1
8
8
24
205
807
1,422
2,235
1,940
670
146
19,284
29.33%

						Baseline
Group	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Females 0 - 4	0	0	0	0	1	1
Females 5 - 9	0	2	0	0	0	0
Females 10 - 14	1	1	0	0	1	0
Females 15 - 19	1	2	0	2	1	1
Females 20 - 24	1	1	0	0	1	0
Females 25 - 29	2	1	2	1	2	3
Females 30 - 34	5	9	1	6	3	2
Females 35 - 39	13	10	12	6	9	6
Females 40 - 44	27	19	20	14	11	16
Females 45 - 49	32	33	35	36	22	42
Females 50 - 54	44	37	44	47	57	49
Females 55 - 59	52	53	57	54	53	53
Females 60 - 64	102	114	89	102	76	80
Females 65 - 69	134	141	123	112	124	123
Females 70 - 74	237	234	247	217	206	231
Females 75 - 79	446	463	394	383	395	375
Females 80 - 84	732	728	678	667	617	583
Females 85 - 89	870	895	815	815	775	730
Females 90 - 94	619	578	550	514	544	589
Females 95 - 99	260	251	244	242	234	246
Females 100+	31	37	54	37	48	37
Males 0 - 4	0	2	1	0	0	0
Males 5 - 9	0	0	0	0	0	0
Males 10 - 14	1	0	0	0	0	0
Males 15 - 19	1	1	1	2	0	0
Males 20 - 24	2	0	1	4	2	0
Males 25 - 29	1	4	2	3	2	1
Males 30 - 34	8	7	3	4	6	7
Males 35 - 39	10	15	15	9	9	10
Males 40 - 44	24	25	31	26	23	11
Males 45 - 49	50	43	27	37	30	31
Males 50 - 54	61	66	57	42	44	44
Males 55 - 59	67	65	64	66	68	80
Males 60 - 64	110	126	107	110	115	85
Males 65 - 69	156	182	152	151	169	142
Males 70 - 74	280	289	277	227	249	220
Males 75 - 79	418	390	377	409	338	354
Males 80 - 84	485	491	458	499	469	459
Males 85 - 89	435	430	436	412	379	382
Males 90 - 94	207	181	174	176	215	207
Males 95 - 99	49	55	45	69	42	51
Males 100+	2	8	6	4	6	5
Other Palliative Care Deaths	5,976	5,989	5,599	5,505	5,346	5,256
Percentage of All Deaths	10.67%	10.75%	10.40%	10.20%	9.96%	9.57%

2013	2014	2015	2016	2017	2018	2019	2020	2021
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0
0	2	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1
4	6	1	4	2	2	2	1	1
5	8	12	5	9	7	7	6	6
18	9	13	21	16	13	12	11	11
23	26	32	30	26	26	25	24	22
45	50	42	40	39	37	35	33	32
59	56	53	58	59	59	59	60	60
94	77	84	99	85	81	80	80	80
126	130	146	127	115	110	106	103	102
240	181	201	203	187	194	192	191	189
388	343	351	340	319	297	287	276	269
575	547	570	532	503	486	468	448	424
714	663	618	640	653	610	586	561	535
540	545	596	497	510	457	440	424	407
211	193	215	204	203	180	173	161	152
33	45	38	39	33	29	28	32	34
0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0
2	0	0	0	1	1	1	1	1
0	0	0	0	1	1	1	1	1
0	1	1	0	0	0	0	0	0
2	0	2	5	2	2	2	2	2
6	0	8	3	6	5	5	5	5
10	9	9	6	11	10	10	11	11
13	20	18	17	20	18	18	18	18
35	17	24	37	30	22	20	17	14
44	49	51	49	50	44	42	40	38
67	72	63	86	68	69	70	70	70
92	94	102	97	111	109	110	112	114
155	139	179	158	148	141	136	132	130
230	211	231	237	242	254	254	256	254
370	334	358	310	359	334	334	331	334
470	428	464	471	418	396	389	380	367
408	390	411	404	373	349	337	325	311
231	211	246	229	236	214	211	208	207
49	56	57	67	63	56	59	59	60
8	7	6	7	9	6	6	8	10
5,270	4,920	5,206	5,026	4,909	4,621	4,507	4,390	4,270
9.63%	9.07%	9.04%	8.86%	8.48%	8.23%	7.99%	7.75%	7.51%

						Projected		
2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
5	5	5	4	4	4	3	3	2
10	10	9	8	7	7	6	5	4
21	20	20	20	20	20	21	20	20
30	28	26	24	23	21	19	19	18
60	59	58	57	56	55	53	50	49
79	79	78	78	76	75	73	70	67
101	100	100	100	100	100	99	98	98
174	164	157	152	148	145	142	140	137
273	268	261	254	246	221	203	189	177
404	387	371	353	340	341	331	317	302
508	485	460	433	402	374	349	325	298
393	374	355	336	317	297	278	258	236
142	132	123	114	106	97	87	77	67
35	35	36	36	37	37	38	39	40
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
4	4	4	4	4	3	3	3	3
11	11	11	12	12	12	12	12	12
19	19	19	19	19	19	19	20	20
12	10	8	7	5	4	2	0	0
36	33	31	29	27	25	24	23	22
69	68	67	65	64	62	60	58	56
116	117	118	120	120	119	118	117	114
129	128	127	128	128	127	127	125	125
236	225	217	211	208	207	205	204	204
353	359	360	363	360	336	320	310	302
358	351	347	340	341	356	358	355	352
295	281	266	248	227	208	190	174	155
207	205	202	199	195	189	186	180	173
59	58	58	58	58	59	59	58	58
11	12	13	14	16	17	18	20	22
4,155	4,035	3,914	3,791	3,669	3,541	3,409	3,274	3,138
7.27%	7.03%	6.78%	6.52%	6.27%	6.01%	5.74%	5.47%	5.20%

2031	2032	2033	2034	2035	2036	2037	2038	2039
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	2	1	1	0	0	0	0	0
4	3	2	2	1	0	0	0	0
20	20	20	20	20	20	20	20	20
18	18	17	17	16	16	15	14	14
46	44	43	42	43	43	45	46	46
65	62	59	56	53	49	46	44	43
96	94	91	88	84	82	78	74	70
135	132	129	126	122	118	113	107	101
166	157	148	138	129	119	108	98	86
286	251	225	202	182	163	146	127	109
275	263	240	213	184	152	112	78	45
211	187	166	144	119	95	73	46	15
56	44	32	19	5	0	0	0	0
42	44	45	48	50	53	56	59	62
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	1
12	12	12	12	12	11	11	11	10
20	20	20	20	20	19	19	18	17
0	0	0	0	0	0	0	0	0
22	21	21	20	20	19	19	18	18
54	52	50	50	51	51	53	54	54
112	110	107	103	100	97	93	91	91
122	119	116	113	108	104	100	95	91
203	202	201	199	197	193	188	182	177
298	297	295	293	293	291	290	288	285
344	316	297	281	269	260	253	244	237
137	124	104	79	53	25	0	0	0
162	154	147	141	131	124	122	113	100
57	56	55	53	51	47	44	42	39
25	28	31	34	38	42	47	53	57
2,997	2,839	2,681	2,521	2,357	2,199	2,056	1,927	1,791
4.93%	4.63%	4.33%	4.03%	3.74%	3.46%	3.20%	2.98%	2.75%

2040
0
0
0
0
1
0
0
0
0
19
13
46
42
66
94
75
89
12
0
0
64
0
0
1
1
0
2
1
10
17
0
17
55
92
86
169
282
229
0
85
35
62
1,668
2.54%

Group	2007	2008	2009	2010	2011
Females 0 - 4	0	0	0	0	0
Females 5 - 9	1	1	0	1	0
Females 10 - 14	0	1	1	0	0
Females 15 - 19	1	1	1	2	1
Females 20 - 24	0	3	0	0	1
Females 25 - 29	1	0	2	0	0
Females 30 - 34	6	2	6	5	2
Females 35 - 39	6	5	4	4	6
Females 40 - 44	24	12	12	18	10
Females 45 - 49	37	26	30	38	37
Females 50 - 54	55	46	46	60	61
Females 55 - 59	105	103	103	101	112
Females 60 - 64	194	194	184	206	186
Females 65 - 69	340	305	297	322	310
Females 70 - 74	518	519	466	566	503
Females 75 - 79	813	934	818	863	785
Females 80 - 84	1,363	1,294	1,284	1,362	1,270
Females 85 - 89	1,410	1,551	1,588	1,541	1,458
Females 90 - 94	1,017	955	936	1,055	1,019
Females 95 - 99	425	409	392	410	430
Females 100+	67	73	64	73	89
Males 0 - 4	0	0	0	0	1
Males 5 - 9	0	0	0	0	0
Males 10 - 14	1	1	0	0	2
Males 15 - 19	2	1	1	0	0
Males 20 - 24	3	1	1	0	1
Males 25 - 29	1	2	0	0	1
Males 30 - 34	2	4	0	7	5
Males 35 - 39	14	8	4	10	3
Males 40 - 44	9	12	18	19	18
Males 45 - 49	35	41	31	31	31
Males 50 - 54	68	72	73	69	63
Males 55 - 59	151	147	154	128	114
Males 60 - 64	282	263	264	287	259
Males 65 - 69	467	497	438	448	464
Males 70 - 74	732	686	739	678	733
Males 75 - 79	1,053	931	1,002	1,003	956
Males 80 - 84	1,130	1,142	1,108	1,209	1,186
Males 85 - 89	870	875	1,009	932	1,014
Males 90 - 94	411	368	348	424	458
Males 95 - 99	92	111	109	135	118
Males 100+	10	14	10	12	10
Deaths with More Than 1 Condition	11,716	11,610	11,543	12,019	11,717
Percentage of All Deaths	20.93%	20.84%	21.43%	22.27%	21.84%
Percentage of Palliative Care Deaths	23.68%	23.65%	24.20%	25.05%	24.67%

(underlying and contributory causes)

Baseline								
2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
1	1	0	0	0	1	1	1	1
1	0	0	0	0	0	0	0	0
0	1	0	0	1	1	1	1	1
0	2	0	1	1	0	0	0	0
0	0	1	0	2	0	0	0	0
1	4	2	2	2	2	3	3	3
0	1	2	4	2	5	6	6	6
6	9	3	8	8	8	7	7	7
13	10	10	13	20	13	10	9	9
32	23	26	35	33	35	36	34	33
67	54	61	70	73	75	74	74	73
94	109	116	110	120	133	134	136	139
197	198	176	220	212	222	217	223	228
301	318	326	403	377	377	369	365	365
551	549	535	635	639	626	677	701	727
917	919	894	999	1,051	1,038	1,025	1,053	1,076
1,290	1,348	1,297	1,506	1,469	1,551	1,583	1,611	1,634
1,540	1,528	1,615	1,837	1,894	2,035	2,038	2,100	2,160
1,177	1,159	1,250	1,547	1,412	1,567	1,502	1,550	1,605
441	411	412	572	570	623	594	619	623
75	70	97	98	88	84	75	73	86
1	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	1	0	0	0	0	0
0	1	1	4	0	1	1	1	1
0	1	0	0	0	0	0	0	0
0	1	1	1	4	4	4	4	4
6	2	2	4	3	3	3	3	3
6	5	6	10	4	12	11	11	11
9	8	12	18	13	13	12	13	13
30	31	23	31	44	40	33	31	30
65	64	50	87	93	91	84	84	83
142	146	132	159	184	153	156	157	158
279	249	281	309	354	313	310	316	324
459	483	481	627	595	534	519	509	504
688	724	716	864	839	921	1,002	1,037	1,078
979	1,005	1,031	1,138	1,152	1,225	1,175	1,208	1,233
1,193	1,193	1,282	1,500	1,518	1,595	1,585	1,637	1,678
1,036	1,078	1,170	1,287	1,305	1,390	1,397	1,450	1,511
555	563	599	752	744	799	766	801	837
109	111	125	170	180	206	195	217	231
11	13	17	16	17	29	19	19	23
12,272	12,393	12,752	15,038	15,024	15,725	15,623	16,061	16,497
22.34%	22.66%	23.51%	26.12%	26.49%	27.17%	27.82%	28.48%	29.13%
25.14%	25.43%	26.34%	29.14%	29.59%	30.15%	30.76%	31.43%	32.07%

								Projected
2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
1	2	2	2	2	2	2	2	2
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	3	3	3	3	3	3	3	3
6	5	5	5	5	5	5	5	4
7	7	7	8	8	8	8	8	8
8	7	7	6	5	5	4	3	2
32	30	29	30	30	30	31	32	33
73	72	70	68	66	64	61	60	60
140	141	140	139	137	136	134	130	126
234	240	245	250	256	258	260	259	258
368	375	382	390	401	411	419	427	434
749	720	710	709	715	727	746	765	787
1,116	1,206	1,263	1,313	1,367	1,414	1,365	1,353	1,356
1,640	1,658	1,691	1,728	1,758	1,813	1,953	2,041	2,114
2,218	2,273	2,349	2,415	2,474	2,507	2,559	2,640	2,725
1,661	1,730	1,783	1,838	1,895	1,958	2,019	2,095	2,163
639	650	664	685	709	738	772	796	826
92	97	98	101	103	108	109	112	117
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3
11	11	11	11	11	11	11	11	10
14	15	15	16	17	17	18	18	19
29	28	27	27	27	27	28	28	28
82	81	80	78	76	74	72	70	71
157	155	153	151	146	144	140	135	130
331	338	345	350	356	358	358	357	354
504	510	515	522	533	543	551	558	563
1,107	1,063	1,047	1,043	1,049	1,068	1,096	1,122	1,152
1,284	1,394	1,464	1,511	1,566	1,602	1,538	1,512	1,506
1,701	1,745	1,794	1,866	1,924	2,025	2,226	2,362	2,464
1,563	1,609	1,676	1,737	1,785	1,813	1,864	1,929	2,019
883	941	995	1,044	1,101	1,156	1,205	1,273	1,335
247	259	270	288	307	331	359	385	412
27	30	32	34	37	40	42	44	48
16,936	17,404	17,883	18,376	18,880	19,404	19,966	20,545	21,139
29.77%	30.45%	31.13%	31.81%	32.48%	33.15%	33.89%	34.62%	35.34%
32.71%	33.39%	34.06%	34.73%	35.39%	36.03%	36.74%	37.44%	38.13%

2030	2031	2032	2033	2034	2035	2036	2037	2038
2	2	2	2	2	2	2	2	2
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	3	3	3	4	4	4	4	4
4	4	3	3	3	3	3	3	3
8	8	8	8	8	8	8	7	7
2	1	0	0	0	0	0	0	0
33	33	33	33	34	34	35	35	35
61	62	65	67	68	69	70	70	71
122	117	112	109	109	110	113	117	120
254	253	249	243	234	228	218	209	205
443	446	447	445	441	433	429	423	411
809	831	853	875	894	916	926	933	934
1,374	1,402	1,445	1,489	1,539	1,587	1,637	1,686	1,734
2,193	2,258	2,177	2,155	2,158	2,183	2,227	2,293	2,361
2,797	2,907	3,173	3,348	3,497	3,646	3,772	3,675	3,675
2,226	2,263	2,323	2,416	2,512	2,590	2,700	2,991	3,179
860	899	939	982	1,023	1,063	1,088	1,129	1,191
123	131	138	144	153	163	175	186	198
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0
4	4	4	5	5	5	5	5	5
3	3	3	3	3	3	3	3	3
10	10	10	9	9	9	8	8	7
20	21	21	22	22	22	22	22	22
28	28	28	29	29	29	30	30	30
72	73	76	78	80	81	82	83	85
126	121	116	113	113	114	115	118	121
348	344	338	331	321	313	303	294	287
569	569	566	560	553	539	532	519	504
1,186	1,218	1,250	1,282	1,309	1,338	1,350	1,358	1,357
1,513	1,537	1,577	1,614	1,656	1,704	1,747	1,792	1,837
2,579	2,664	2,584	2,569	2,584	2,621	2,689	2,785	2,877
2,090	2,204	2,443	2,606	2,726	2,848	2,933	2,865	2,865
1,388	1,423	1,480	1,554	1,650	1,725	1,835	2,072	2,233
443	473	504	543	580	613	635	673	723
52	57	63	68	74	81	87	95	105
21,746	22,371	23,034	23,710	24,395	25,084	25,785	26,487	27,196
36.06%	36.78%	37.54%	38.29%	39.04%	39.79%	40.55%	41.29%	42.03%
38.81%	39.49%	40.21%	40.91%	41.60%	42.29%	42.98%	43.63%	44.29%

2039	2040
2	2
0	0
2	1
0	0
0	0
4	4
3	3
7	7
0	0
35	35
73	74
122	124
205	208
396	384
930	918
1,778	1,826
2,437	2,511
3,717	3,796
3,327	3,460
1,254	1,304
210	223
0	0
0	0
0	0
1	1
0	0
5	5
3	3
7	7
22	22
30	29
87	89
122	123
288	293
488	473
1,354	1,333
1,873	1,912
2,976	3,087
2,898	2,955
2,354	2,466
784	831
113	121
27,907	28,629
42.78%	43.54%
44.95%	45.62%

STROBE STATEMENT

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	P4
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	P4-5
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	P7-8
Objectives	3	State specific objectives, including any prespecified hypotheses	P8
Methods			
Study design	4	Present key elements of study design early in the paper	P8
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P9 & P12
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	P9
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed	NA
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P10-12
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	P9 Datasources, and Supplementary file 2
Bias	9	Describe any efforts to address potential sources of bias	Use of a range of methods to estimate future palliative care need
Study size	10	Explain how the study size was arrived at	National dataset – P9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	NA
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	P10-11

		(*b*) Describe any methods used to examine subgroups and interactions	NA
		(*c*) Explain how missing data were addressed	NA
		(*d*) If applicable, explain how loss to follow-up was addressed	NA
		(*e*) Describe any sensitivity analyses	Alternative models described
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	NA for quantitative analysis; P19 for and supplementary file 1 for participation in expert consultation
		(b) Give reasons for non-participation at each stage	NA for quantitative analysis' not known for expert consultation/survey.
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	For expert consultation see supplementary material 1
		(b) Indicate number of participants with missing data for each variable of interest	NA
		(c) Summarise follow-up time (eg, average and total amount)	NA
Outcome data	15*	Report numbers of outcome events or summary measures over time	Estimates of palliative care need over time shown in results.