# 2010-2012

## Health Profile for Guernsey and Alderney



## Public Health Directorate

HEALTH AND SOCIAL SERVICES A STATES OF GUERNSEY GOVERNMENT DEPARTMENT

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## Foreword by the HSSD Board

One of the Health and Social Services Department's key political responsibilities is to improve public health. However, it is clear that public health improvement requires actions from many individuals and organisations, both governmental and non-governmental, not just HSSD.

Public health surveillance information is vital to help us better understand the health of our population, prioritise areas for further action, and to monitor trends in key public health indicators. This health profile is an important tool to help our community contribute to improving the health of us all, and will also be of interest to other Government Departments, non-governmental organisations and individuals.

We are also pleased that close collaboration between public health staff in Guernsey and Jersey has allowed publication of this Profile to coincide with the simultaneous release of the Health Profile for Jersey, which covers much of the same ground. This has been an excellent example of partnership working between our sister jurisdictions.

Deputy Mark Dorey, Minister of Health and Social Services Department, Deputy Martin Storey, Deputy Minister, Deputy Barry Brehaut, Board Member, Deputy Elis Bebb, Board Member, Deputy Al Brouard, Board Member.

## **Comment from Guernsey's Medical Officer of Health**

This second health profile builds on the first, and provides a range of updated information. While the profile aims to provide facts about the health of our population, in my Medical Officer of Health role I give brief consideration to some of its implications.

The reduction in stillbirth rates of around 75% over the last half-century, and relatively low infant mortality and low birth weight babies is good news. Of concern, however, is the internationally relatively low breast-feeding rates. The benefits of breast-feeding were covered in the 113th MOH report and debated in the States in 2013 with a resolution that HSSD would bring forward a proposed strategy aimed to improve the local situation. While Guernsey children's dental health figures are better than England's, it is of concern that our children's dental health deteriorated between 2008-11, a fifth of children have dental decay by the age of 5, and only a minority of decayed teeth had been treated. The issue of dental health is a costly one for individuals and society, both in health and economic terms. The issue of dental public health was also considered in the 113th MOH report.

Guernsey life expectancies at birth have improved by 4-5% over the last 15-20 years and are now some of the highest in Europe. While this is good news, along with the population bulge of people aged 40-55 years who will turn 65 in the next 10-25 years, this is likely to represent a future challenge in the provision of health and other services. These demographic changes suggest that if the public wish in the future to enjoy the current breadth and quality of public health and social care services, in addition to continued efforts to improve efficiency, increased resources are likely to be required for a period too.

Of the average of approximately 570 deaths per year recorded between 2010 and 2012, cardiovascular disease and cancers were the underlying cause in about 30%, and respiratory disease in about 10%. An alternative way of considering the burden of deaths is years of life lost (YLL) under an arbitrary cut-off age to which everyone should live, usually taken as 75 years old, and years of working life lost, usually taken as under 65 years. Of 2100 years of life lost (YLL) under 75 years in the three year period, about 43% were in those under 65 years. Over 10% of YLL were from suicide and undermined injury and 10% from accidents, contributing an average per death of 37 YLL and 15 YLL respectively. This reflects the burden of suicides and accidents in the relatively young, along with chronic liver disease deaths which contributed an average of 17 YLL per death. Preventable deaths were also considered by newly developed methodology, which generally arbitrarily assumed only deaths under 75 years were preventable, and which concluded that overall 17% of our deaths could have been

prevented. Smoking was estimated to cause 15% of all deaths, or about 90 a year. A third of cancers, a third of respiratory deaths, and a tenth of cardiovascular deaths were attributable to smoking. Around thirty excess winter deaths have been seen on average in the over 75 year olds, and further work is warranted to explore this potentially preventable burden in our older residents. Limited data is available on the incidence and prevalence of diseases in the islands, but a relatively high rate of skin cancer, head and neck cancer, and bladder cancer is noted, which is likely to be mainly attributable to excess sun exposure and smoking. Primary care is a potentially rich source of disease burden data that I hope it will be possible to use better in future.

Under 18 conception rates are in line with England, but twice the rate of Jersey, a situation that should be addressed in the island's developing sexual health strategy. Paradoxically a recent reduction in chlamydia diagnoses in young people is probably not good news, as the majority of infections are likely to be going undetected with possibly major health and economic consequences in future. I have previously recommended a local Chlamydia screening programme in two MOH reports and a programme will be proposed as part of the new sexual health strategy which I hope will receive support.

Mental health remains a major cause of morbidity with, very worryingly, 20% of our population recorded to have anxiety and/or depression at a clinically significant level. People who are unemployed or on a low income are at much greater risk. These figures, along with suicide and undetermined injury as a major cause of years of life lost in our population, demonstrate the importance of successful implementation of the Mental Health Strategy, and the urgent need to prevent mental health problems and their associated economic costs for both wider society and individuals.

Childhood immunisation rates in Guernsey are good, but there is no room to be complacent. Our adult flu immunisation rates appear, however, to be disappointing. It is hoped that, with further work, the performance of our population screening programmes can be reported in future profiles.

Smoking remains an extremely important cause of premature death and disease for us. A significant proportion of women continue to smoke throughout pregnancy which puts their babies at higher risk, and a significant proportion of the adult population smoke. Other data on alcohol, weight and physical activity demonstrate many of our population do not have a healthy lifestyle which will be contributing to a significant burden of preventable disease. The data we have on lifestyles is highly valuable; however improved monitoring would be very

useful to help us provide better services. Smoking, alcohol and drug and obesity strategies to control this burden need to remain priorities.

Data is provided on schools participation in the Healthy Schools initiative, and schools who have achieved accreditation should be congratulated for their hard work and major achievement on helping ensure our young people get the best possible start to life. Work with schools could be an example of how other institutions/businesses might be encouraged to improve the health of the people they are responsible for, and for whom we have very limited data.

Finally I would like to give credit to the excellent work of Jenny Cataroche in producing this profile, and to our colleagues in Jersey for working jointly with us. It is planned to undertake a further health profile covering the years 2013 to 2015, in 2017. Suggestions as to how the next Health Profile might be improved would be most welcome. Dr Stephen Bridgman, April 2014

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## **Glossary and abbreviations**

95% CI LL	95% Confidence Interval Lower Level (see also Statistical Definitions)					
95% CI UL	95% Confidence Interval Upper Level (see also Statistical Definitions)					
Alderney MMH	Alderney Mignot Memorial Hospital					
AKA	Also Known As					
ASR	Age-standardised rate (see also Statistical Definitions)					
Bailiwick	Unless otherwise stated, the term 'Bailiwick', where used in this report, refers to Guernsey, Alderney and the smaller islands of Herm and Jethou, but excludes Sark.					
BMI	Body Mass Index					
COPD	Chronic Obstructive Pulmonary Disease					
DH	Department of Health					
EDS-PAS	EDS Healthcare Patient Administration System					
EUROKING	HSS EUROKING Maternity Information System					
EWM	Excess Winter Mortality					
'Flu	Influenza					
GORs	Government Office Regions (The primary geographical classification for the presentation of English regional statistics since 1996. Closed on 31 <sup>st</sup> March 2011, referred to simply as 'regions' since 1 <sup>st</sup> April 2011).					

Gsy/Ald	Guernsey/Alderney; indicating a joint result using pooled data from both islands
GUM	Genitourinary Medicine
HADS	Hospital Anxiety and Depression Scale
HSCIC	Health and Social Care Information Centre
HSSD	Health and Social Services Department, States of Guernsey
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10 <sup>th</sup> Revision
KEVII	King Edward VII Hospital
МоН	Medical Officer of Health
MSG	Medical Specialist Group
NCIN	National Cancer Intelligence Network
NHS	National Health Service
NHSP	National Healthy Schools Programme
NMSC	Non-Melanoma Skin Cancer
ONS	Office for National Statistics
PCCL	Primary Care Company Limited

РСТ	Primary Care Trust (former National Health Service administrative bodies, responsible for commissioning primary, community and secondary health services from providers. PCTs ceased to exist on 31 <sup>st</sup> March 2013 since which th work has been taken over by Clinical Commissioning Groups)					
PEH	Princess Elizabeth Hospital					
PHOF	Public Health Outcomes Framework (a Public Health England data tool which sets out a vision for public health, desired outcomes and indicators that enable an understanding of how well public health is being improved and protected)					
UK	United Kingdom					
WEMWBS	Warwick-Edinburgh Mental Wellbeing Scale					
YLL/YWLL	Years of Life Lost/Years of Working Life Lost (see also Statistical Definitions)					

\*



Unless otherwise indicated, this symbol, which appears in the report in several different colours, denotes a person of unspecified sex and age.

## Introduction

Welcome to this, the second Health Profile for Guernsey and Alderney, which has been produced by the Public Health and Strategy Directorate (a division of the Health and Social Services Department) as an update to the *Health Profile for Guernsey and Alderney 2008*.

This report incorporates data covering the period 2010 to 2012 (or the most recent available) and in format it is structured around selected health indicators, an indicator being a quantifiable characteristic that describes a particular aspect of population health. Together the indicators provide a snapshot of the overall health of the local population.

As in the first Profile this update is produced with the aims of:

- Celebrating areas of success
- Identifying areas for improvement (notably through comparison with other relevant jurisdictions)
- Supplying the States of Guernsey and Alderney and their departments with the information they require for decision-making and strategic planning

Indicators have been selected to give a balance across a range of important health areas. Selection has been on the basis of availability of local and comparison data and relevance to existing States of Guernsey strategies. Additionally selection has been made with reference to published indicators of: The Department of Health (including the Public Health Outcomes Framework); The Health and Social Care Information Centre (replacing the former National Compendium dataset of the National Centre for Health Outcomes Development); Public Health England (including the regional Health Profiles) and the Office for National Statistics.

Where possible comparisons have been drawn between indicator values reported in the 2008 Health Profile and those reported here for 2010–2012. Future updates will allow trends to be monitored and detected with increasing confidence.

It is important to note that this Profile aims only to provide the facts about various aspects of population health. It does not seek to answer **why** the figures are as they are, nor **what** should be done about them, though these will be important questions for consideration in other forums.

## **Notes on methods**

The *Health Profile for Guernsey and Alderney 2010–2012* was compiled retrospectively during 2013 and early 2014. This reporting period was chosen firstly to avoid the effects of a change in patient administration system in 2009 which continued to impact on three-year rolling average rates up to and including 2011. It also reflects the availability of national and international comparison data for which a time lag to publication of eighteen months is not uncommon.

Rates detailed in this report are most frequently three-year average rates for the period 2010–2012 where figures for the three individual years 2010, 2011 and 2012 have been combined to minimise the effects of random year-to-year fluctuations. Such fluctuations can be a particular problem for small populations, like those of Guernsey and Alderney, which experience relatively few health events of a given type each calendar year.

As far as possible, established, published methodologies have been followed in the calculation of local indicator values. Where it has been necessary to adapt standard methods, or where definitions differ, details are given in indicator-specific 'NOTES' sections.

A re-coding exercise carried out in 2011 by the Office for National Statistics on cause of death information for local residents who died since 2001 means that cause of death information published before 2012 may not be reliable and should be treated with caution. Similarly, minor inconsistencies may exist in the total number of resident deaths reported in this or the first Health Profile and pre-2012 publications, owing to recent improvements in the transfer of death data between the Office of HM Greffier (Guernsey) and the Public Health Directorate of the HSSD.

## **Statistical definitions**

#### ASR Rates reported in this Profile are most often 'age-standardised rates'

Age standardisation adjusts crude rates to take into account how many old or young people are in the population of interest. When rates are age-standardised, we can be sure that differences in the rates over time or between geographical areas do not simply reflect variations in the age structure of the populations. The 1976 European Standard Population has been used to calculate the standardised rates given throughout this report; hence the rates could equally be described as 'European Age Standardised Rates' — the terminology adopted by other data providers. The same population is used for males, females and all persons (Waterhouse et al 1976).

#### 95% CI 95% Confidence Interval

The 95% confidence interval is used as a way of quantifying the uncertainty of an estimate. Because of our small population numbers, rates or percentage estimates over short periods of time are sensitive to random fluctuations in numbers of events. We cannot know for sure that our estimate of the percentage or rate is spot on, but there is a 95% probability that the true value will fall somewhere between the 95% LL ('lower level') and the 95% UL ('upper level') of confidence. Where confidence intervals for two estimates are available these can be examined to gauge the statistical significance of the difference in estimates. Non-overlapping confidence intervals signify that estimates are likely to be significantly different. Overlapping confidence intervals, by contrast, suggest that true values of the two estimates may be the same.

NB. Black lines, where they appear in tables, denote which comparison regions do or do not differ significantly from Guernsey and Alderney based on confidence interval values.

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## **1. DEMOGRAPHY**

## **Population**

#### Table 1. Bailiwick population by Island of residence, age and sex

	Population 2012						
	Guerr	nsey	Alderney				
AGE GROUP	Females	Males	Females	Males	TOTAL FEMALES	TOTAL MALES	TOTAL PERSONS
0-4	1550	1709	20	24	1570	1733	3303
5-9	1456	1581	39	33	1495	1614	3109
10-14	1586	1663	37	47	1623	1710	3333
15-19	1738	1801	41	59	1779	1860	3639
20-24	2129	2160	50	46	2179	2206	4385
25-29	1976	2086	52	45	2028	2131	4159
30-34	1939	2031	32	38	1971	2069	4040
35-39	2078	1975	42	45	2120	2020	4140
40-44	2524	2419	60	59	2584	2478	5062
45-49	2575	2555	85	81	2660	2636	5296
50-54	2384	2282	75	84	2459	2366	4825
55-59	1987	2065	87	85	2074	2150	4224
60-64	1986	1938	116	98	2102	2036	4138
65-69	1636	1613	98	90	1734	1703	3437
70-74	1256	1215	63	79	1319	1294	2613
75-79	1137	929	67	50	1204	979	2183
80-84	932	622	50	44	982	666	1648
85+	1069	503	54	15	1123	518	1641
TOTAL	31938	31147	1068	1022	33006	32169	65175

Source: Policy Council Research Unit

In 2012 the resident population of Guernsey was estimated to be 63,085 and the resident population of Alderney 2,090, giving a total for the two islands of 65,175.

Compared to 2008 the Alderney population has decreased by 180, whereas the Guernsey population has increased by 1,359.



Population pyramids provide a visual illustration of how a region's population is distributed across different age groups. The shape of the pyramid tells us about birth rate and life expectancy. In a population with a high birth rate and low life expectancy we would expect to see a short, triangle-shaped pyramid. Where there is a falling birth rate and high life expectancy, the pyramid is taller and has straighter sides with a shape more like a barrel. This second shape is what we see when we create a pyramid of the combined population of Guernsey and Alderney (Figure 1). The pyramid is roughly symmetrical up to and including age band 70–74, indicating an equal number of men and women. Higher up than this it becomes narrower on the right relative to the left, reflecting the increased survivorship of women over men in the older age categories.

The main population bulge in this combined pyramid is currently in ages 40–55 years. As this cohort ages, and assuming no increase in birth rate, the pyramid is expected to move towards the inverted triangle shape that is typical of ageing populations with low birth rates. This projected change in shape will alter the ratio of working to non-working residents and will have important Public Health consequences through the increased occurrence of the conditions that most commonly affect older people. Common age-related physical changes include:

- visual and hearing impairment
- reduced mobility and increased falls
- incontinence
- an increased probability of diagnosis with such conditions as arthritis, high blood pressure, heart disease, diabetes, osteoporosis, stroke, certain cancers, depression, Alzheimer's disease and other types of dementia, memory loss and more.

Increased provision in associated areas of the health and social care sector will be essential if the needs of the future population are to be met. Within the next few decades we can expect to encounter a greater need for:

- front-line services to care for and treat problems like those listed above
- services that promote independence in later life e.g. community care for those living in their own homes
- more beds in residential and nursing accommodation

The individual population pyramids for Guernsey and Alderney (Figures 2 and 3) reveal that Alderney's population is ahead of Guernsey's in its progress towards the inverted-triangle shape of an ageing population. This tells us that the anticipated increased need for services for older people is likely to come sooner from Alderney than it will from Guernsey.

"People aged over 65 account for the highest activity and spend across primary, secondary and social care" (NHS Choices) The proportion of the population aged over 65 will **increase** in Guernsey and Alderney over the coming years Planning for how to respond to the inevitable increased demand is a key priority for the health service

#### *Figure 1. Population pyramid for Guernsey and Alderney, 2012*

Males and Females as a proportion (%) of the total population



#### *Figure 2. Population pyramid for Guernsey, 2012*

Males and Females as a proportion (%) of the Guernsey population



#### *Figure 3. Population pyramid for Alderney, 2012*

Males and Females as a proportion (%) of the Alderney population



## **Population Density**

Guernsey has an area of 63km<sup>2</sup> (Guernsey Facts and Figures 2013, 84) while Alderney has an area of 8km<sup>2</sup> (<u>www.alderney.gov.gg</u>). The population densities for the islands were therefore 1,001 people per square kilometre and 261 people per square kilometre, respectively.

Figure 4. Population density (per km<sup>2</sup>), 2012, Channel Islands and UK compared



Sources: Jersey Health Intelligence Unit; ONS Compendium of UK Statistics (Population and Migration) 2012, www.ons.gov.uk [Accessed 25-02-14].

Both Guernsey and Jersey have population densities that are more than double the population density of England which, itself, has the highest population density of the UK countries.

## 2. FERTILITY, INFANT AND CHILD HEALTH

## **Birth Rate**

Crude Birth Rate — the annual number of live births per 1,000 population



The number of live births registered in Guernsey and Alderney was in the order of 625 to 675 per year, in each year between 2010 and 2012. The three-year average birth rate was 10.0 births per 1,000 population.

This is similar to the crude birth rate for Jersey in 2012 of 11.4 per 1,000<sup>1</sup> and slightly lower than the England and Wales rate in 2012 of 12.9 per 1,000<sup>2</sup>.

#### Table 2. Guernsey/Alderney birth rate, 2010–2012

YEAR	LIVE BIRTH REGISTRATIONS	POPULATION	BIRTH RATE per 1,000
2010	627	64,625	9.7
2011	658	65,026	10.1
2012	673	65,175	10.3
2010-2012	1,958	194,826	10.0

Source: Guernsey Greffe and Alderney Greffe live birth registrations. NB. The window for registering a birth is 30 days. A birth registration may therefore fall in a different year to the year of birth for births occurring late in the calendar year.

<sup>&</sup>lt;sup>1</sup> Jersey Health Intelligence Unit.

<sup>&</sup>lt;sup>2</sup> ONS Birth Summary Tables England and Wales 2012 (Excel sheet 283 kb) <u>www.ons.gov.uk</u> [Accessed 25-02-14].

## **General Fertility Rate**

#### General Fertility Rate (GFR) — the number of live births per 1,000 females of childbearing age (15–44)

The GFR for Guernsey and Alderney over the period 2010-2012 was 50.9 per 1,000 — a rate that was similar to the Jersey GFR for the same period. Both island groups had GFRs that were significantly lower than the most recently available rates (2011) for England and Wales and the English Government Office Regions — see Table 3.

	GFR (live births to women aged 11-49 per		
	female population aged 15-44)	95% CI (LL)	95% CI (UL)
London	66.5	66.1	66.8
West Midlands	66.1	65.7	66.6
East of England	65.0	64.6	65.5
England	64.2	64.0	64.3
England and Wales	64.0	63.9	64.2
South East	63.8	63.4	64.1
North West	63.4	63.0	63.8
Yorkshire and the Humber	63.1	62.6	63.5
East Midlands	62.6	62.1	63.1
South West	62.5	62.0	62.9
North East	60.6	59.9	61.2
Jersey 2010-2012	54.9	53.1	56.7
Gsy/Ald 2010-2012	50.9	48.7	53.2

#### Table 3. Comparison of General Fertility Rates, Channel Islands 2010–2012 and Government Office Regions 2011

Sources. Guernsey Greffe and Alderney Greffe live birth registrations, Jersey Health Intelligence Unit, indicators.ic.nhs.uk Indicator P00427.

## **Total Fertility Rate**

Total Fertility Rate (TFR) is defined as the average number of children that would be born to a woman who experienced the current age-specific fertility rates throughout her childbearing years (15-44 years). TFR is used as an estimate of whether a population is replacing itself or not. In Western countries a TFR of about 2.1 is required to maintain long term population levels assuming no migration.

The TFR for Guernsey and Alderney over the period 2010–2012 was 1.58. A similar value — 1.61 — was recorded for Jersey. These Channel Islands rates remains below the level required for population replacement and below the rates reported for England and Wales and all English Government Office Regions during the nearest comparable period (2011), where the average was 1.93.

TFR for Guernsey and Alderney has undergone a small but non-significant increase since the last reporting period (2006–2008) where the rate was 1.49 (95%CI 1.34 to 1.65).

	TFR	95% CI (LL)	95% CI (UL)
West Midlands	2.02	2.01	2.04
East of England	1.99	1.98	2.01
South East	1.96	1.95	1.97
South West	1.95	1.93	1.96
East Midlands	1.94	1.93	1.96
England and Wales	1.93	1.92	1.93
England	1.93	1.92	1.93
North West	1.93	1.92	1.94
Yorkshire and the Humber	1.92	1.91	1.94

Table 4. Comparison of Total Fertility Rates, Channel Islands 2010–2012 and Government Office Regions 2011

North East	1.85	1.83	1.87
London	1.84	1.83	1.85
Jersey 2010-2012	1.61	1.49	1.75
Gsy/Ald 2010-2012	1.58	1.43	1.76

Source: EUROKING births table (PEH); Policy Council Population data; Jersey Health Intelligence Unit; Indicators.ic.nhs.uk Indicator P00428

Table 5, below, shows the most recent global estimate of Total Fertility Rate by income bracket. This shows that the Channel Islands rates are slightly lower than the average rate of 1.8 recorded among high and upper middle income countries.

#### Table 5. WHO Global Average Total Fertility Rate by country income bracket, 2011

Income bracket	Mean TFR
Low income	4.0
Lower middle income	2.9
Upper middle income	1.8
High income	1.8

Source: World Health Statistics 2013, p165

## **Stillbirth rate**

Stillbirth rate is defined as the number of stillbirths per 1,000 live and stillbirths. A stillbirth is the birth after the

24<sup>th</sup> week of gestation of a baby that has died *in utero* (in the womb) — *Stillbirth (Definition) Act 1992.* 

In the ten years to 2012 the average number of stillbirth registrations per year in Guernsey and Alderney was 2.8 and the stillbirth rate over the period 2010–2012 was 3.6 per 1,000, a figure slightly lower — but not significantly different from — the 2006–2008 rate of 4.7 per 1,000. The Jersey rate for 2010–2012 was similar, at 2.1 per 1,000. Both Channel Island rates are lower than the most recent comparison data for England and Wales and the English regions, but the confidence intervals around the local estimates are wide and the differences cannot be said to be significant.

	STILLBIRTH RATE per 1,000	95%CI (LL)	95%CI (UL)
North East	5.8	5.0	6.7
Yorkshire and the Humber	5.7	5.1	6.3
London	5.7	5.3	6.1
North West	5.4	5.0	5.9
England and Wales	5.2	5.0	5.4
England	5.2	5.1	5.4
East Midlands	5.1	4.5	5.7
West Midlands	5.0	4.5	5.6
South East	4.9	4.5	5.4
East of England	4.7	4.2	5.2
South West	4.7	4.2	5.3
Gsy/Ald 2010-2012	3.6	1.4	7.3
Jersey 2010-2012	2.1	1.0	4.5

Table 6. Comparison of Stillbirth rates, Channel Islands 2010–2012 and Government Office Regions 2011

Source: Guernsey and Alderney Greffe registrations; Jersey Health Intelligence Unit; Indicators.ic.nhs.uk Indicator P00467

Figure 5 shows that in Guernsey/Alderney as in England and Wales the rate of stillbirths has decreased over time, and now fluctuates around the level of approximately 5 per 1,000 births.



#### *Figure 5. Secular trend in Stillbirth rates, Guernsey/Alderney and England and Wales*

NB. Guernsey/Alderney rates are plotted as three-year averages. England and Wales rates are published figures for the first year in each three-year period.

Source: Guernsey Greffe registrations to 2006. Guernsey and Alderney Greffe registrations 2006–2012; ONS Stillbirth rates 1965–2010, 12th April 2013. www.ons.gov.uk

## **Infant Death Rate**

Infant mortality rate is defined as the number of deaths under the age of one (not including stillbirths) per 1,000 live births.

On average there has been one infant death each year in the 12 years to 2012, ranging from 0 to 3 in any given year. The infant death rate for Guernsey and Alderney in the period 2010 to 2012 was 1.0 per 1,000 and the Jersey rate was 3.4 per 1,000. The rates for the two

channel island groups cannot be said to be significantly different to one another, however both are lower than the most recent comparison rate for England and Wales — 4.3 per 1,000. The Guernsey/Alderney rate was significantly lower than the England and Wales rate and Figure 6 shows that this has been the case since 2006–2008.

	Infant death per 1,000	95%CI (LL)	95% CI (UL)
West Midlands	6.0	5.5	6.6
Yorkshire and the Humber	4.9	4.4	5.5
North West	4.7	4.3	5.2
England and Wales	4.3	4.2	4.5
England	4.3	4.2	4.5
East Midlands	4.3	3.8	4.9
East of England	4.1	3.6	4.5
London	4.1	3.8	4.5
South West	3.7	3.3	4.3
North East	3.6	3.0	4.3
South East	3.5	3.2	3.9
Jersey 2010-2012	3.4	1.9	6.1
Gsy/Ald 2010-2012	1.0	0.1	3.7

Table 7. Comparison of	of Infant death rates,	Channel Islands 2010–2012 and	l Government Office l	Regions 2011
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Source: Guernsey and Alderney Greffe registrations; Jersey Health Intelligence Unit; www.indicators.ic.uk Indicator P00724



Figure 6. Secular trend in Infant death rates, Guernsey/Alderney and England and Wales

Source: Guernsey and Alderney Greffe registrations; Childhood, Infant and Perinatal Mortality in England and Wales, 2011. www.ons.gov.uk

## Low Birth Weight Rate

Live and stillborn infants with birth weights less than 2,500 grams as a percentage of all live and stillborn infants with a stated birth weight.

Weight at birth was recorded for 99% of live and still born babies in Guernsey and Alderney during 2010–2012. Of these, just less than 6% of babies fell below the low birth weight threshold of 2,500 grams (5lb, 8oz). A modest but significant difference is seen between this local

figure and the England and Wales figure for 2011, which is higher at 7.4%. The delivery in England of babies predisposed to have a low weight at birth may be one factor influencing the relatively low local figure.

The Guernsey/Alderney low birth weight percentage was comparable to that of Jersey for the same period - 6.8%.

	LBW %	95%CI (LL)	95%CI (UL)
West Midlands	8.3	8.1	8.5
London	8.0	7.9	8.1
Yorkshire and the Humber	7.9	7.7	8.1
North East	7.6	7.3	7.9
East Midlands	7.5	7.3	7.7
England and Wales	7.4	7.3	7.4
England	7.4	7.3	7.5
North West	7.4	7.3	7.6
East of England	6.9	6.7	7.1
Jersey 2010-2012*	6.8	6.0	7.8
South East	6.6	6.5	6.8
South West	6.2	6.0	6.4
Gsy/Ald 2010-2012	5.8	4.9	6.9

Table 8. Comparison of Low Birth Weight, Channel Islands 2010–2012 and Government Office Regions 2011

\*Jersey figure based on live births only not including stillbirths

Source: EUROKING births table (PEH); Jersey Health Intelligence Unit; <u>www.indicators.ic.uk</u>

Indicator P00455


### **Breastfeeding Initiation**

Breastfeeding initiation in England is monitored and reported by the Department of Health and is calculated as the number of mothers initiating breastfeeding as a proportion of the total number of maternities. The mother is defined as having initiated breastfeeding if, within the first 48 hours after birth, either she puts the baby to the breast or the baby is given any of the mothers' breast milk.

_	mothers who initiated breastfeeding	maternities	%	95%CI LL	95%CI UL
London	320,133	369,607	86.6%	86.5%	86.7%
South Central	121,535	156,333	77.7%	77.5%	77.9%
South West	136,965	176,689	77.5%	77.3%	77.7%
South East Coast	118,816	153,464	77.4%	77.2%	77.6%
Gsy/Ald	1,507	1,951	77.2%	75.3%	79.0%
East of England	159,061	212,954	74.7%	74.5%	74.9%
England	1,464,179	1,985,042	73.8%	73.7%	73.8%
East Midlands	116,427	160,138	72.7%	72.5%	72.9%
Jersey	-	-	75.0%	-	-
Yorkshire & Humber	134,920	196,750	68.6%	68.4%	68.8%
West Midlands	141,523	210,700	67.2%	67.0%	67.4%
North West	162,853	259,076	62.9%	62.7%	63.0%
North East	51,946	89,331	58.2%	57.8%	58.5%

Table 9. Comparison of breastfeeding initiation, Channel Islands and Government Office Regions 2010–2012

Source: EUROKING births table (PEH); Jersey Health Intelligence Unit; www.gov.uk breastfeeding statistics

During 2010–2012 there were 1951 maternities in Guernsey and Alderney and initial feeding type was recorded for all but three of these (99.8%). 1507 women initiated breastfeeding — a breastfeeding initiation percentage of 77.2%. The Guernsey and Alderney figure is significantly higher than the England average of 73.8% for the same period and is similar to Jersey's figure of 75%. The 2010–2012

breastfeeding initiation figure represents around a five percent increase from 72% which was the higher of two estimates made for the calendar year 2008 and the financial year 2008/09.

While the Guernsey/Alderney figure exceeds that of England, it should be borne in mind that, on the international stage, England is not a leader. Breastfeeding initiation (and the subsequent continuation of breastfeeding) has been shown to correlate strongly with the degree of community support for breastfeeding women as enshrined by legislation. A Breastfeeding Policy Scorecard for Developed Countries developed by Save the Children and published in 2012 ranked the United Kingdom 25<sup>th</sup> out of 36 developed countries. Top-ranking countries such as Norway, Slovenia, and Sweden outperformed the UK on policy by a considerable margin and in these countries reported figures for the proportion of infants ever breastfed were between 97 and 99%<sup>3</sup>.

### Breastfeeding at 6 to 8 weeks

In England data on the continuation of breastfeeding to 6 to 8 weeks is collated and reported on by the Department of Health and figures are typically derived by PCTs from information recorded at infants' 6-8 week check. For each evaluation quarter participating trusts are required to submit the following four data items:

- The number of infants due a 6–8 week check
- The number of infants being "totally" breastfed
- The number of infants being "partially" breastfed
- The number of infants being "not at all" breastfed

In Jersey the same data items are collected by the Health and Social Services Department under the terms of a Service Level Agreement for the Six Week Baby Developmental Check held with the Jersey Primary Care Body.

Between 2010 and 2012 the England average for continuation of breastfeeding to 6–8 weeks (the sum of those recorded as 'totally' or 'partially' breastfed) was 46%. In Jersey the percentage for 2012 was significantly higher at 53%.

<sup>&</sup>lt;sup>3</sup> Save the Children (2012, 43).

Table 10. Infants totally or partially breastfed at 6–8 weeks (as a percentage of all infants due a 6–8 week check during the evaluation period), English Regions 2010–2012 and Jersey 2012

	%	95% CI LL	95% CI UL
London	66.2%	66.0%	66.3%
Jersey 2012	53%	-	-
South Central	50.6%	50.4%	50.9%
South West	48.6%	48.3%	48.8%
South East Coast	47.5%	47.3%	47.8%
England	46.2%	46.2%	46.3%
East of England	45.4%	45.2%	45.6%
East Midlands	42.9%	42.6%	43.1%
West Midlands	38.7%	38.5%	39.0%
Yorkshire & Humber	38.0%	37.8%	38.3%
North West	33.5%	33.4%	33.7%
North East	30.3%	30.0%	30.6%

Sources: Jersey Health Intelligence Unit; www.dh.gov.uk breastfeeding statistics (figures shown are summary averages of reported data for financial year quarters equating to calendar years 2010–2012).

No comparable data are available for Guernsey/Alderney. In Guernsey breastfeeding at six weeks is evaluated retrospectively at the eight month child health review, where mothers are asked by their health visitor to recall whether they breastfed at certain defined points postbirth (with response options 'yes' or 'no'). It is not currently possible to define, from the child health system in use, the number of infants due a check in a given evaluation period and proxy estimates for this denominator figure, when compared to the number of infants whose feeding status at 6 weeks is known, suggest that records are only available for around 56% of infants — a figure that falls substantially short of the English Department of Health preferred data quality target of 95%. It is recommended that:

- the HSSD reviews the process by which breastfeeding continuation to 6–8 weeks is recorded in Guernsey
- the HSSD agrees and implements a preferred breastfeeding continuation indicator

### Tooth decay in children aged 5 years (Guernsey-only indicator)

#### EXPERIENCE OF DENTAL DECAY

A survey of Guernsey Reception-aged children which followed an established national protocol for surveying five-year-olds was undertaken in 2011 by the Children's Dental Service in both Private and States schools. Results indicated that, island wide, there are significantly more children who are free from obvious dental decay than those who have at least one decayed, missing (due to decay) or filled tooth: 81% without decay compared to 19% with decay. This was true for each of the schools surveyed but with a large amount of variation from school to school. A range of 0% to 40% was observed meaning that at one school there were no children with evidence of current or previous decay while at another 40% of children had evidence of current or previous decay.

#### SEVERITY OF DENTAL DECAY

Severity of dental decay in children is measured using the 'dmft' value, where dmft stands for 'decayed, missing (due to decay) or filled teeth'. Across all island primary schools the average number of decayed, missing or filled teeth (dmft) per child was 0.60. This compares favourably to the England average for 2011–2012 of 0.94 and was comparable with the lowest observed dmft values in the English regions (see Figure 7) but, again, this average masks school-specific local variation in the range 0 to 1.41.

Figure 7. Average number of decayed, missing or filled teeth among five-year old children in England (2011–2012), by region, and in Guernsey (2011)



Sources: Children's Dental Service, HSSD; National Dental Epidemiology Programme for England; oral health survey of five year old children 2012. A report on the prevalence and severity of dental decay (http://www.nwph.info/dentalhealth/survey-results5.aspx?id=1).

Six schools showed an improvement in their dmft score in 2011 compared with the last survey year, 2008, one school had the same score, and nine schools showed deterioration in their scores. Overall, dmft score went from 0.48<sup>4</sup> in 2008 to 0.60 in 2011, a 25% increase (deterioration).

<sup>&</sup>lt;sup>4</sup> Two average dmft values derived from the 2008 survey exist for Guernsey. The first, 0.56, is the average for States-only schools. The second, 0.48 is the combined average for States and private schools.

It is important to note that the direction of change over time in Guernsey differs to what has been seen in England. Whereas England saw a 15% *improvement* in average dmft score between 2008 and 2011, Guernsey saw a *deterioration*, albeit from a lower starting point.







Given that across the island as a whole the entire burden of dental decay is concentrated in just 19% of the examined population it is important to consider the average number of decayed missing or filled teeth among *only the children who have obvious dental disease*. This tells us more about the extent of disease in the mouths of affected children. Whereas we have noted the average dmft score among all children was 0.60, among local children who were found to have dental disease the average score for teeth affected was 3.13. This tells us that dental health is polarised between many children who have no evident dental decay and a minority who have, on average, just over 3 decayed teeth each (out of a normal total of 20 teeth at age 5). The local score of 3.13 (known as the 'dmft>0' score) was at the lower

end of the range of calculated dmft>0 scores for the English regions for 2011–2012 (3.03 to 3.74) and was similar to the England average of 3.38. Dental Health was considered in the 113<sup>th</sup> MOH report.

#### CARE INDEX

The care index is normally used to demonstrate dental health need. Nationally this is defined as the proportion of teeth with caries (cavities) which have been filled, as a proportion of the total number of decayed, missing and filled teeth, expressed as a percentage (ft/dmft\*100). However, this calculation assumes that all or most missing teeth are missing due to loss caused by untreated dental decay. In Guernsey the vast majority of missing teeth will indicate extractions performed in the treatment of dental decay. As a result a care index specific to Guernsey has been calculated as follows: (ft+mt)/dmft\*100.

Results from the 2011 survey revealed care indices which varied across the schools in the range 8.9% to 100%. On average the care index was 36.7% which indicates that only just over one in three decayed teeth had been treated at the time of the survey.



On average just one in every three decayed teeth among reception children had been treated

#### NOTES

• The Guernsey survey was of Reception-aged children who will have been either 4 or 5 at the time of examination. By contrast the English survey is of children who were 5 at the time of examination (whether in Reception or Year 1). If we assume that Children's dental health deteriorates with age this modest methodological difference may have had the effect of making the average Guernsey dmft figure appear slightly lower relative to the English figures as a reflection of slightly younger average age.

## **3. SELF-PERCEIVED HEALTH AND LIFE EXPECTANCY**

### Self-perceived health score (Guernsey-only indicator)

Respondents to the *Fifth Guernsey Healthy Lifestyle Survey 2008* were invited to complete a visual analogue scale to rate their own health state from 0 (representing worst imaginable health) to 100 (best imaginable). Most respondents rated their health in the upper end of the scale and the average score was 78. This implies a good-to-very-good level of self-perceived health among respondents.

In the same survey respondents were asked whether they had any long-standing illness, disability or infirmity. Overall thirty percent reported that they had such a problem, with higher prevalence noted among females and with increased age.

Taken together these findings suggest that although long-term conditions are relatively common, they need not automatically cause people to define their health as poor.

### Life Expectancy

Life expectancy at birth is defined as the number of years a newborn baby could expect to live should it experience an area's current agespecific mortality rates throughout its lifetime. Similarly, life expectancy at, for example, 65, is a measure of how long a person of that age could expect to live if they were to experience the current age and sex specific mortality rates of individuals older than themselves, for a given area.

Overall life expectancy at birth for Guernsey and Alderney residents for the period 2010–2012 was 82.0 years; 79.9 years for males and 84.1 years for females. Life expectancy at 65 was 20.1 years overall; 18.6 years for males and 21.5 years for females.



#### Table 11. Life expectancy at birth, Guernsey/Alderney, 2010–2012



Table 12 shows that life expectancy at birth for Guernsey and Alderney residents is slightly higher than the England average for both males and females, and is in line with estimates for Jersey and for London, southern and eastern regions; the regions where life expectancy is highest.

# **Table 12.** Comparison of life expectancy at birth and age 65, 2010–2012, Channel Islands and English regions (sorted by life expectancy at birth, high to low).

	MAI	.ES
	birth	age 65
England	79.2	18.6
Wales	78.2	18.0
ENGLISH REG	IONS	
South East	80.3	19.2
East of England	80.1	19.1
South West	80.0	19.1
Gsy/Ald	79.9	18.6
London	79.7	18.9
Jersey	79.2	18.8
East Midlands	79.1	18.3
West Midlands	78.7	18.4
Yorkshire and the Humber	78.3	18.0
North East	77.8	17.6
North West	77.7	17.8

	FEMALES			
	birth	age 65		
England	83.0	21.1		
Wales	82.2	20.6		
ENGLISH REGIO	ONS			
Gsy/Ald	84.1	21.5		
South West	83.9	21.7		
South East	83.8	21.6		
London	83.8	21.7		
Jersey	83.7	21.4		
East of England	83.7	21.5		
East Midlands	82.9	21.0		
West Midlands	82.7	21.0		
Yorkshire and the Humber	82.2	20.5		
North West	81.7	20.2		
North East	81.6	20.0		

Source: Jersey Health Intelligence Unit; ONS statistical bulletin "Life expectancy at birth and at age 65 for local areas in England and Wales, 2010–2012" published 24th October 2013.

Globally, the WHO reported that in 2011, the range of male life expectancy at birth across all countries was 46 to 83 with a median of 70. The female range was 47 to 86 with a median of 76. When grouped by WHO country region, life expectancy was lowest in the African Region (both sexes) and highest in the Western Pacific Region (males) and, jointly, Europe and the Americas (females)<sup>5</sup>.

<sup>&</sup>lt;sup>5</sup> World Health Statistics 2013; 58.



#### *Figure 9. Life expectancy at birth by WHO country region, 2011*

Within the EU life expectancy at birth in 2011 among the EU-27 group ranged, for males, from 68.1 years in Lithuania to 79.9 years in Sweden and for females from 77.8 years in Bulgaria to 85.4 years in Spain<sup>6</sup>. The Guernsey and Alderney figures are at the top, or near to the top, of these EU ranges for both men and women.

<sup>&</sup>lt;sup>6</sup> http://epp.eurostat.ec.europa.eu/statistics\_explained/index.php?title=File:Life\_expectancy\_at\_birth,\_1980-2011\_(years).png&filetimestamp=20130129120827

#### **GENDER DISPARITY**

In all regions women tend to outlive men, but the extent of the difference varies from place to place. The life expectancy gender gap for the period 2010–2012 was 4.2 years for Guernsey/Alderney and 4.5 years for Jersey. These values are at the lower end of the range most recently reported for EU-27 countries where the largest gap was 11.2 years (in Lithuania) and the smallest was 3.8 years (Cyprus and the Netherlands)<sup>7</sup>.

#### CHANGE OVER TIME

Life expectancy estimates are available for 1995–1997, 1999–2003 and then yearly as three year rolling averages from 2006. A comparison of these point estimates reveals an increase in life expectancy over time. Between the earliest and the most recent estimate male life expectancy has increased by 4 years, or 5.3%, and female life expectancy has increased by 3.5 years, or 4.3%. The gain in life expectancy for males has slightly outpaced the gain for females with the result that there has been a modest lessening in the gender gap in life expectancy over time. A similar lessening of the gender gap has been reported for Jersey over the last decade (Jersey Health Profile 2014).

<sup>&</sup>lt;sup>7</sup> http://epp.eurostat.ec.europa.eu/statistics\_explained/index.php/Mortality\_and\_life\_expectancy\_statistics





Sources: Jeffs (2000, 6); Jeffs (2005, 43).

## **4. BURDEN OF DISEASE**

### Mortality

### **All-cause mortality**

There were 1701 deaths (including still births) registered in Guernsey and Alderney between 2010 and 2012; an average of 567 per year. This equates to a crude rate for the three-year period of 873 per 100,000 and an age-standardised rate of 490 per 100,000. Table 13 shows that this rate was comparable to the death rates of Jersey, London, the East of England, the South East and South West regions for the same period, and was significantly lower than the death rates of all other English regions. It was also significantly lower than the England average rate (529.5 per 100,000).

	ASR per 100,000	95% CI LL	95% CI UL
North East	598.3	593.9	602.7
North West	596.9	594.2	599.6
Yorkshire & the Humber	568.7	565.6	571.8
West Midlands	544.5	541.6	547.4
East Midlands	535.9	532.7	539.0
England & Wales	531.9	531.0	532.8
England	529.5	528.5	530.4
Jersey	516.3	494.5	538.7
London	503.2	500.5	505.9
East of England	494.2	491.5	496.8
South West	491.5	488.8	494.2
Gsy/Ald	490.0	465.5	515.5

#### Table 13. Age-standardised death rates per 100,000. Channel Islands and English Regions, 2010–2012



Sources: Guernsey and Alderney Greffe registrations; Policy Council population figures; Jersey Health Intelligence Unit; HSCIC Indicator P00339.

There has been no change in the age-standardised death rate for Guernsey and Alderney since the last reporting period, 2006–2008, when the rate was 492.3 per 100,000.

### **Top Causes of death**

Causes of death are categorised and coded according to the International Statistical Classification of Diseases and Related Health Problems, a publication now in its 10<sup>th</sup> Revision and commonly known as the 'ICD-10'. Comparing the number of deaths across subcategories of the ICD-10 allows the leading causes of death to be determined.

When sorted by the age-standardised rate of deaths the top three leading causes over the three-year period 2010–2012 were cancers ('neoplasms'), circulatory diseases, and respiratory diseases. These causes accounted for 30%, 31% and 10% of deaths respectively. Other leading causes with the proportion of deaths they accounted for are shown in Figure 11, below.

### Figure 11. Leading causes of death in Guernsey/Alderney, 2010–2012, men and women combined (chapter group level of the ICD-10)



\*Chronic obstructive pulmonary disease Source: Guernsey and Alderney Greffe registrations

Leading causes of death were the same in Jersey and accounted for very similar proportions of all deaths (see Table 14).

Table 14. Leading causes of death in Jersey 2010–2012 showing proportion of deaths caused, with Guernsey/Alderney comparisons.

	% of a	ll deaths
CAUSE	Jersey	Gsy/Ald
Neoplasms	32%	30%
Diseases of the circulatory system	28%	31%
Diseases of the respiratory system	13%	10%
Mental and behavioural disorders	6%	7%
Diseases of the digestive system	5%	4%

### Years of Life Lost (all causes)

Years of Life Lost (YLL) is a measure of premature mortality which is used to compare the mortality experience of different populations for all causes of death and/or particular causes of death by quantifying the number of years **not** lived by individuals who die under a given cut-off age. YLL statistics help health planners to identify areas of concern and prioritise the allocation of resources for the prevention of such deaths. The most frequently used cut-off age is 75, this having been set as an age that everyone can be expected to reach. The age of 65 can also be used to calculate years of working life lost (YWLL) which is a useful indicator of the economic impact of premature deaths (ONS 2013 Mortality Statistics; metadata; HSCIC P00114 purpose statement).

In the period 2010–2012 a total of 6310 years of life were lost in Guernsey and Alderney prematurely. This equates to an average of just over 2,100 lost years per year and a rate of 316.8 per 10,000 population. The rate of lost years was slightly higher in 2010–2012 than in 2006–2008 (when the rate was 301.2 per 10,000) but the difference is not significance and may be due to chance (See Figure 12).

Figure 12. Years of Life Lost due to mortality from all causes (ASR per 10,000 population), Guernsey/Alderney 2006–2008 and 2010–2012



The local YLL rate was significantly lower than the rates reported for Jersey, England and Wales, England and all the English regions over the same period.

Table 15. Age-standardised rates of Years of Life Lost. Guernsey/Alderney and English Regions, 2010–2012

	ASR per 10,000	95% CI LL	95% CI UL
North West	468.3	463.3	473.3
North East	458.7	450.6	466.8
Yorkshire and the Humber	427.3	421.8	432.8
West Midlands	409.8	404.6	415.1
England & Wales	393.7	392.1	395.4
England	390.6	388.9	392.2
East Midlands	389.2	383.6	394.9
Jersey	382.4	375.4	389.7
London	367.0	362.9	371.1
South West	363.5	358.3	368.7
East of England	352.5	347.7	357.4
South East	345.2	341.3	349.1
Gsy/Ald	316.8	308.9	324.9

Sources: Guernsey and Alderney Greffe registrations; Policy Council population figures; Jersey Health Intelligence Unit; HSCIC Indicator P00332.

#### YEARS OF WORKING LIFE LOST (all causes)

Of the total years of life lost in Guernsey and Alderney during 2010–2012, 43% were accrued through deaths among people of working age or younger. The total number of working years of life lost in the three year period 2010–2012 was 2735, which equates to 912 per year, on average.

Figure 13. Number and proportion of years of life lost in under 75s of working/pre-work age and non-working age. Guernsey/Alderney, 2010–2012



#### YEARS OF LIFE LOST BY CAUSE OF DEATH

Years of life lost and the proportion that were years of *working* life are shown for fifteen causes of death in Table 16 and Figure 14. It is important to remember that the years-lost totals are influenced to an extent by the overall number of deaths from a particular cause but most strongly by age at death regardless of the overall number. It does not follow, therefore, that the causes accounting for the most lost years are also the ones that cause the most deaths.

*Illustrated example: Lung cancer* and *suicide and undetermined injury* were two of the highest-ranking contributory causes to the total tally of years of life lost for 2010–2012. Of these two cause groups suicide and undetermined injuries accounted for many more years lost (245 per year compared to 171) despite the fact that lung cancer caused more than five times as many deaths per year, on average. The explanation is that suicide and undetermined injury describes a group of causes likely to affect people who are, on average, much younger than those who die from lung cancer. This is reflected in the 'average YLL/YWLL per death' figures in Table 16. Each death from suicide and undetermined injury contributed, on average, 37 years of life lost, 27 of which would be years of working life. Each lung cancer death, by contrast, contributed just five years of life lost, only one of which would be a year of working life.

Table 16. Years of life lost by cause in Guernsey/Alderney 2010–2012. Shown as average years lost per year to the nearest whole year, sorted high to low

CAUSE OF DEATH	YLL	(of which) YWLL	average YLL per death	average YWLL per death
Suicide and undetermined injury	245	178	37	27
Accidents	239	154	15	10
Lung cancer	171	31	5	1
Coronary heart disease	157	33	2	0
Stroke	78	31	1	1
Colorectal cancer	74	33	5	2
Bronchitis, Emphysema, COPD	72	18	3	1
Chronic liver disease incl. cirrhosis	67	32	17	8
Breast cancer	57	27	8	4
Prostate cancer	45	10	3	1
Malignant melanoma	28	18	9	5
Pneumonia	18	8	1	0
Bladder cancer	14	4	2	1
Infectious and parasitic diseases	14	2	2	0
Cervical cancer	5	0	4	0

NB. YLL are calculated for ages 1–74, except for suicide and undetermined injury where they are for ages 15–74; YWLL are calculated for ages 1–64, except for suicide and undetermined injury where they are for ages 15–64.



Figure 14. Years of life lost by cause in Guernsey/Alderney 2010–2012. Shown as average years lost per year to the nearest whole year

#### YEARS OF LIFE LOST BY RATE

Years of life lost figures for 2010–2012 were converted to rates per 10,000 for each of the fifteen causes of death shown in Figure 14. Comparisons were then made between the Guernsey and Alderney rates and the rates of England (average of all regions) and the South West region. Local rates were found to be:

Significantly lower than both comparison rates for

- Coronary heart disease
- Breast cancer
- Chronic liver disease
- Pneumonia
- Infectious and parasitic disease, and
- Cervical cancer

### Significantly higher than both comparison rates for

- Suicide and undetermined injury
- Accidents, and
- Prostate cancer

and showed **no significant difference** from both comparison rates for:

- Stroke
- Colorectal cancer
- Bladder cancer, and
- Bronchitis, emphysema and COPD

For a full table of rates by cause and area see appendix 1.

### **Rates of death from selected causes**

The last section focussed on *premature* mortality expressed in the form of years of life lost. In this section we return to *all-age* mortality and examine in more detail the number of deaths from selected causes and how those numbers compare to other places when expressed as rates.

We learned that the top causes of death by chapter group of the ICD-10 were cancers, circulatory diseases and respiratory diseases. Table 17, below, gives more information on particular causes within these broad groups and provides figures on deaths from selected other causes. Cause of death codes are detailed in appendix 2.

**Table 17. Numbers and rates of death from selected causes, Guernsey/Alderney 2010–2012,** sorted by ASR (high to low) within each themed group

		Number of deaths			95%	6 CI		
CAUSE OF DEATH	AGES	(three-year period)	Average number of deaths per year	ASR per 100,000	LL	UL	YLL average per year	YWLL average per year
All causes†	all	1701	567	490	465.5	515.5	2103	912
			CANCERS					
Lung cancer†�	all	113	38	38.9	31.8	47.0	171	31
Prostate cancer† <b>0</b>	all	49	16	33.0	24.3	43.8	45	10
Colorectal cancer 🕇 🛇	all	49	16	15.4	11.2	20.5	74	33
Breast cancer†�	all	21	7	13.6	8.0	21.3	57	27
Bladder cancer†�	all	20	7	5.7	3.4	9.0	14	4
Malignant melanoma†�	all	10	3	4.0	1.8	7.5	28	18
Cervical cancer†◊	all	4	1	2.6	0.6	6.9	5	0
CARDIOVASCULAR DISEASES								
Coronary heart disease † 🛛	all	209	70	58.2	50.1	67.0	157	33
Stroke <b>†◊</b>	all	162	54	41.4	34.9	48.7	78	31

RESPIRATORY DISEASES									
Bronchitis, Emphysema, COPD†0	all	70	23	20.2	15.5	25.8	72	18	
Pneumonia† <b>0</b>	all	51	17	11.9	8.7	15.7	18	8	
OTHER SELECTED CAUSES									
Accidents <b>†</b> 0	all	47	16	17.8	12.7	24.1	239	154	
Suicide and undetermined injury <b>†</b> •	15+	20	7	13.2	8.1	20.5	245	178	
Alcohol-related deaths 🛠	all	19	6	8.3	5.0	13.0	103	44	
Infectious and parasitic diseases+>	all	20	7	5.5	3.3	8.7	14	2	
Chronic liver disease incl. cirrhosis+0	all	12	4	5.3	2.7	9.2	67	32	
Drug poisoning deaths �	all	8	3	4.3	1.9	8.5	108	82	

KEY: *Health and Social Care Information Centre* Indicator;  $\Diamond$  Comparison of years of life lost shown, Figure 14; *Office for National Statistics* Indicator; yellow fill denotes sex-specific rates. See appendix 2 for indicator definitions.

### **Preventable deaths**

A key focus of the English Department of Health's Public Health Outcomes Framework 2013–2016 (PHOF) is the quantification of preventable, premature mortality which sends out a clear signal of the importance of prevention as well as treatment in reducing avoidable deaths. Several new indicators, developed in conjunction with the Office for National Statistics define firstly the entire burden of mortality from certain broad types of disease and secondly the subset of that burden that could be considered 'preventable'. Preventable mortality includes causes that it is believed could have been avoided through either individual behaviour or public health measures that could have limited an individual's exposure to harmful substances or conditions (DH 2013, 108). In the main preventable deaths relate to deaths in those aged under 75. The exception is 'mortality from (all) causes considered preventable' which takes account of preventable deaths in people of all ages.

In this section premature mortality is examined through the application of selected PHOF definitions to Guernsey and Alderney cause of death data.

		Number of			95%	6 CI		WYLL
CAUSE OF DEATH	AGES	deaths (three- year period)	Average number of deaths per year	ASR per 100,000	LL	UL	YLL average per year	average per year
All causes considered preventable	all	290	97	120.1	106.5	135.0	1184	530
All cancers	under 75	218	73	94.9	82.6	108.4	783	270

43

37

23

12

7

7

6

55.7

49.4

29.4

15.1

9.5

9.0

8.6

46.4

40.6

22.9

10.5

6.0

5.5

5.2

66.2

59.5

37.3

21.0

14.4

13.9

13.4

447

378

184

111

72

98

98

149

130

41

30

18

43

43

 Table 18. Numbers and rates of death from PHOF-defined causes, including preventable deaths, Guernsey/Alderney 2010–2012

NB. Cause of death definitions and codes are given in appendix 2.

under 75

128

112

69

35

22

20

19

This table contains some important messages. It tells us, for example, that it **could have been possible to prevent**:

• **59%** of cancer deaths

Preventable cancers

**Respiratory disease** 

Liver disease

Cardiovascular disease

Preventable liver disease

Preventable cardiovascular disease

Preventable respiratory disease

- 62% of cardiovascular disease deaths
- 63% of respiratory disease deaths, and
- **95%** of liver disease death

### **Smoking-attributable deaths**

Smoking kills around half of its users<sup>8</sup> and is thus the primary cause of preventable illness and premature death in the UK<sup>9</sup>. It has been proven to confer an elevated risk of deaths from numerous subsidiary causes within the following broad cause of death groups: cancer, cardiovascular disease, respiratory disease, and digestive disease.

In recent years the calculation and application of Smoking Attributable Fractions (SAFs) for several diseases and causes of death where smoking is a contributory factor, has allowed a better estimate of the impact of smoking on health to be made. Following London Health Observatory methodology, published SAFs for fatal conditions were used in conjunction with smoking prevalence data for Guernsey to estimate the overall number of Guernsey and Alderney deaths that could reasonably be attributed to smoking (for further information see notes section).

It is estimated that of all deaths to individuals aged 35 and over registered during 2010–2012, 16% were caused by smoking. This equates to 261 over the three-year period, or approximately 87 per year. Smoking-attributable deaths were more common among males than females: there were an estimated 51 male deaths per year compared with 36 female deaths.

<sup>&</sup>lt;sup>8</sup> WHO Tobacco factsheet No. 339, July 2013, www.who.int

<sup>&</sup>lt;sup>9</sup> ASH factsheet on Smoking Statistics — Illness and Death, April 2013, www.ash.org.uk





Between 2010 and 2012 16% of deaths aged 35+ (a little over one in six) were estimated to be smoking-attributable

Smoking-attributable deaths are 40% more common in males than in females

Hence for every 10 smoking-attributable female deaths there were 14 male ones

In total 87 people per year (on average) died from smoking-attributable causes

The breakdown of smoking-attributable deaths by broad cause group is shown below in Table 19. The particular types of contributory cause within the main categories are shown in the pie charts that follow (Figure 16a–c).

**Table 19. Smoking-related deaths aged 35+ during 2010-2012 by cause of death category**, sorted by proportion within category, high to low

	NUMBER OF DEATHS (three-year period)		
Cause (ICD-10 codes)	All (aged 35+)	Smoking-related (aged 35+)	% Smoking-related
All causes (A00-Y99)	1668	261	16%
Respiratory diseases (J00-J99)	174	63	36%
Cancer (C00-C97)	495	140	28%
Cardiovascular diseases (100-199)	527	57	11%
Digestive diseases (K00-K93)	74	2	2%

Ì

# Figure 16. Main contributory causes for smoking-attributable deaths from Respiratory diseases (a), Cancer (b) and Cardiovascular diseases (c)



By far the most common contributory causes of smoking-attributable death were **COPD**, lung cancer and coronary heart disease.

The observed proportions of smoking-attributable deaths in each main cause group were similar in Guernsey/Alderney to published figures for Jersey and England (see Figure 17).





Sources: Jersey Health Intelligence Unit; HSCIC Statistics on Smoking, 2013.

#### NOTES

- Relative risks were from Statistics on Smoking: England 2010 (http://www.ic.nhs.uk), based on the American Cancer Prevention Society II Study 1982-1988 (http://apps.nccd.cdc.gov/sammec). This indicator includes all deaths (35 years and over) which have one of the following ICD-10 codes as the underlying cause of death: C00–C14, C15, C16, C25, C32, C33–C34, C53, C64–C66, C67, C68, C80, C92.0, I00–I09, I20–I25, I26–I51, I60–I69, I70, I71, I72–I78, J10–J18, J40–J43, J44, K25-K27.
- Smoking prevalence estimates were from the Fifth Guernsey Healthy Lifestyle Survey, 2008 (prevalence among those aged 75+ was assumed to be the same as smoking prevalence among the oldest surveyed age group: 65–74).

### **Place of death**

Of the 1694 non-still birth deaths in Guernsey and Alderney registered during 2010–2012, approximately one-half occurred in hospitals (PEH, KEVII or Alderney MMH), one-quarter occurred in residential or nursing homes and one-fifth occurred at a private address, usually the person's own home. The remaining deaths, making up 5% of the total, or approximately one in twenty, occurred in the hospice or at other locations, e.g. public areas.

#### **ELSEWHERE** HOSPICE PRISON 0.9% 3.7% 0.0% • Approximately one in two deaths occurred in hospital OWN HOME \_\_\_ 20.6% One in four occurred in residential or nursing homes HOSPITAL 49.2% • And one in five occurred at home RESIDENTIAL/N \_\_\_\_\_ **URSING HOME** 25.7%

### *Figure 18. Place of death for Guernsey/Alderney deaths 2010–2012*

The three-year average proportion of local deaths in hospital during the years 2010, 2011 and 2012 (49.2%) was almost identical to that observed in England and Wales in 2012 (49.7%)<sup>10</sup>

Figure 19 shows the trend in place of death between 2001–2003 to 2010–2012. Deaths at home, in hospice care, elsewhere and in prison have remained fairly constant, while deaths in residential/nursing homes have increased and hospital deaths have decreased. A slightly greater reduction in hospital deaths has occurred locally compared with England and Wales over the same time period.

<sup>&</sup>lt;sup>10</sup> ONS 22 October 2013 and ONS 01 November 2013.



Figure 19. Secular trend in place of death, Guernsey/Alderney with England and Wales Hospital comparison, 2001–2003 to 2010–2012

Sources: Guernsey and Alderney Greffe registrations; ONS Excel sheet released 01 November 2013.

Place of death was found to vary according to the underlying cause of death. Figure 20 shows for example that while 49.2% of deaths from all causes occurred in hospital, death in hospital was more common when the underlying cause was respiratory disease and slightly less common when the underlying cause was cancer. Similarly while 3.7% and 20.6% of all-cause deaths were in the hospice and at home, respectively, a greater proportion of cancer deaths occurred in these places than deaths from other causes.



### *Figure 20. Place of death by underlying cause, Guernsey/Alderney 2010–2012*

Sources: Guernsey and Alderney Greffe registrations. Underlying causes grouped by ICD-10 code as follows per National End of Life Care Intelligence Network methodology: Cancer = C00–C97 and D00–D48; Cardiovascular disease = I00 to I52 and I60 to I69; Respiratory disease = J00–J99; Other = any other cause not included in the first three categories. See for example National End of Life Care Intelligence Network 2010.
## **Excess Winter Mortality**

As in other countries, England and Wales experience more deaths during the winter months than at other times of year. A measure of this winter excess is produced annually by the Office for National Statistics. The ONS standard method defines the winter period as December to March, and compares the number of deaths that occurred in this winter period with the average number of deaths occurring in the preceding August to November and the following April to July. By applying the same method to Guernsey and Alderney death data, the number and nature of excess winter deaths occurring locally can be examined.

Figure 21, below, shows that in all but one year of the eleven years shown, there were more deaths during winter than there were in the non-winter period. In 2010–'11 there were 40 excess deaths in winter and in 2011–'12 there were 32. The average between 2001–'02 and 2011–'12 was 29 excess deaths in winter.

### EXCESS WINTER DEATHS AND TEMPERATURE

The colder temperatures of winter are sure to be a key factor determining the observed seasonal variation in mortality however the relationship between temperature and mortality appears to be complex, involving the interplay of many intermediary factors. When average winter temperature is plotted against the count of average winter deaths there is, consequently, no discernible pattern: the supposition that an unusually cold average winter temperature will result in an unusually high number of excess winter deaths, and vice versa, is not borne out by the Guernsey and Alderney data. The same is true for Jersey. Plausibly, the use of an average temperature for the whole winter season may mask considerable, relevant, daily, weekly and monthly variation over the four-month period. Examining the temperature-mortality relationship over shorter time periods within the winter season may be more revealing; however this approach would be ill-suited to Channel Islands data given the relatively small numbers of events (deaths) concerned and the inherent vulnerability of such small numbers to random fluctuation.





Sources: Guernsey and Alderney Greffe death registrations; Guernsey Meteorological Office.

### EXCESS WINTER DEATHS BY AGE AND SEX

In recent reporting years there have been more excess winter deaths in England and Wales among females than there have among males<sup>11</sup>. Over the period 2001–'02 to 2011–'12 this was also true for Guernsey and Alderney: 57% of excess winter deaths were among females (17 per year, on average) and 43% were among males (12 per year, on average). Almost exclusively, and for both sexes, these deaths occurred among those aged 75 and over, and more particularly among those aged 85 and over. The concentration of excess winter deaths among the older age groups is also seen in England and Wales and is clearly shown in Figure 22. Beginning in August the monthly average temperature drops to a winter low in February before rising again each month to July. While this change has no discernible effect on the number of deaths among the two youngest age groups (those aged 0–64 and 65–74), there is a visible upward bulge in deaths — a seasonal excess — among the over 75s and over 85s during the winter months.

<sup>&</sup>lt;sup>11</sup> ONS 'Excess Winter Mortality in England and Wales, 2012/13 (Provisional) and 2011/12 (Final)'.





Sources: Guernsey and Alderney Greffe death registrations; Guernsey Meteorological Office.

### EXCESS WINTER DEATHS BY UNDERLYING CAUSE — England and Wales

Excess winter deaths, as well as being concentrated in the over 75s, are also confined to certain causes of death. While some types of diseases show a marked winter/non-winter disparity in their numbers, others do not. Causes where a seasonal effect has been

demonstrated in England and Wales are respiratory diseases, dementia and Alzheimer's, circulatory diseases, and Injury and poisoning deaths (including accidental falls which can be affected by wintry conditions like icy pavements). The first two cause groups, respiratory diseases and dementia and Alzheimer's, have consistently shown the greatest increase in winter compared to the non-winter period. Conversely, conditions directly relating to cold, such as hypothermia do not play a major role (ONS 26 Nov 2013).

Excess winter mortality has been shown to vary widely across Europe and, contrary to what one might expect, countries with relatively mild winter temperatures tend to show much higher rates of EWM than countries where winter temperatures are very low. Low indoor temperature has been shown to correlate with EWM from cardiovascular disease in England (Wilkinson et al, 2001) and homes tend to have less heat-conserving design features like cavity wall insulation and double glazing, making them harder to heat, where winters are more mild (Healy 2003). The nature of the built environment, then, may be one significant contributory factor to the observed EWM in Guernsey and Alderney. The tendency to take inadequate precautions against the cold when outside the home — in other words not dressing in sufficiently warm or protective clothing — is another way that mild-winter residents have been shown to differ from their colder-winter counterparts (The Eurowinter Group, 1997), and this too could be relevant locally.

## Disease Incidence/Prevalence

Incidence and prevalence are both terms that are commonly used to describe disease frequency and disease burden. Incidence refers to the number of new cases occurring during a specified period in a given population, whereas prevalence measures the total pool of cases in a defined population who have a given disease or health outcome. The relationship between incidence and prevalence can be visualised using the bath model (Figure 23). Incidence is the inflow, prevalence is the bath water, and the outflow is everything that can change the prevalence, namely recovery, emigration or death (Bhopal 2008, 224).

Figure 23. Bath model of Incidence and Prevalence (after Bhopal 2008, 224).



In the absence of data-sharing between the Guernsey and Alderney's Primary Care practice groups and the HSSD, the best estimations of disease incidence and prevalence in the islands come from population health surveys (principally the Guernsey Healthy Lifestyle Survey series) and hospital activity data. A third key source, one which focuses on the incidence of cancer, is the Channel Islands Cancer Report series, provided by the National Cancer Intelligence Network.

## **Cancer Incidence**

For a number of years both Jersey and Guernsey have supplied hospital and pathology laboratory data to the National Cancer Intelligence Network (NCIN)'s Knowledge and Intelligence Team for the South West (formerly the South West Public Health Observatory's Cancer Intelligence Service) in order that cancers occurring in the Channel Islands can be recorded and registered according to National and International standards. As part of the registration process the NCIN produces an annual report on the basic statistics on cancer in the islands. While consultants employed by the HSSD and the MSG keep their own records of the number of cancer cases they see each year it is this series of annual reports that form the authoritative source of information on cancer incidence in the islands. The latest report, incorporating data up to and including 2011, showed that, excluding non malignant skin cancers (NMSC) there were on average 348 new cases of malignant cancer diagnosed annually between 2007 and 2011<sup>12</sup>. This gives Guernsey/Alderney an age standardised rate of 558.7 per 100,000 age 20+ population, which is similar to Jersey, the South West region and England for the same (or closest) reporting period where the rates were 570.7, 557.3 and 543.6 respectively.



Table 20 shows the rates and average numbers per year of the 20 different types of cancer reported on by the NCIN. The top five cancers over the period 2007–2011 — those which have the highest rates and the largest numbers of new diagnoses per year — were **breast**, **prostate**, **colorectal**, **lung** and **malignant melanoma**. The same top five were seen in Jersey.

<sup>&</sup>lt;sup>12</sup> In most, but not all, cases we can equate the number of malignancies with an equivalent number of individuals. The exception would be where one person was found to have more than one distinct form of primary malignant tumour. In this situation each malignancy would be registered separately.

Table 20. Cancer incidence in Guernsey/Alderney (based on data for 2007-2011) sorted by ASR, high to low.Rates are per100,000 population aged 20+, excepting paediatric cancers which are per 100,000 population aged 0-19.

					Difference			
Cancer Site/Category	ICD-10 codes	Average number of annual cases	ASR per 100,000	Gsy/Ald compared to Jersey	Gsy/Ald compared to South West	Gsy/Ald compared to England		
All cancers (excl. NMSC)	C00-C97, excl. C44	348	558.7	-	-	-		
Non-melanoma skin cancer	C44	242	370.2	-	higher	higher		
Breast	C50	45	153.0	lower	lower	-		
Prostate	C61	40	134.3	lower	lower	-		
Colorectal	C18-C21	42	66.2	-	-	-		
Lung	C33-C34	38	59.9	-	-	-		
Malignant Melanoma	C43	27	50.9	-	higher	higher		
Other cancers	other 'c' codes excl. C44	29	43.2	higher	-	-		
Upper Gastrointestinal	C15-C16, C25	26	41.5	-	-	-		
Head and Neck	C00-C14, C30-C32, C73	17	31.4	-	higher	higher		
Bladder	C67	20	31.2	higher	higher	higher		
Lymphoma	C81-C85, C96	16	28.5	-	-	-		
Uterus	C54-C55	8	25.6	-	-	-		
Paediatric (all cancers in ages 0-19, excl. NMSC)	C00-C97, excl. C44	<5	22.8	-	-	-		
Other Gynaecological	C51-C53, C57-C58	6	21.3	-	-	-		
Leukaemia	C91-C95	10	18.2	-	-	-		
Ovary	C56	6	18.2	-	-	-		
Kidney and Ureter	C64-C68	8	15.7	-	-	-		

Male Urogenital (excl. prostate)	C60-C63, excl. C61	<5	11.0	-	-	-
Brain and CNS	C70-C72	<5	9.8	-	-	-
Hepatobiliary	C22-C23	<5	9.3	-	-	-

NB. NMSC = Non-melanoma skin cancer; ' – ' indicates no significant difference. Source: NCIN Channel Islands Cancer Report 2013 (confidential report) p13.

Cancer types for which Guernsey/Alderney has a significantly higher incidence than the South West region and England are skin cancers (both Malignant Melanoma and non-melanoma types); head and neck, and bladder cancers. Jersey too has high rates of skin and head and neck cancers; malignancies for which sun exposure and smoking/excessive alcohol use are the major risk factors<sup>13</sup>.

Guernsey's high rates of bladder cancer are not mirrored in Jersey, by contrast, and may warrant further investigation. The main risk factors for this type of cancer are smoking and industrial exposure to chemicals<sup>14</sup>

## Figure 24. Comparison of age-standardised rates for three types of cancer where Guernsey/Alderney show significantly elevated incidence.



<sup>&</sup>lt;sup>13</sup> NCIN Channel Islands Cancer Report 2013, <u>http://www.gov.gg/CHttpHandler.ashx?id=85901&p=0</u> (Accessed 28-03-14)

<sup>&</sup>lt;sup>14</sup> http://www.cancerresearchuk.org/cancer-help/type/bladder-cancer/about/bladder-cancer-risks-and-causes [Accessed 06-03-14].

Breast and prostate cancers, though they rank in the top five incident cancers for Guernsey and Alderney, are occurring at rates that are significantly *lower* than those in Jersey and the South West region.

*Figure 25. Top five incident cancers in pictures; yearly average new cases by type during 2007–2011.* 

## **5. SEXUAL HEALTH**

## **Under-16 conceptions**

There were 13 under-16 conceptions in Guernsey and Alderney during the three-year period 2010–2012; an average of four to five per year. This equates to a rate of 4.3 per 1,000 (95% CI 2.3 to 7.4). Sixty-two percent of these conceptions ended in a termination (95% CI 36 to 82%). Table 21, below, shows the rate in relation to Jersey and to England and Wales regions using the most up-to-date data available. The figures for the percentage of conceptions leading to termination are similar in Guernsey and all of the England and Wales regions. Jersey had the lowest rate of all regions, 1.7 per 1,000 and had a markedly higher percentage (88%) leading to a termination.

	conception rate per 1,000	% leading to termination
North East	9.4	56.2
North West	8.0	61.5
Yorkshire and the Humber	8.0	58.3
West Midlands	7.7	60.7
Wales	7.0	56.1
East Midlands	6.9	56.7
London	6.9	67.9
England and Wales	6.7	60.9
England	6.7	61.1
South West	5.7	62.7
East	5.5	60.3
South East	5.4	61.8
Gsy/Ald 2010-12	4.3	62.0
Jersey 2010-12	1.7	88.0

### Table 21. Comparison of under-16 conception rates, England and Wales regions 2009–2011 and Channel Islands 2010–2012

Sources: BIRTHS table (EUORKING); Abortion database (MoH notifications); Guernsey/Alderney population data (Policy Council); Jersey Health Intelligence Unit; Conception Statistics, England and Wales, 2011.

## **Under-18 conceptions**

There were 87 under-18 conceptions in Guernsey and Alderney during the three years from 2010 to 2012; an average of 29 per year. This equates to a rate of 27.8 per 1,000 (95% CI 22.3 to 34.3). Forty percent of these conceptions ended in a termination (95% CI 30.6 to 50.7%). Table 22, below, shows the rate in relation to Jersey and to England and Wales regions using the most up-to-date data available.

	conception rate per 1,000	% leading to termination
North East	38.4	40.7
North West	35.3	48.9
West Midlands	34.9	48.7
Wales	34.2	42.0
Yorkshire and the Humber	33.8	42.5
East Midlands	31.3	43.6
England and Wales	30.9	48.8
England	30.7	49.3
London	28.7	61.0
Gsy/Ald 2010-12	27.8	40.2
South West	27.3	47.9
East	26.6	50.2
South East	26.1	51.7
Jersey 2010-12	11.4	70.0

Table 22. Comparison of under-18 conception rates, England and Wales regions 2011 and Guernsey/Alderney 2010–2012

Sources: BIRTHS table (EUORKING); Abortion database (MoH notifications); Guernsey/Alderney population data (Policy Council); Conception Statistics, England and Wales, 2011; Jersey Health Intelligence Unit.

Compared to the last reporting period (2008) there has been a considerable drop in the under-18 conception rate, from 39.8 per 1,000 (95% CI 29 to 53.2) to 27.8 per 1,000 (95% CI 22.3 to 34.3) — an absolute difference of 12 per 1,000 and a fall of 30%. This drop was of a similar magnitude to the drop that was seen in the England and Wales rate over the same period (see Figure 26).

Figure 26. Secular trend in under-18 conceptions, England and Wales 1975–2011, Guernsey/Alderney 2008 and 2010–2012, Jersey 2006–2008, 2008–2010 and 2010–2012.



Sources: BIRTHS table (EUORKING); Abortion database (MoH notifications); Guernsey/Alderney population data (Policy Council); XLS Chart (27 kb) within Statistical Bulletin 'Conceptions in England and Wales, 2011' www.ons.gov.uk .

Despite the encouraging drop in under-18 conceptions seen locally and nationally it is important to note the under-18 conception figure for Jersey. As with under-16 conceptions the rate of under-18 conceptions was very low. Over the three-year period 2010–2012 Jersey

reported a rate of just 11.4 conceptions per 1,000 women — a rate less than half that of all the English regions and of Guernsey/Alderney. Jersey's young conception rates have been consistently low for a number of years. Under-18 rates of 14.8 per 1,000 and 15.0 per 1,000 were reported in 2006–2008 and 2008–2010 respectively, for example<sup>15</sup>.

# • The rate of under-18 conceptions in Guernsey/Alderney is **similar to the England** average but is **more than double the rate in Jersey**

### NOTES:

- Under-16 conceptions are reported as rates per 1,000 women aged 13–15 and are derived from locally available data on births and terminations of pregnancy to young women who conceived aged under-16.
- Under-18 conceptions are reported as rates per 1,000 women aged 15–17 and are derived from locally available data on births and terminations of pregnancy to young women who conceived aged under-18.
- Dates of conception and maternal age at conception are estimated from pregnancy outcome data (i.e. date of baby's birth or date of termination) by following the Technical Method guidance of the Public Health England Sexual Health Balanced Scorecard: http://www.apho.org.uk/default.aspx?QN=SBS\_PAGE02
- The young conception rates reported here are derived from locally-available data only and do not include births or terminations to Guernsey or Alderney residents which may have taken place off-island.

## **Terminations of Pregnancy**

The Medical Officer of Health was notified of 337 terminations performed in Guernsey during the three year period 2010–2012 and the Department of Health reported that a further 29 terminations were performed in England and Wales over the same period to women with a Guernsey or Alderney residential address. The total, 366, equates to an average of 122 procedures per year. The age-standardised rate for all known on- and off-island procedures was 10 per 1,000 women aged 15–44. This is very similar to the rate reported in Jersey over

<sup>&</sup>lt;sup>15</sup> Health Profile for Jersey 2008/09; Health Profile for Jersey 2010.

the same period; 10.3 per 1,000. Both islands have rates that are significantly lower than the reported rates for England and Wales and all of the English regions in the closest reporting period, 2012 (see Table 23).

	Rate per 1,000 women aged 15-44	95% CI LL	95% CI UL
London	22.4	-	-
West Midlands	18.0	-	-
North West	17.5	-	-
England	16.6	16.6	16.7
England and Wales	16.5	-	-
South East	15.6	-	-
East	14.8	-	-
Yorkshire and the Humber	13.8	-	-
North East	13.6	-	-
East Midlands	13.5	-	-
South West	13.1	-	-
Jersey 2010-2012	10.3	9.5	11.2
Gsy/Ald 2010-2012	10.0	9.0	11.0

### Table 23. Comparison of termination of pregnancy rates, Channel Islands 2010–2012 and English regions 2012

Sources: Abortion database (MoH notifications); Guernsey/Alderney population data (Policy Council); Jersey Health Intelligence Unit; Abortion Statistics, England and Wales: 2012; Abortion Statistics, England and Wales: 2012; Abortion Statistics, England and Wales: 2010

In the five years to 2012 the trend in the Guernsey and Alderney termination rate has been broadly downward, reducing from 12 per 1,000 in 2008 to 10 per 1,000 in 2012. The relatively low number of annual procedures makes the rates susceptible to chance variation, however, and the observed differences cannot be said to be significant. Annual rates are shown with their confidence intervals in Figure 27, below, along with the England and Wales termination rates from 1969.

Figure 27. Secular trend in age-standardised termination rate per 1,000 women aged 15–44, England and Wales 1969 to 2012 and Guernsey/Alderney 2008–2012



Source: Abortion Statistics, England and Wales: 2012.

The Guernsey and Alderney rate may be showing a similar plateau to that seen in England and Wales, but at a lower level.

### NOTES:

- All terminations carried out in Guernsey must be notified to the Medical Officer of Health within 21 days. Similarly, all terminations performed in England and Wales, whether carried out in the NHS or an approved independent sector place, must be notified to the Chief Medical Officer. The sum of local notifications and off-island procedures reported by the Department of Health should therefore capture all legal terminations of pregnancy to Guernsey and Alderney residents.
- The ages of women who have off-island terminations cannot be obtained on the grounds of patient confidentiality. To allow these off-island procedures to be factored in to the overall age-standardised rate calculation for Guernsey and Alderney, women undergoing terminations in England and Wales are assumed to have the same age distribution as the women who had terminations in Guernsey during the same calendar year.

## **Sexually Transmitted Infections (STIs)**

Rates of new episodes for selected STI diagnoses are shown below. Comparing figures for 2010–2012 to figures from the last reporting period, 2008, there have been small but non-significant increases in anogenital warts, herpes and syphilis diagnoses and small but non-significant decreases in chlamydia and gonorrhoea diagnoses.

VEAD		Chlamydia		Warts		Herpes		Gonorrhoea			Syphilis				
YEAR	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
2010-12	-	-	241.8	95.8	62.7	79.0	16.7	26.3	21.6	16.7	5.1	10.8	1.0	2.0	1.5
95%CI LL	-	-	220.4	77.2	48.1	67.1	9.5	17.2	15.5	9.5	1.6	6.7	0.0	0.2	0.3
95%CI UL	-	-	264.6	117.5	80.4	92.6	27.1	38.6	29.1	27.1	11.8	16.5	5.8	7.3	4.5
2008	-	-	262.5	88.8	43.1	65.6	9.5	6.2	7.8	22.2	9.2	15.6	0.0	0.0	0.0
95%CI LL	-	-	224.3	59.0	23.6	47.3	2.0	0.7	2.5	8.9	1.9	7.5	0.0	0.0	0.0
95%CI UL	-	-	305.4	128.3	72.4	88.7	27.8	22.3	18.2	45.7	27.0	28.7	11.7	11.4	5.8

Table 24. Rates (per 100,000 all-age population) of new episodes for selected STIs, Guernsey/Alderney 2010–2012 and 2008.

Local rates for 2010–2012 were significantly lower than England 2012 rates across all of the selected infections.



### *Figure 28. Comparison of rates for selected STIs, Guernsey/Alderney 2008 and 2010–2012 and England 2012.*

Sources: Orchard Clinic, Guernsey; http://www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListName/Page/1201094610372#2.\_STI\_data\_tables Tables 7a(ii), 8a(ii), 9a(ii), 10a(ii), and 11a(ii).

For the most part Guernsey/Alderney data for 2010–2012 reflect England-wide sex and age differences in that diagnosis rates are:

• higher in males compared to females for anogenital warts and gonorrhoea

- higher in females compared to males for herpes; and
- highest among those aged 25–34 for syphilis and 20–24 for all other infections named above

The exception is in sex-specific local rates of diagnosis for syphilis which show the opposite pattern to England (the female rate being the higher of the two locally). This finding should be treated with caution, however, on account of the very small number of infections on which the Guernsey/Alderney rates are based.

The apparent reduction in chlamydia diagnoses appears at face value to be a positive finding; however one should be mindful of the likelihood of under-diagnosis. In Guernsey, staff at the Orchard Clinic have identified a mismatch between the estimated population prevalence of chlamydia infection among sexually active 16–25s (thought to be between 5 and 10% if we apply estimates for the UK) and the proportion of this age group in whom chlamydia infection has been diagnosed locally in recent years — around  $1.4\%^{16}$ , suggesting most chlamydia infections go undetected (114th MOH report). In the absence of action to increase the detection and treatment of currently-undiagnosed chlamydia cases, the burden of this infection — both in health terms to those infected and in terms of future resource demand on the health service — would only increase. For this reason the introduction of a chlamydia screening programme has been recommended in previous MOH reports ( $112^{th}$  and  $114^{th}$ ) and will be a key aim for the Public Health Directorate in the near future.

### NOTES

- In line with recently-revised HPA methodology Guernsey/Alderney chlamydia rates (both for 2010–2012 and 2008) are based on new infections diagnosed in both the GUM (Orchard) clinic and community settings. The chlamydia rate given in the *Health Profile for Guernsey and Alderney 2008* (60.9 per 100,000) is a GUM clinic-only rate
- Rates for all other infections are based on GUM clinic diagnoses only
- Infection definitions, specifying KC60 codes, were as follows: gonorrhoea: B, B1, B2, B5; anogenital herpes (first episode): C10A; syphilis: primary, secondary & early latent: A1, A2, A3; Warts: anogenital warts (first episode): C11A.

<sup>&</sup>lt;sup>16</sup> Public Health and Strategy Directorate, Forthcoming.

## **6. MENTAL HEALTH**

## **Population mental wellbeing**

In 2010 the *Guernsey Emotional Wellbeing Survey* was undertaken with the aim of measuring mental wellbeing and the prevalence of two common mental health disorders, anxiety and depression, in Guernsey and Alderney. The survey was postal in design and was mailed out to a 5% sample of residents from the two islands aged 16 or over. Two validated measures were used: the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) and the Hospital Anxiety and Depression Scale (HADS).

### WEMWBS

The WEMWBS is a short and psychometrically robust scale, available in full (14-item) and short (7-item) versions, in which participants are asked to respond to statements using a 5-point Likert scale, with options ranging from 'none of the time' through to 'all of the time'. A score between 1 and 5 is attributed to each response and the scores are then summed to give a total in the range 14–70 (for the full version) or 7–35 (for the short version). From this a population mean score can be derived and scores can also be allocated to low, moderate or high mental wellbeing categories<sup>17</sup>. WEMWBS focuses entirely on positive aspects of mental health with items covering positive functioning, satisfying interpersonal relationships and positive feeling.

WEMWBS scores were recorded in the range 17 to 70 and the population mean score was found to be 50.53 with little difference between men and women (mean score for males 51.0 and 50.0 for females). These scores were found to be similar to mean WEMWBS scores

reported for other areas e.g. in the Scottish Health Survey 2008 and Scottish Health Survey 2009. Overall, **17% of respondents were** 

The unemployed were three times more likely to have low mental wellbeing compared to those in work

<sup>&</sup>lt;sup>17</sup> defined as scores less than one standard deviation below the sample mean, within one standard deviation from the mean and greater than one standard deviation above the mean, respectively.

classified as having High Wellbeing, 67% as having Moderate and 16% as having Low Wellbeing. Again these proportions were similar to those reported in population studies from other areas (Johnson et al 2010, 9). There was a suggestion of an association between age and wellbeing score, in that very few individuals in the youngest (16–24 year-old) age group recorded high scores, and a strong association was detected between being unemployed, having a low income and low mental wellbeing. Fifty-three percent of the unemployed group versus 18% of those in work were classified as having Low Mental Wellbeing. This equates to a relative risk of 3.01 (three times greater risk) for those who are unemployed.

## *Figure 29. Estimated prevalence of Low, Moderate and High mental wellbeing among Guernsey and Alderney residents, 2010.*



The HADS is a 14 item scale with two embedded subscales screening for anxiety and depression symptoms. Responses to each of the 14 items are allocated a score between 0 and 3, and these are summed so as to give an overall HADS score in the range 0–42 and two separate subscale scores, one for depression, the other for anxiety, each in the range 0–21 (Johnson et al, 2010, 5).

HADS

Analysis of the HADS scores showed that **21% of survey respondents met the cut-off for experiencing anxiety and/or depression to 'clinical levels'**<sup>18.</sup> Anxiety was more common than depression, with 20% and 5% affected respectively; 5% exhibited co-morbidity for both conditions (Johnson et al 2010, 10). Compared to Jersey these levels were *higher than* an

<sup>&</sup>lt;sup>18</sup> Defined as a score of  $\geq$  11/21 for each of the depression and the anxiety scales

estimate for anxiety/depression prevalence derived from a 2009 survey (15%)<sup>19</sup> but *in line with* results from a 2012 survey (20%)<sup>20</sup>.

The association of lower mental wellbeing with unemployment and low income, as recorded by the WEMWBS, was replicated in results from the HADS:

- Compared with those in work the unemployed group reported experiencing anxiety and depression four times more often
- The greatest incidence of self-reported anxiety and depression symptoms was among those in the lowest income bracket

One in five survey respondents met clinical criteria for anxiety or depression Those who were unemployed and those with low income were at greater risk of these common mental health disorders

## **Suicide and Undetermined Injury Mortality**

Information on the number and rate of deaths from suicide and undetermined injury is given under *Rates of death from Selected Causes*, (Table 17).

<sup>&</sup>lt;sup>19</sup> Jersey Annual Social Survey 2009, 27.

<sup>&</sup>lt;sup>20</sup> Jersey Health Intelligence Unit.

## **7. HEALTH PROTECTION**

## **Disease screening**

A Public Health screening programme is an organised service in which populations of apparently healthy people are invited to be tested for certain conditions or risk factors before they have symptoms or develop a disease. The aim is to detect disease at an early stage when treatment is easier and outcomes are much better, or to prevent disease.

Screening programmes for Guernsey and Alderney residents are currently offered by different providers, including GPs, the HSSD and the Chest and Heart charity and include:

- Breast cancer screening
- Cervical cancer screening
- Colorectal cancer screening
- Diabetic retinopathy screening
- Cardiovascular disease screening
- Osteoporosis screening
- Ante-natal screening for pregnant women
- Newborn and young baby checks

The Public Health directorate aims, in the future, to undertake a review of screening programmes, to document and appraise how they operate and how/where they are provided and managed. Agreed outcome measures and a reporting timetable for each screening service would also be set out at this time, and it is hoped that performance indicators that measure how well screening programmes are doing in important areas could then be included in future profiles.

### Child immunisation coverage (Guernsey-only indicator)

### PRIMARY IMMUNISATIONS

The UK schedule of routine childhood immunisations is followed in Guernsey (114<sup>th</sup> MOH report). Pre-school immunisations are administered by Primary Care practices and, in 2010–2012, were given in the combinations shown in Table 25<sup>21</sup>.



Table 25. Pre-school child immunisations (correct up to end of 2012)

Beginning in 2011 Pre-school Immunisation coverage for Guernsey has been evaluated using five evaluation definitions from the Health Protection Agency's 'vaccine coverage calculation definitions'. Results are shown below, in Figure 30.

<sup>&</sup>lt;sup>21</sup> Changes to the immunisation schedule that occurred between the end of 2012 and the date of publication of this report are detailed in the 114<sup>th</sup> Annual MoH report for the Bailiwick of Guernsey (Bridgman 2014, 48-49).



### *Figure 30. Pre-school Immunisation coverage for Guernsey 2011 and 2012*

For all evaluations, for both 2011 and 2012, Guernsey coverage has been higher than the England average. MMR coverage at second birthday fell slightly short of the WHO target among the 2011 evaluation cohort, however this rose in 2012 bringing all five measures of pre-school coverage in line with, or above 95%.

### HPV IMMUNISATION

Immunisation against Human Papilloma Virus, which is known to be implicated in the development of cervical cancer, is offered to girls in school Year 8 (aged 12–13). Uptake was reported in the 114<sup>th</sup> Annual MoH report to have increased from 88% in 2010 to 95% in 2012 (Bridgman 2014, 48).

## Seasonal 'Flu Immunisation

Most people would be able to cope with, and recover well from, an Influenza infection, however for some people — those for whom 'flu would pose a more serious problem — immunisation is recommended. In Guernsey as in England, seasonal 'flu immunisation is offered by GPs to:

- Those over the age of 65
- Pregnant women
- Children and adults determined to be 'at increased risk' through an underlying health condition or weakened immune system

Examples of relevant health conditions would include chronic respiratory diseases like asthma, COPD or bronchitis; chronic heart, kidney or liver diseases or diabetes.

Figures provided by Primary Care practices to the Medical Officer of Health show that during the winter season 2011–'12 uptake in Guernsey compared to England was slightly higher for pregnant women, but considerably lower among over-65s and those deemed to be at clinical risk (see Figure 31). Uptake across all groups in Guernsey fell well short of the WHO target of 75%.

In contrast to England where 'flu immunisations are available to invitees free of charge, Guernsey residents must pay to be immunised. This difference is likely to account, at least in part, for the lower rates of uptake seen locally.





Sources: Guernsey Primary Care Practices; DH "Influenza Immunisation Uptake Monitoring Programme, England, Winter Season 2011–'12 (PDF, 732K).

## 8. LIFESTYLE

## **Adult Smoking**

The prevalence of smoking among adult islanders is currently estimated from two sources: firstly local health and lifestyle surveys, the most recent being *The Fifth Guernsey Healthy Lifestyle Survey 2008*, and secondly *PEH maternity services data*.

THE FIFTH GUERNSEY HEALTHY LIFESTYLE SURVEY 2008 (Guernsey-only indicator)

In the *Fifth Guernsey Healthy Lifestyle Survey 2008*, 735 islanders aged 18 and over, out of 1500 who were selected at random from GP patient lists and sent the survey, answered questions on their lifestyle, general health and use of health services. Of those who submitted a valid response to a question on smoking status (727), 16% identified themselves as smokers (95% CI 13.7 to 19.2%). Thirty-two percent were ex-smokers and 52% were non-smokers who had never smoked. Smoking prevalence was found to vary greatly by age and sex, being higher among males than among females and higher among those aged 25–64 than in younger or older individuals. The peak estimated prevalence was 47%, for males aged 25–34, although this figure was based on a respondent count of just 15 individuals and should be treated with caution.

The sixth in the series of lifestyle survey was carried out in 2013 and results, which will include updated smoking prevalence estimates, are expected in 2014.

**16%** of respondents to the *Fifth Guernsey Healthy Lifestyle Survey*, carried out in 2008, identified themselves as smokers

We can be confident that the true smoking prevalence was between 13.7 and 19.2%

Smoking was most prevalent among men and those aged between 25 and 64

PEH MATERNITY SERVICES DATA — SMOKING DURING PREGNANCY (Guernsey and Alderney indicator)

The smoking status of expectant mothers is routinely recorded at 'booking' — the initial appointment with midwives which, in the majority of cases, happens during the first trimester of pregnancy. An anonymous extract was made of babies who were live- or still- born in 2010, 2011 and 2012 and the smoking status at booking of those babies' mothers was examined. Of the 1976 babies born in 2010–2012, data was available for 1750 (89%). The findings were that:

The proportion of smokers as a percentage of those where smoking status was known was lowest in 2011 at 15.8%, highest in 2010 at 18.1%, and averaged 17.1% over the three year period 2010–2012.

No national comparison data are available for this indicator.

The smoking status of new mothers is also recorded at the time of delivery. An anonymous extract was made of babies born in 2011 - the only year for which data were available - and the smoking status at delivery of those babies' mothers was examined. Of the 674 babies born data was available for 649 (96%).

- Ninety-seven women were smokers at delivery which equates to 14.9% of those whose smoking status was known.
- Some women who were smokers before they conceived may have quit smoking on discovering they were pregnant and remained smoke-free up until birth
- However comparing the smoker-at-booking figure for 2011 (15.8%) to the smoker-at-delivery figure for 2011 (14.9%) we can see that, of the women who had continued to smoke up to the point of their first midwife appointment, the vast majority continued to do so throughout pregnancy and up until birth.

1 in 6...

babies born in 2010– 2012 had mothers who were smokers at their first midwife appointment Data for England on women's smoking status at time of delivery is collected and reported by the Health and Social Care Information Centre. Figures from the financial year quarters equating to the calendar year 2011 are shown in Table 26.

	maternities where smoking status at delivery known	smoking at delivery	smokers as % of known	95% CI LL	95% CI UL
North East	29,676	6,188	20.9%	20.4%	21.3%
North West	85,164	14,781	17.4%	17.1%	17.6%
Yorkshire & Humber	64,328	10,865	16.9%	16.6%	17.2%
East Midlands	53,104	8,573	16.1%	15.8%	16.5%
West Midlands	69,645	10,867	15.6%	15.3%	15.9%
Gsy/Ald	649*	97	14.9%	12.4%	17.9%
East of England	69,863	9,424	13.5%	13.2%	13.7%
South West	58,740	7,914	13.5%	13.2%	13.8%
England	654,513	88,169	13.5%	13.4%	13.6%
South East Coast	50,568	6,228	12.3%	12.0%	12.6%
South Central	51,741	5,833	11.3%	11.0%	11.5%
London	121,684	7,496	6.2%	6.0%	6.3%

### Table 26. Comparison of women's smoking status at time of delivery, English regions and Guernsey/Alderney 2011

Source: EUROKING births table (PEH); calendar year average calculated from Tables 2 and 3 of Statistics on Women's smoking status at Time of delivery, England 2012-13 Q4 (Excel tool) http://www.hscic.gov.uk/catalogue/PUB11039

\*Note that this figure refers to births (live- and still-), not maternities

The point estimate for Guernsey and Alderney for 2011 falls above the England average of 13.5% and approximately in the middle of the range reported across the English regions. Confidence intervals around the local estimate are wide but we can conclude that the local rate is higher than those of the South East Coast and South Central regions and lower than that of the North East.

It is recommended that:

- the HSSD reviews the process by which smoking in pregnancy is monitored and recorded in Guernsey
- HSSD agrees, adopts and implements one or more preferred smoking-in-pregnancy indicators, setting data quality targets and agreeing a data-sharing protocol/timetable as necessary

## **Child Smoking**

Information on smoking among children is gathered by the Education Department as part of the *Young People's Survey* series. Results from past surveys are available at: <u>http://www.education.gg/ypsurvey</u>

## Alcohol Consumption (Guernsey-only indicator)

### ADULTS

In the *Fifth Guernsey Healthy Lifestyle Survey 2008* respondents were asked to estimate how many units of alcohol they consumed on each day of the week preceding the survey. This allowed both daily and weekly alcohol consumption to be gauged. There is no guaranteed 'safe' level of drinking but there is a lower risk level for which risks of harm are in general relatively low (110<sup>th</sup> MoH report). To stay within the lower risk category men should not regularly drink more than 3–4 units of alcohol per day and women should not regularly drink more than 2–3 units per day. Individuals exceeding the daily recommendations for their sex were deemed to be drinking at 'increasing risk'. Men drinking in excess of 8 units per day and women drinking in excess of 6 units per day on drinking days were deemed to be drinking at a level conferring 'higher risk'<sup>22</sup>

<sup>&</sup>lt;sup>22</sup> (<u>http://www.nhs.uk/Livewell/alcohol/Pages/Effectsofalcohol.aspx</u> Accessed 23/01/14).

21.3% of women were drinking at 'increasing risk'



and 3.6% were drinking at 'higher risk'



33.3% of men were drinking at 'increasing risk'

1 GLASS REPRESENTS 1 UNIT



In both sexes 'higher risk' drinking on drinking days was much more likely among younger adults, aged 18–34.

### CHILDREN

Information on alcohol consumption among children is gathered by the Education Department as part of the *Young People's Survey* series. Results from past surveys are available at: <u>http://www.education.gg/ypsurvey</u>

## **Healthy Weight**

The weight status distribution of adult islanders is currently estimated from two sources: Local health and Lifestyle surveys, the most recent being *The Fifth Guernsey Healthy Lifestyle Survey 2008*, and *PEH maternity bookings data*. Results from the Guernsey Child Measurement Programme, a longitudinal study initiated in 2013, will offer a source of information about child weight status to complement these adult data in future years.

THE FIFTH GUERNSEY HEALTHY LIFESTYLE SURVEY 2008 (Guernsey-only indicator)

Respondents to the *Fifth Guernsey Healthy Lifestyle Survey* were asked to state their weight and height from which Body Mass Index (BMI) could be calculated. BMI scores were then categorised as follows: <18.5 = underweight, 18.5-24.99 = healthy weight, 25-29.99 = overweight,  $\ge 30 =$  obese. Obesity scores were further divided into obese class I (30–34.99), obese class II (35–39.99) and obese class III ( $\ge 40$ ).

Of the respondents for whom a valid BMI score could be calculated (n=638), 53% were found to be either overweight or obese, 46% were of healthy weight and 1% were underweight.



*Figure 32. Weight status of respondents to the* Fifth Guernsey Healthy Lifestyle Survey 2008 (n=638)

In the overweight and obese class I categories men made up a greater proportion of the total than women. By contrast, in obese class II and obese class III women made up a greater proportion of the total than did men.

The sixth in the series of lifestyle survey was carried out in 2013 and results, which will include updated smoking prevalence estimates, are expected in 2014.

PEH MATERNITY BOOKINGS DATA (Guernsey and Alderney indicator)

Midwives routinely record the weight and height of pregnant women when they first 'book' with maternity services. This provides a second source of information about weight status in a subset of the adult population, namely women of childbearing age. An anonymous extract was made of babies who were live- or still- born in 2010, 2011 and 2012 and the booking BMI of those babies' mothers was

examined. Of the 1976 babies born in 2010–2012, maternal BMIs were available for 1715 (87%). Among these 1715 women the proportions falling into each weight status category were as follows:

WEIGHT STATUS	2010	2011	2012	2010-2012 average
underweight	5%	5%	4%	4%
healthy weight	54%	59%	51%	55%
overweight	28%	20%	25%	24%
obese class I (BMI 30-)	6%	11%	10%	9%
obese class II (BMI 35-)	5%	3%	6%	4%
obese class III (BMI 40-)	2%	2%	4%	3%

Table 27. Maternal weight status at booking for pregnancies ending in a birth between 2010 and 2012

Year-to-year fluctuations were seen in the distribution of women among the weight categories. Taking the three-year average 24% of women (approximately one-in-four) were overweight and 17% of women (approximately one-in-six) were obese. Adding these figures together 41% of women were either overweight or obese.

These figures are similar to those reported for 2008 (see Figure 33). The only statistically significant difference was in the proportion of women who were underweight at booking which rose from 2% (95%CI 1.1–3.3%) in 2008 to 4% (95%CI 3.6% to 5.6%) in 2010–2012.



### Figure 33. Distribution of maternal weight status at booking, 2008 and 2010–2012 compared

### NOTES:

- The majority of missing BMIs in the 2010–2012 reporting period were for births in 2010 where booking had taken place in 2009 using the former EDS-PAS patient record system. In these cases booking records were not migrated across to the new patient record system and were unavailable for analysis.
- Gestation at booking information was unavailable for 2010–2012 data hence no exclusions were made on the basis of booking gestation. This differs to the 2008 methodology where third trimester bookings were removed to prevent the introduction of bias from pregnancy-related weight gain.
• 2008 figures were based on an analysis of data for all women who booked in that calendar year, regardless of pregnancy outcome, in contrast to 2010–2012 figures which refer to the booking information of women whose pregnancies ended in a live- or still- birth in 2010, 2011 or 2012.

# **Healthy Schools Status**

The National Healthy Schools Programme (NHSP) launched in 1999 as a joint initiative between the Department for Children, Schools and Families (DCSF) and the Department of Health (DH) in England. The programme provided a key delivery mechanism for the aims of England's Children's Plan (DCSF 2007), and Healthy Weight, Healthy Lives (DH 2008), its aim being to promote a whole school/whole child approach to health. In order to achieve healthy schools status schools had to demonstrate that they had taken steps to achieve 41 key criteria around four themes: personal, social and health education (PSHE), emotional health and wellbeing, healthy eating and physical activity. Once achieved, accreditation was valid for a three-year period.

The option of taking part in the NHSP was extended to local schools. Over the period 2010–2012 eight of twenty-eight local schools held a valid Healthy Schools accreditation. A further seven schools had held a valid accreditation prior to 2010.

Since its inception the NHSP has evolved into the *Healthy Schools Toolkit*— a simplified, self-validation model that builds on the principles of the original programme. Locally, at the time of publication of this report, the programme continues to exist in the form of the *Guernsey Healthy Schools Standard* which retains a three-year cycle of accreditation and re-validation by external, off-island, assessors.

#### Table 28. Healthy Schools Accreditation status of Bailiwick schools, 2010–2012

PRIMARY PHASE	SECONDARY PHASE
Elizabeth College Junior School	Les Beaucamps High School
Amherst Primary	Blanchelande College
St Andrew's Primary	Elizabeth College
St Anne's, Alderney	Grammar School
Castel Primary	Ladies' College
Forest Primary	La Mare de Carteret High School
Hautes Capelles Primary	St Sampson's High School
Herm Island	
La Houguette Primary	
La Mare de Carteret Primary	
St Martin's Primary	
St Mary & St Michael R. C. Primary	
Ladies' College Junior School	
Le Murier	
Ormer House, Alderney	
Notre Dame du Rosaire R. C. Primary	
Le Rondin	
St Sampson's Infant	
Vale Infant	
Vale Junior	
Vauvert Primary	

KEY: Schools with valid accreditation during 2010-12 are shown in green. Schools that, at the end of 2012, had expired accreditations and no previous accreditations are shown with orange fill and white fill, respectively.

# **Food and Physical Activity**

#### ADULTS (Guernsey-only indicator)

In The *Fifth Guernsey Healthy Lifestyle Survey 2008*, nearly one quarter of adults reported having eaten five or more portions of fruit or vegetables on the day before the survey, but with big variation between the sexes. Nearly 28% of women had reached the five-a-day target, whereas only 17% of men had done so. Variation also occurred with age; only 13.2% of respondents aged 18–24 met the target, compared with 30.1% of 55–64 year olds.

With regard to physical exercise in the past week, 26% said that they took part five or more times in sport or recreational activity of moderate intensity lasting at least 30 minutes. The median number of exercise episodes was 3 for both males and females.





#### CHILDREN

Information on diet and physical activity among children is gathered by the Education Department as part of the *Young People's Survey* series. Results from past surveys are available at: <u>http://www.education.gg/ypsurvey</u>

# 9. WIDER DETERMINANTS OF HEALTH

The factors that can contribute to good or bad health — either mental or physical — are numerous and are not merely limited to what health services are available and how easily people can access them. Variables such as where we live (our houses and the outdoor physical environment); our level of education; our social environment and our job prospects and employment conditions all have a huge influence on wellbeing as well. This report has highlighted some of these effects, such as:

- The probable influence of *housing conditions* on Excess Winter Mortality among older island residents
- The increased likelihood of low mental wellbeing and mental ill-health among those who are *out of work* and those with *low incomes*

Information on health-relevant factors such as these can be found in States of Guernsey publications including:

Guernsey Facts and Figures booklet: http://www.gov.gg/ff

Guernsey Household Expenditure Surveys: <u>http://www.gov.gg/hes</u>

States Strategic Monitoring Report: www.gov.gg

# REFERENCES

### **Publications**

Bhopal, R. 2008. Concepts of Epidemiology. Oxford, Oxford University Press.

Bridgman, S. A. 2009. *Public Health Annual Report for Bailiwick of Guernsey 2008–2009: First Impressions*. (110<sup>th</sup> Annual MoH Report) Guernsey, States of Guernsey, Health and Social Services.

Bridgman, S., A. 2011. *112<sup>th</sup> Annual Bailiwick of Guernsey MOH Report for Year 2012/13. Special theme: Prevention of Child Maltreatment.* Guernsey, States of Guernsey.

Bridgman, S., A. 2012. 113<sup>th</sup> Annual Bailiwick of Guernsey MOH Report for Year 2012/13. Special theme: Health Equity. Guernsey, States of Guernsey.

Bridgman, S., A. 2014. 114<sup>th</sup> Annual Bailiwick of Guernsey MOH Report for Year 2012/13. Special themes Infection and Liver Disease Prevention. Guernsey, States of Guernsey.

Public Health and Strategy Directorate. Forthcoming. *A Sexual Health Strategy for the Bailiwick of Guernsey, 2015–2020*. Unpublished. Produced by staff of the Orchard Clinic, Guernsey for the Board of Directors of the HSSD.

Bromley, C., Given, L. and Ormston, R. (eds.) 2010. The Scottish Health Survey 2009: Vol 1. Main Report. The Scottish Government.

Corbett, J., Given, L., Leyland, A., MacGregor, A., Marryat, L., Miller, M. and Reid, S. 2009. *The Scottish Health Survey 2008.* The Scottish Government.

Department of Health and Health Protection Agency. 2012. Influenza Immunisation Uptake Monitoring Programme, England Winter Season 2011/12. Published 26 June 2012 to

http://webarchive.nationalarchives.gov.uk/20130107105354/https://www.wp.dh.gov.uk/immunisation/files/2012/06/Flu-vaccine-uptake-A-Z\_SHA-PCT\_2012\_acc.pdf [Accessed 28-02-14].

Department of Health, 2013. *Public Health Outcomes Framework, Improving outcomes and supporting transparency: Part 2, Summary technical specifications of public health indicators*. Published to <u>www.gov.uk</u> in PDF format only.

Department of Health/National Statistics. July 2013. *Abortion Statistics, England and Wales: 2012. Summary information from the abortion notification forms returned to the Chief Medical Officers of England and Wales*. Published to <a href="https://www.gov.uk/government/publications/report-on-abortion-statistics-in-england-and-wales-for-2012">https://www.gov.uk/government/publications/report-on-abortion-statistics-in-england-and-wales-for-2012</a> in PDF format only. [Accessed 28-02-14].

Department of Health/National Statistics. May 2012. *Abortion Statistics, England and Wales: 2011*. Published to <u>https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/213386/Commentary1.pdf</u> [Accessed 28-02-14].

Department of Health/National Statistics. May 2011. *Abortion Statistics, England and Wales: 2010.* Published to <u>https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/215584/dh\_127202.pdf</u> [Accessed 28-02-14].

Healy, J. D., 2003. Excess winter mortality in Europe: a cross country analysis identifying key risk factors. *Journal of Epidemiology and Community Health*. **57**:784–789.

HSCIC Indicator P00114 Purpose Statement, published to <a href="https://indicators.ic.nhs.uk/webview/">https://indicators.ic.nhs.uk/webview/</a> [Accessed 28-02-14].

Jeffs, D. 2000. *Our Healthier Islands: improving health in Guernsey and Alderney 1994–1999.* Guernsey, Board of Health.

Jeffs, D. 2005. *Healthier Islands Revisited: a review of health and healthcare in Guernsey and Alderney 1999–2003*. Guernsey, Health and Social Services Department.

Jenkins, L. and Bridgman, S. 2010. The Fifth Guernsey Healthy Lifestyle Survey 2008. Guernsey, States of Guernsey, Health and Social Services.

Johnson, S., Cataroche, J., Hinshaw, T. and Bridgman, S. 2010. *Guernsey Emotional Wellbeing Survey 2010; a cross-sectional survey of the mental wellbeing and common mental health disorders in Guernsey and Alderney*. Guernsey, Health and Social Services Department.

National Cancer Intelligence Network. 2013. *Channel Islands Cancer Report 2013, incorporating data up to 2011* (confidential version). Unpublished. Produced by the Public Health England Knowledge and Intelligence Team (South West), for the Guernsey and Jersey Medical Officers of Health.

National End of Life Care Intelligence Network. 2010. Variations in Place of Death in England: Inequalities or appropriate consequences of age, gender and cause of death? Published August 2010 to <u>http://www.endoflifecare-</u> intelligence.org.uk/resources/publications/variations in place of death [Accessed 28-02-14].

Office for National Statistics. 2012. *Definition of avoidable mortality*. Published 10<sup>th</sup> April 2012 to <u>http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/archived-consultations/2011/definitions-of-avoidable-mortality/index.html</u> [Accessed 10-03-14].

Office for National Statistics Statistical Bulletin. 2013. *Conceptions in England and Wales, 2011*. Published on 26 February 2013 to <u>http://www.ons.gov.uk/ons/dcp171778\_301080.pdf</u> [Accessed 28-02-14].

Office for National Statistics. 2013. Mortality Statistics; Metadata. Published July 2013 to <u>http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/index.html</u> [Accessed 28-02-14].

Office for National Statistics Statistical Bulletin. 2013. *Deaths Registered in England and Wales (Series DR), 2012*. Published on 22 October 2013 to <u>http://www.ons.gov.uk/ons/rel/vsob1/mortality-statistics--deaths-registered-in-england-and-wales--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/stb-deaths--series-dr-/2012/</u>

Office for National Statistics Statistical Bulletin. 2013. *Life expectancy at birth and at age 65 for local areas in England and Wales, 2010-12*. Published on 24 October 2013 to <u>http://www.ons.gov.uk/ons/dcp171778\_332904.pdf</u> [Accessed 28-02-14].

Office for National Statistics, 2013. *Deaths from selected causes by place of death in England and Wales between 1997 and 2012* (Excel sheet 141 kb) Released 01 November 2013, published to <a href="http://www.ons.gov.uk/ons/search/index.html?newquery=deaths+from+selected+causes">http://www.ons.gov.uk/ons/search/index.html?newquery=deaths+from+selected+causes</a> [Accessed 28-02-14].

Office for National Statistics Statistical Bulletin. 2013. Excess Winter Mortality in England and Wales, 2012/13 (Provisional) and 2011/12 (Final). Published on 26 November 2013 to <a href="http://www.ons.gov.uk/ons/dcp171778\_337459.pdf">http://www.ons.gov.uk/ons/dcp171778\_337459.pdf</a> [Accessed 28-02-14].

Public Health England. 2013. *National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2012: a report on the prevalence and severity of dental decay*. Published to <u>http://www.nwph.net/dentalhealth/survey-results5.aspx?id=1</u> [Accessed 25-02-14].

Save the Children. 2012. *Nutrition in the first 1,000 days: State of the World's Mothers 2012*. Published to <u>http://www.savethechildren.ca/document.doc?id=195</u> [Accessed 25-02-14].

States of Jersey. Forthcoming. *Health Profile 2014: Data for 2010 to 2012 (or most recent) with comparisons to Guernsey, English regions and Europe)*. Health Intelligence Unit, Health and Social Services Department, States of Jersey.

States of Jersey, Statistics Unit. Jersey Annual Social Survey 2009. Published to: <u>http://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20JASS2009%2020091223%20SU.pdf</u> [Accessed 07-03-14].

The Eurowinter group. 1997. Cold exposure and winter mortality from ischaemic heart disease, cerebrovascular disease, respiratory disease, and all causes in warm and cold regions of Europe. *The Lancet* **349**: 1341–46.

Waterhouse, J.A.H., Muir, C.S., Correa, P., Powell, J., eds. 1976. *Cancer incidence in five continents*. Lyon: International Agency for Research on Cancer. 3: 456.

Wilkinson, P., Landon, M., Armstrong, B., Stevenson, S., Pattenden, S., McKee, M. and Fletcher, T. 2001. *Cold comfort: The social and environmental determinants of excess winter deaths in England, 1986–96*. Bristol, Policy Press.

World Health Organisation. 2010. International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision. Volume 1. World Health Organisation.

World Health Organisation, 2013. World Health Statistics 2013. World Health Organisation.

#### Websites

NHS Choices: http://www.nhs.uk/NHSEngland/NSF/Pages/Olderpeople.aspx; accessed 11/12/13

Department of Health: www.dh.gov.uk

Health and Social Care Information Centre: <a href="https://indicators.ic.nhs.uk/webview/">https://indicators.ic.nhs.uk/webview/</a>

Office for National Statistics: www.statistics.gov.uk

Public Health Outcomes Framework data tool: <u>http://www.phoutcomes.info/</u>

States of Alderney: www.alderney.gov.gg

World Health Organisation: www.who.int

States of Guernsey, Education Department: <u>http://www.education.gg</u>

# **APPENDIX 1**

# Years of Life Lost per 10,000 for fifteen selected causes. Comparison of rates in Guernsey and Alderney, England and the South West region, 2010–2012 (sorted by ASR high to low)

	Guer	nsey and Alde	rney		England			South West			Diffe	rence
	YLL per 10,000 (persons unless indicated)	95% CI LL	95% CI UL	YLL per 10,000 (persons unless indicated)	95% CI LL	95% CI UL	YLL per 10,000 (persons unless indicated)	95% CI LL	95% CI UL	HSCIC ref.	Gsy & Ald compared to England	Gsy & Ald compared to South West
Suicide and undetermined injury	52.63	49.24	57.37	32.25	31.62	32.89	37.51	35.23	39.78	P00473	higher	higher
Accidents	41.24	38.40	44.78	30.62	30.04	31.19	32.56	30.56	34.56	P00334	higher	higher
Lung cancer	22.98	21.08	25.18	26.63	26.30	26.96	23.70	22.73	24.66	P00238	lower	no difference
Coronary heart disease	21.14	19.29	23.19	39.38	38.94	39.81	32.00	30.77	33.22	P00320	lower	lower
Breast cancer (female-only rate)	15.94	13.80	18.91	30.23	29.64	30.82	30.55	28.65	32.46	P00164	lower	lower
Prostate cancer (male-only rate)	11.90	10.03	14.21	6.08	5.89	6.27	6.12	5.56	6.69	P00246	higher	higher
Stroke	11.69	10.24	13.31	13.14	12.86	13.41	10.82	10.03	11.61	P00324	no difference	no difference
Colorectal cancer	11.02	9.67	12.70	12.28	12.03	12.52	11.97	11.16	12.77	P00202	no difference	no difference
Bronchitis, Emphysema, COPD	9.88	8.63	11.37	10.09	9.90	10.27	8.16	7.65	8.68	P00140	no difference	no difference
Chronic liver disease incl. cirrhosis	9.59	8.46	11.36	19.88	19.52	20.24	16.55	15.51	17.60	P00326	lower	lower
Malignant melanoma	4.15	3.40	5.34	3.24	3.09	3.38	3.92	3.40	4.43	P00274	higher	no difference
Pneumonia	2.58	1.93	3.38	7.08	6.86	7.30	5.69	5.06	6.32	P00519	lower	lower
Bladder cancer	2.07	1.51	2.84	2.16	2.07	2.25	2.18	1.88	2.48	P00162	no difference	no difference
Infectious and parasitic diseases	1.82	1.33	2.50	6.01	5.76	6.25	4.45	3.75	5.14	P00459	lower	lower
Cervical cancer (female-only rate)	1.37	0.86	2.48	4.57	4.31	4.83	4.63	3.74	5.52	P00200	lower	lower

# **APPENDIX 2**

## Cause of death definitions

					HSCIC reference
Symbol	Data Provider	Description	Ages	ICD-10 Code description/codes/ages	ID/Comments
+	HSCIC	Accidents	All	V01-X59	P00049
+	HSCIC	All causes	All	A00-Y99	P00339
+	HSCIC	Bladder cancer	All	C67	P00130
+	HSCIC	Breast cancer	All	C50	P00148
+	HSCIC	Bronchitis, Empyhsema, COPD	All	J40-J44	P00174

+	HSCIC	Causes considered amenable to healthcare	Various <75	Intestinal infections, A00-A09, 0-14 years; Tuberculosis, A15-A19, B90, 0-74 years; Other infectious diseases (diphtheria, tetanus, poliomyelitis), A36, A35, A80, 0-74 years; Whooping cough, A37, 0-14 years; Septicaemia, A40-A41, 0-74 years; Measles, B05, 1-14 years; Malignant neoplasm of colon and rectum, C18-C21, 0-74 years; Malignant neoplasm of skin, C44, 0-74 years; Malignant neoplasm of female breast, C50, 0-74 years; Malignant neoplasm of cervix uteri, C53, 0-74 years; Malignant neoplasm of unspecified part of the uterus and body of the uterus, C54-C55, 0-44 years; Malignant neoplasm of the testis, C62, 0-74 years; Hodgkin's disease, C81, 0-74 years; Leukaemia, C91-C95, 0-44 years; Diseases of the thyroid, E00-E07, 0-74 years; Diabetes mellitus, E10-E14, 0-49 years; Epilepsy, G40-G41, 0-74 years; Chronic rheumatic heart disease, I05-I09, 0-74 years; Hypertensive disease, 110-I13, I15, 0-74 years; Ischaemic heart disease, I20-I25, 0-74 years; Cerebrovascular disease, I60-I69, 0- 74 years; All respiratory diseases (excl. pneumonia, influenza and asthma), J00-J09, J20-J44, J47-J99, 1-14 years; Influenza, J10-J11, 0-74 years; Peptic ulcer, K25-K27, 0-74 years; Appendicitis, K35- K38, 0-74 years; Abdominal hernia, K40-K46, 0-74 years; Cholelithiasis & cholecystitis, K80-K81, 0-74 years; Cholelithiasis & cholecystitis, K80-K81, 0-74 years; Benign prostatic hyperplasia, N40, 0-74 years; Maternal deaths, O00-O09, 0-74 years; Congenital cardiovascular anomalies, Q20-Q28, 0-74 years; Perinatal deaths (all causes excl. stillbirths), all codes excl. P95, 0- 6 days years; Misadventures to patients during surgical and medical care, Y60-Y69, Y83-Y84, 0-74 years.	P00361
+	HSCIC	Cervical cancer	All	C53	P00188
+	HSCIC	Chronic liver disease incl. cirrhosis	All	К70, К73-К74	P00204
+	HSCIC	Colorectal cancer	All	C17-C21	P00226
+	HSCIC	Coronary heart disease	All	120-125	P00248

+	HSCIC	Lung cancer	All	C33-C34	P00509
+	HSCIC	Malignant melanoma	All	C43	P00645
+	HSCIC	Pneumonia	All	J12-J18	P00598
+	HSCIC	Prostate cancer	All	C61	P00625
+	HSCIC	Stroke	All	160-169	P00675
+	HSCIC	Suicide and undetermined injury	15+	X60-X84, Y10-Y34	P00546
*	ONS	Alcohol-related deaths	All	Mental and behavioural disorders due to use of alcohol, F10; Degeneration of nervous system due to alcohol, G31.2; Alcoholic polyneuropathy, G62.1; Alcoholic cardiomyopathy, I42.6; Alcoholic gastritis, K29.2; Alcoholic liver disease, K70; Chronic hepatitis, not elsewhere classified, K73; Fibrosis and cirrhosis of liver, K74 (Excluding K74.3-K74.5 - Billiary cirrhosis); Alcohol induced chronic pancreatitis, K86.0; Accidental poisoning by and exposure to alcohol, X45; Intentional self-poisoning by and exposure to alcohol, X65; Poisoning by and exposure to alcohol, undetermined intent, Y15;	No reference
*	ONS	Drug-poisoning deaths ('deaths related to drug poisoning')	All	Mental and behavioural disorders due to drug use (excluding alcohol and tobacco), F11–F16, F18–F19; Accidental poisoning by drugs, medicaments and biological substances, X40–X44; Intentional self-poisoning by drugs, medicaments and biological substances, X60–X64; Assault by drugs, medicaments and biological substances, X85; Poisoning by drugs, medicaments and biological substances, undetermined intent, Y10–Y14;	No reference
*	DH (PHOF)	All cancers	<75	C00-C97	4.05i

*	DH (PHOF)	All causes considered preventable	Various	Tuberculosis, A15-A19, B90, 0-74; Hepatitis C, B17.1, B18.2, 0-74 years; HIV/AIDS, B20-B24, All ages; Malignant neoplasm of lip, oral cavity and pharynx, C00-C14, 0-74 years; Malignant Neoplasm of oesophagus, C15, 0-74 years; Malignant neoplasm of stomach, C16, 0-74 years; Malignant neoplasm of colon and rectum, C18-C21, 0-74 years; Malignant neoplasm of liver, C22, 0- 74 years; Malignant neoplasm of trachea, bronchus, and lung, C33-C34, 0-74 years; Malignant neoplasm of skin, C43, 0-74 years; Mesothelioma, C45, 0-74 years; Malignant neoplasm of breast, C50, 0-74 years; Malignant neoplasm of cervix uteri, C53, 0-74 years; Diabetes Mellitus, E10-E14, 0-49 years; Alcohol- related disease excluding external causes, F10, G31.2, G62.1, 142.6, K29.2, K70, K73, K74 (excl. K74.3-K74.5), K86.0, 0-74 years; Illicit drug use disorders, F11-F16, F18-F19, 0-74 years; Ischaemic heart disease, 120-125, 0-74 years; DVT with pulmonary embolism, 126, 180.1-180.3, 180.9, 182.9, 0-74 years; Aortic aneurysm and dissection, 171, 0-74 years; Influenza (including swine 'flu), J09-J11, 0-74 years; COPD, J40-J44, 0-74 years; Transport accidents, V01-V99, All ages; Accidental injury, W00- X59, All ages; Suicide and self-inflicted injuries, X60-X84, Y10-Y34, All ages; Homicide/Assault, X85-Y09, U50.9, All ages; Misadventures to patients during surgical and medical care, Y60- Y69, Y83-Y84, All ages;	4.03; Based on the preventable mortality component of 'avoidable mortality' as defined by ONS in April 2012.
*	DH (PHOF)	Cardiovascular disease	<75	100-199	4.041; Equates to HSCIC definition of Circulatory Disease

*	DH (PHOF)	Liver disease	<75	Alcoholic liver disease, K70; Toxic liver disease, K71; Hepatic failure, not elsewhere classified, K72; Chronic hepatitis not elsewhere classified, K73; Fibrosis and cirrhosis of liver, K74; Other inflammatory liver diseases, K75; Other dieases of liver, K76; Liver disorders in diseases classified elsewhere, K77; Acute hepatitis A, B15; Acute hepatitis B, B16; Other acute viral hepatitis, B17; Chronic viral hepatitis, B18; Unspecified viral hepatitis, B19; Malignant neoplasm of liver, C22; Portal vein thrombosis, I81; Oesophageal varices, I85; Liver transplant failure and rejection, T86.4.	4.06i
*	DH (PHOF)	Preventable cancers	<75	Malignant neoplasm of lip, oral cavity and pharynx, C00-C14; Malignant Neoplasm of oesophagus, C15; Malignant neoplasm of stomach, C16; Malignant neoplasm of colon and rectum, C18- C21; Malignant neoplasm of liver, C22; Malignant neoplasm of trachea, bronchus, and lung, C33-C34; Malignant neoplasm of skin, C43; Mesothelioma, C45; Malignant neoplasm of breast, C50; Malignant neoplasm of cervix uteri, C53.	4.05ii; Based on the preventable mortality component of 'avoidable mortality' as defined by ONS in April 2012.
*	DH (PHOF)	Preventable cardiovascular disease	<75	Ischaemic heart disease, I20-I25; DVT with pulmonary embolism, I26, I80.1-I80.3, I80.9, I82.9; Aortic aneurysm and dissection, I71; Alcoholic cardiomyopathy, I42.6.	4.04ii; Based on the preventable mortality component of 'avoidable mortality' as defined by ONS in April 2012.
*	DH (PHOF)	Preventable liver disease	<75	Alcohol-related diseases, excluding external causes, K70, K73, K74 (excl. K74.3-K74.5); Hepatitis C, B17.1, B18.2; Malignant neoplasm of liver, C22.	4.06ii; Based on the preventable mortality component of 'avoidable mortality' as defined by ONS in April 2012.
*	DH (PHOF)	Preventable respiratory disease	<75	Influenza (including swine 'flu), J09-J11; COPD, J40-J44.	4.07ii; Based on the preventable mortality component of 'avoidable mortality' as defined by ONS in

					April 2012.
*	DH (PHOF)	Respiratory disease	<75	J00-J99	4.07i

#### Key:

- + Health and Social Care Information Centre Indicator
- Office for National Statistics Indicator
- \* Public Health Outcomes Framework Indicator

#### Abbreviations:

HSCIC	Health and Social Care Information Centre
ONS	Office for National Statistics
DH (PHOF)	Department of Health, Public Health Outcomes Framework

