



Isle of Man
Government

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Cancer Intelligence Report - 2019

Public Health Directorate
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1. Introduction

This report provides basic statistics on cancer in residents of the Isle of Man between 2009 and 2019. Rolling five year Direct Standardised Rates (DSRs) of both incidence and mortality are provided for all invasive cancers as well as breakdowns for the four most common cancer types.

The Cancer Intelligence Group is a collaborative group between Manx Care and the Public Health Directorate. As a group, it aims to work with key stakeholders to produce and maintain a Cancer Intelligence Core Dataset, ensuring timely and quality delivery of this information. Working with the help of the National Cancer Registration and Analysis Service (NCRAS) this report is the second product in a planned series of regular reports from the Cancer Intelligence Group.

NCRAS was previously delivered by Public Health England (PHE) and subsequently NHS Digital, however, on 1 February 2023 responsibility was transferred to NHS England. NCRAS is responsible for cancer registration in England to support cancer epidemiology, public health, service monitoring, and research.¹

This is the second report in a regular series of reports that will be produced and it is hoped that future reports will offer more significant analysis as data quality improves and a bigger picture of cancer services is developed. The report does not present a completely comprehensive review of all cancer services data for the Island, but it is the second report on cancer data to be released since 2005, and marks a significant achievement in the continuing improvement of data quality to date. There is still work to be done, some of which is reliant on time, as due to the Isle of Man's small population level, there are low incidence rates of some particular cancer sites and as such a longer time frame of analysis will be required to be able to disclose such rates. This is the reasoning for this report only focusing on the rates for all invasive cancers, and the four most common invasive cancer sites, as these can be more accurately analysed over time.

1.1 Data Quality

The Somerset Cancer Register (SCR) was implemented in the Isle of Man in 2012. This has developed the reporting potential for cancer data for the Isle of Man. However, the SCR implementation was done on a phased process and therefore, some cancer types have better recording than others. Initial analyses of Isle of Man registration data undertaken in July 2018 indicated underreporting when Isle of Man rates were compared with England. It is believed that this is due to the ongoing transfer from a paper based to an electronic reporting system. More recent analysis has shown that case ascertainment has improved with improved reporting.

2. Methods

2.1 Data Sources

Data on incidences and deaths in the Isle of Man are supplied by Manx Care and the Public Health Directorate to NCRAS for analysis. Incidence data is collected from the data held on the Somerset Cancer Register, by Pathology and also from hospital records held on the Patient Administration System (Medway PAS). This data also includes information from tertiary centres including the Cheshire and Merseyside Cancer Alliance.

Incident cancers and cancer deaths are coded using the International Classification of Diseases 10th Revision (ICD-10) coding system and are grouped within the table shown in Appendix 1.² For mortality data, the underlying cause is used to identify those who have died from cancer.

2.2 Methods

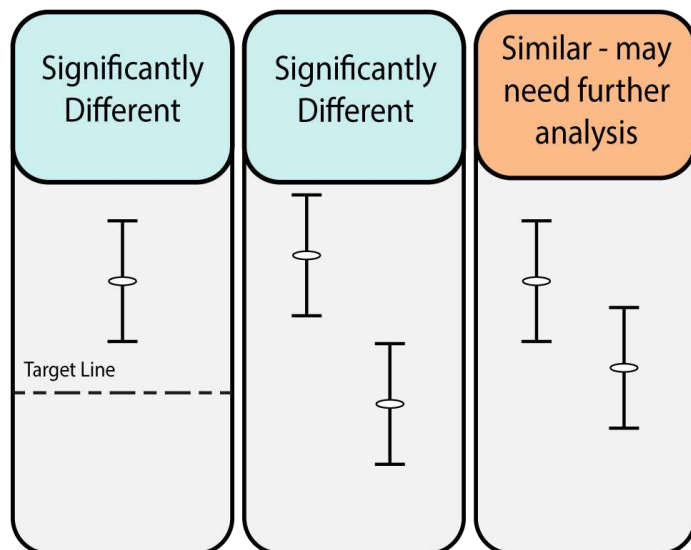
The risk of developing or dying from cancer is influenced by age and sex, and as such the makeup of the population in an area will affect the number of cancer cases diagnosed and deaths recorded. Therefore, cancer incidence and mortality rates must be calculated as DSRs allow for the fair comparison of rates between different population areas. By using DSRs we are able to directly compare Isle of Man cancer incidence and mortality rates to England. Comparisons between males and females are split using sex at birth.

DSRs look at the occurrence of cancer/death in the population of interest, and calculates what the rate would be in a pre-determined population (known as the standard population), controlling for age. If the same standard population is used for all populations analysed, then the rates are directly comparable. This allows any difference in rates to be examined independent to any variability in population. Rates in this report are standardised to the 2013 European Standard Population.³

DSRs are reported with 95% confidence intervals. Confidence intervals quantify the variance in the estimate of a particular value. Due to the nature of cancer incidence and mortality there is 'natural' variance in the population. Incidence and mortality from a disease is dependent on a variety of factors, as such there are fluctuations over time or geography which do not necessarily reflect a real increase or decrease in rate. Therefore confidence intervals are used to demonstrate a range of values within which the true rate falls. The wider the confidence interval, the greater the uncertainty in the calculated rate. Smaller populations with smaller numbers of cases/deaths will generate larger confidence intervals.

When comparing rates between population areas, if the confidence intervals of the DSRs overlap then it can be said that there is no statistically significant difference between the areas. For the charts presented in this report, if the 95% confidence intervals do not overlap, thus signalling a significantly different rate, red circles have been used to highlight this difference.

Confidence Intervals:



2.4 Populations

Populations used for the Isle of Man were supplied to NCRAS by Public Health. Mid-year populations are not calculated for the Isle of Man, so local population data is based on the most recent available data for that year, i.e. 2009 to 2013 use the 2011 IOM Census, 2014 to 2018 uses the 2016 IOM Census, and 2019 uses the 2021 IOM Census.⁴⁻⁶ Rates for England and the North West have been calculated using Office for National Statistics (ONS) mid-year population estimates.

All counts and rates in this report include all age groups.

3. Incidence

This section presents the results of analyses of standardised incidence rates of invasive cancers diagnosed between 2009 and 2019 amongst residents of the Isle of Man. Incidence data is based on the year of diagnosis, and features cancer diagnoses at any stage. Although low incidence rates may appear to be favourable, it is important that all incidence rates be considered in the context of diagnoses data completeness and timeliness. It should also be noted that incidence data does not distinguish between invasive cancer diagnoses at different stages.

3.1 All Invasive Cancers (C00-C97 excluding C44)

An invasive cancer is cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues.

Figures 1, 2, and 3 show that the Isle of Man has statistically significantly lower incidence rates when looking at all invasive cancers in Persons and Males, but a statistically similar incidence rate in Females. However, this may not be the case as ongoing transfer from a paper based to electronic reporting system is believed to have led to underreporting of cancer diagnoses. This assumption is explored in the analysis of incidence rates for four other key invasive cancer sites.

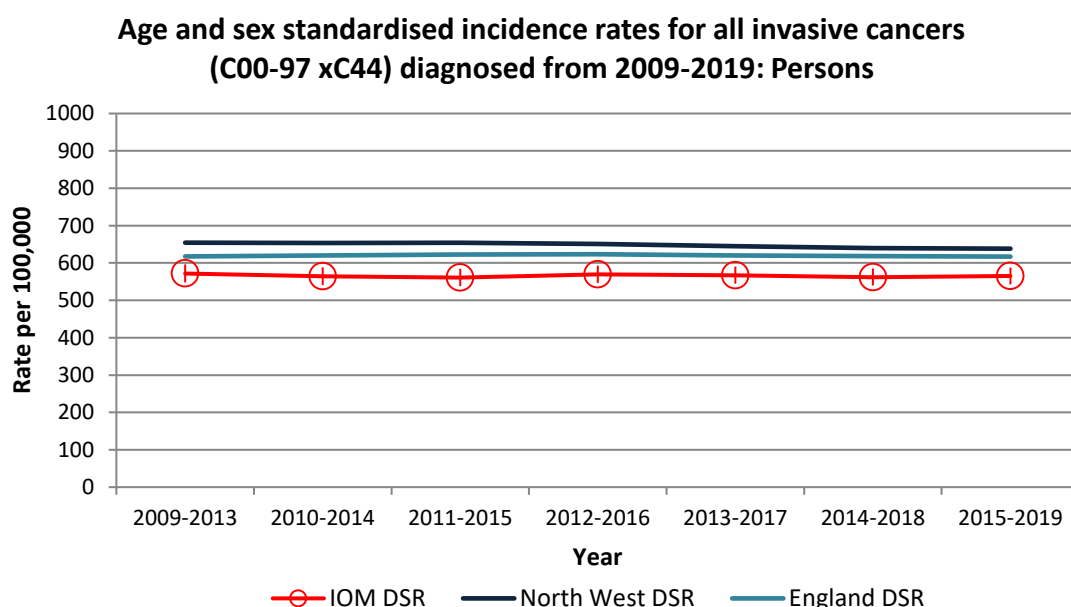


Figure 1: Incidence rates for all invasive cancers diagnosed from 2009-2019, Persons

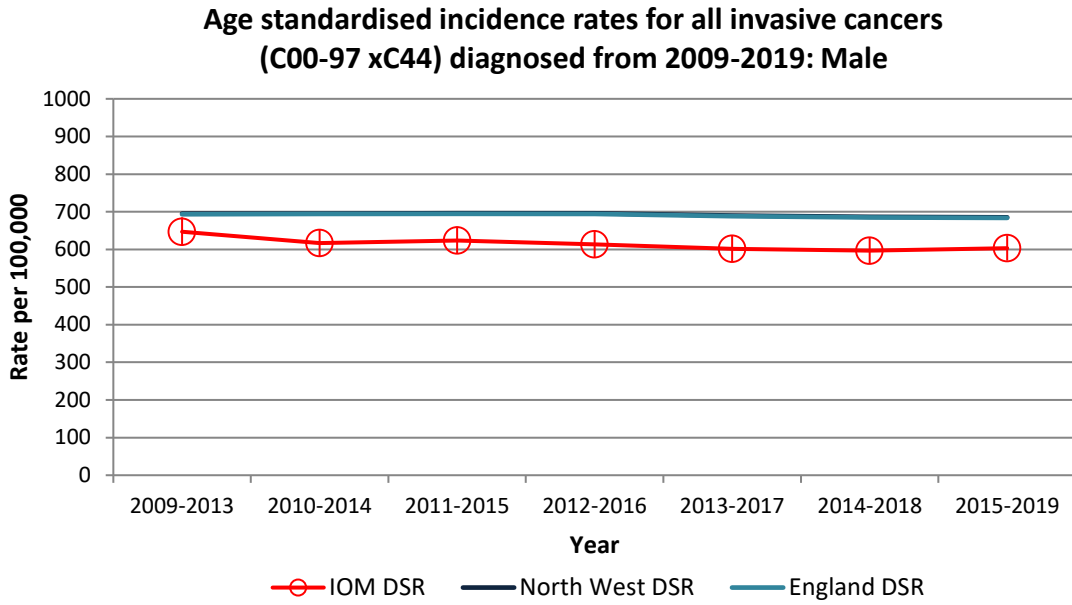


Figure 2: Incidence rates for all invasive cancers diagnosed from 2009-2019, Males

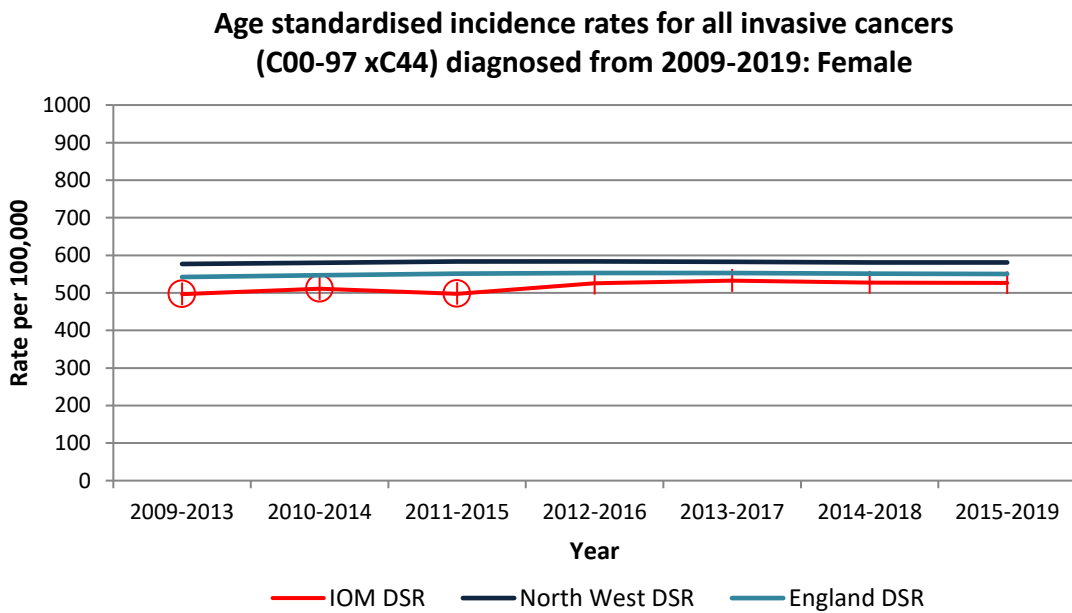


Figure 3: Incidence rates for all invasive cancers diagnosed from 2009-2019, Females

3.2 Breast Cancer (C50)

Breast cancer is the most common invasive cancer type diagnosed in women in the Isle of Man, accounting for 32.7% of all invasive cancer incidences in women between 2009 and 2019.

This is similar to England, where breast cancer is also the most commonly diagnosed cancer type in women, making up 30.5% of all invasive cancer diagnoses in women (2019).⁷

The incidence rates for invasive breast cancer on the Isle of Man for 2009-2019 are statistically similar to the rates seen in England and the North West, as **Figure 4** shows. It should be noted that these rates do not include Ductal carcinoma in situ (DCIS).

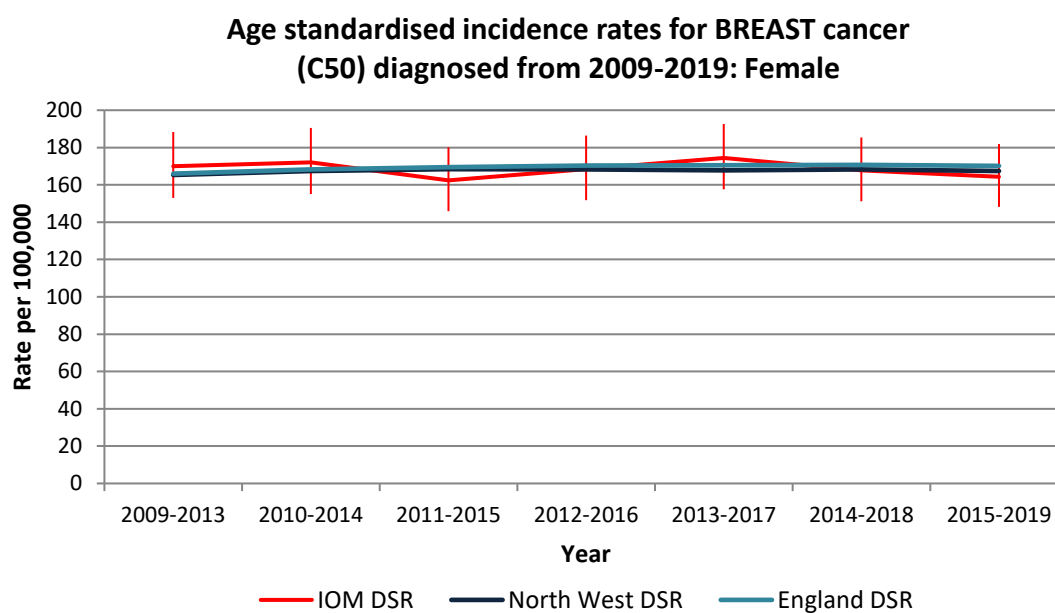


Figure 4: Incidence rates for invasive breast cancer diagnosed from 2009-2019, Females

3.3 Colorectal Cancer (C18, C19, C20)

Colorectal cancer, also known as bowel cancer, is the second most commonly diagnosed invasive cancer type in the Isle of Man in both men and women.

Between 2009 and 2019, colorectal cancer accounted for 13.7% of all diagnosed cancers. This differs slightly from England, where colorectal cancer is the fourth most common invasive cancer, accounting for 11.5% of all new cancer cases (2019).⁷ The incidence rates for colorectal cancer on the Isle of Man for 2009-2019 are statistically similar to the rates seen in England and the North West, as apparent in **Figures 5, 6, and 7**.

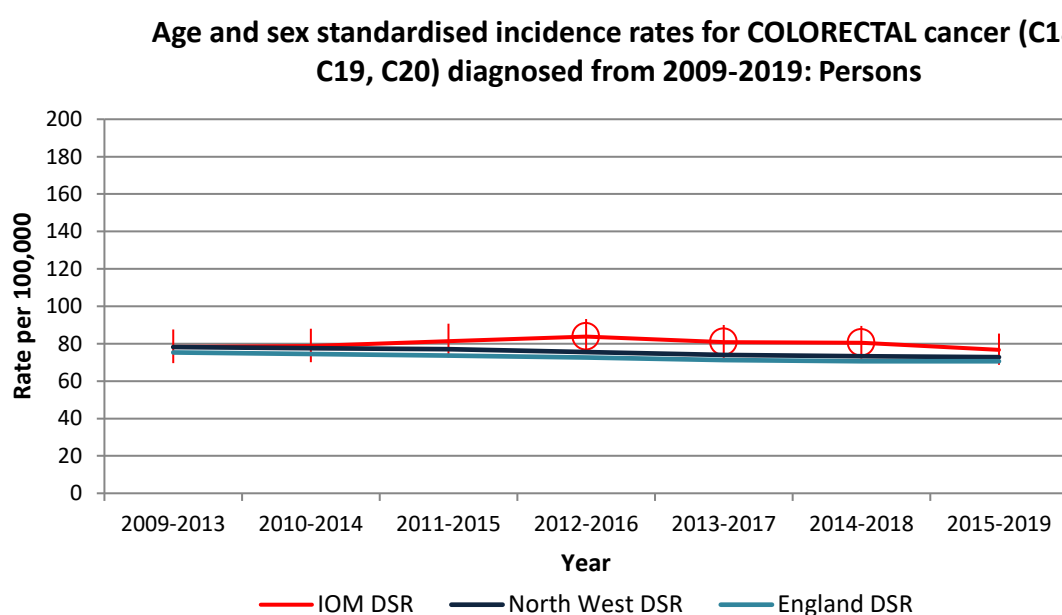


Figure 5: Incidence rates for invasive colorectal cancer diagnosed from 2009-2019 Persons

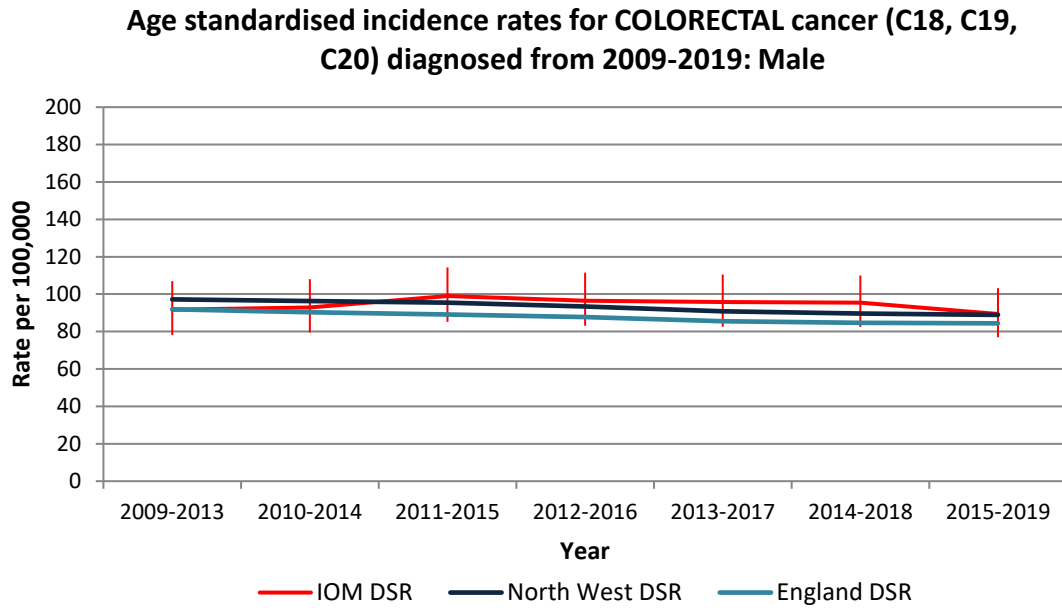


Figure 6: Incidence rates for invasive colorectal cancer diagnosed from 2009-2019, Males

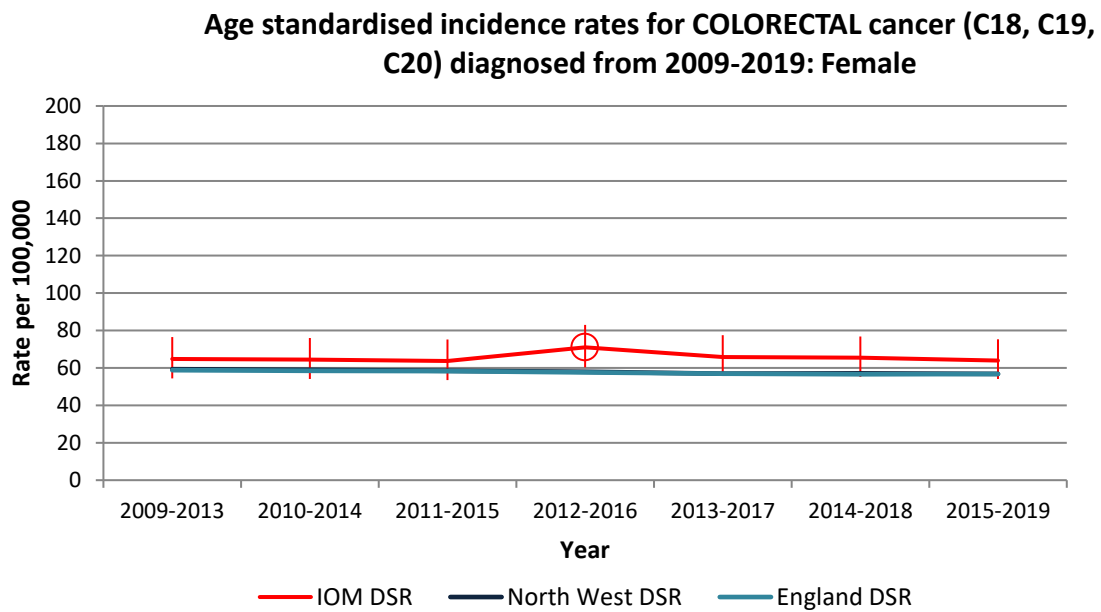


Figure 7: Incidence rates for invasive colorectal cancer diagnosed from 2009-2019, Females

3.4 Lung Cancer (C34)

Lung cancer is the third most common invasive cancer diagnosed in the Isle of Man. 12.4% of all cancers diagnosed between 2009 and 2019 were lung cancer cases. This is very similar to England, where lung cancer is also the third most common type, accounting for 12.1% of all new cancer cases in 2018.⁷ However, when adjusted for age, the DSR incidence rates for lung cancer in the Isle of Man for males, are statistically significantly lower than the rates seen in England and the North West, as **Figure 9** shows. But for all persons and women, lung cancer incidence rates are more similar to those seen in England and the North West, as shown in **Figures 8**, and **10**.

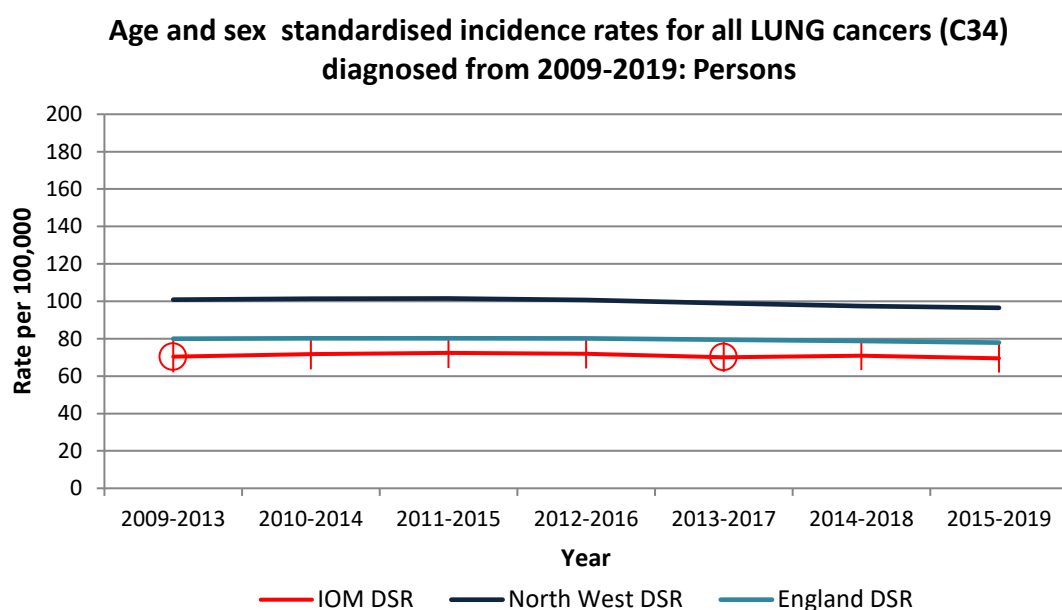


Figure 8: Incidence rates for invasive lung cancer diagnosed from 2009-2019, Persons

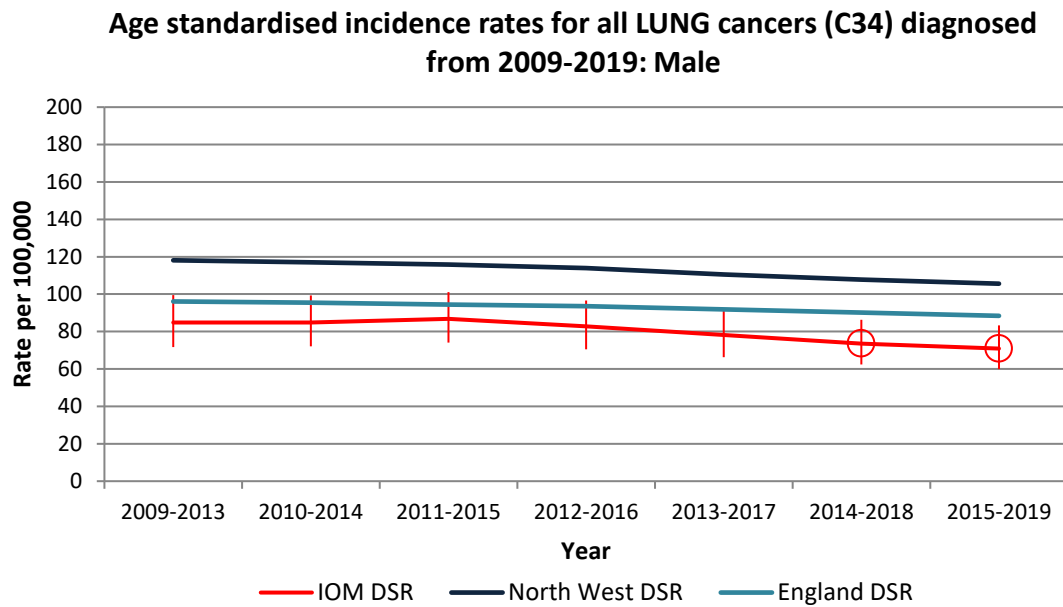


Figure 9: Incidence rates for invasive lung cancer diagnosed from 2009-2019, Males

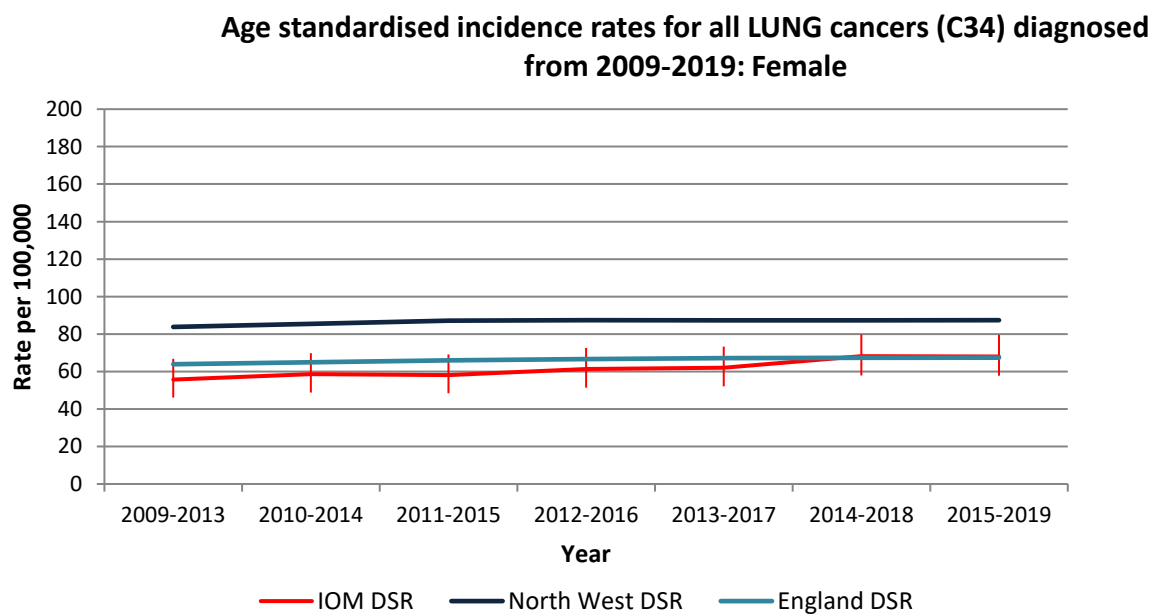


Figure 10: Incidence rates for invasive lung cancer diagnosed from 2009-2019, Females

3.5 Prostate Cancer (C61)

Prostate cancer is the most common invasive cancer type diagnosed in men in the Isle of Man, accounting for 23.1% of all invasive cancer incidences in men between 2009 and 2019.

In England, prostate cancer is also the most commonly diagnosed invasive cancer type in men, making up 28.0% of all newly diagnosed invasive cancer registrations in 2019.⁷

The incidence rates for prostate cancer in the Isle of Man for 2009-2019 are statistically significantly lower than the rates seen in England and the North West, as shown in **Figure 11**.

It is this rate, when considering the similar rate for prostate cancer mortality in the Isle of Man as in England and the North West, (page 19), that suggests a level of underreporting of prostate cancer registrations.

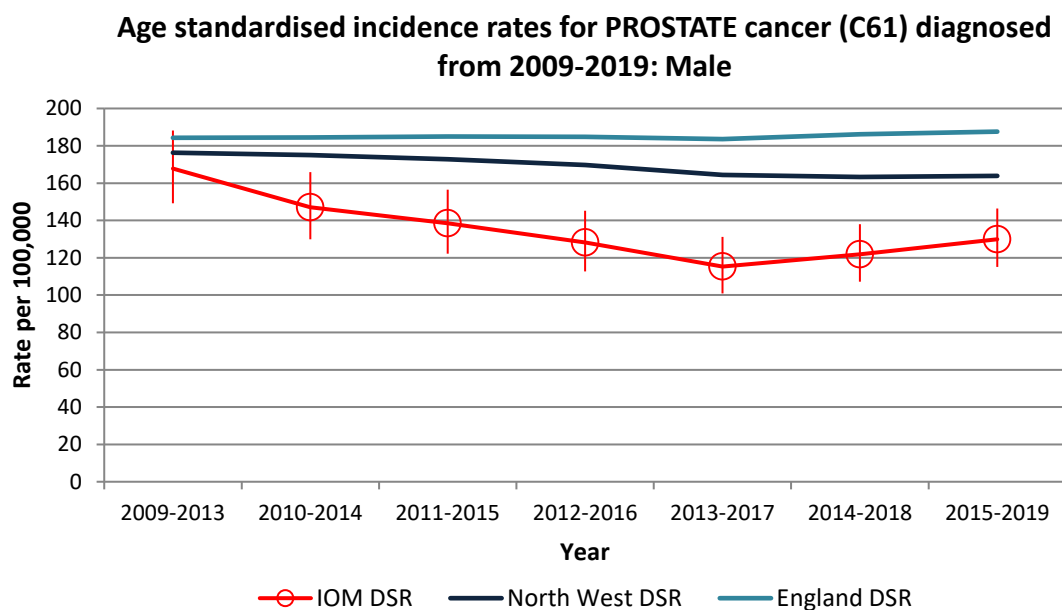


Figure 11: Incidence rates for invasive prostate cancer diagnosed from 2009-2019, Males

3.6 Incidence Summary

Figures 12 – 14 show a summary breakdown of cancer incidence diagnosed between 2009 and 2019 for Persons, Males, and Females.

Percentage of cancer incidence by site diagnosed from 2009-2019:
Persons

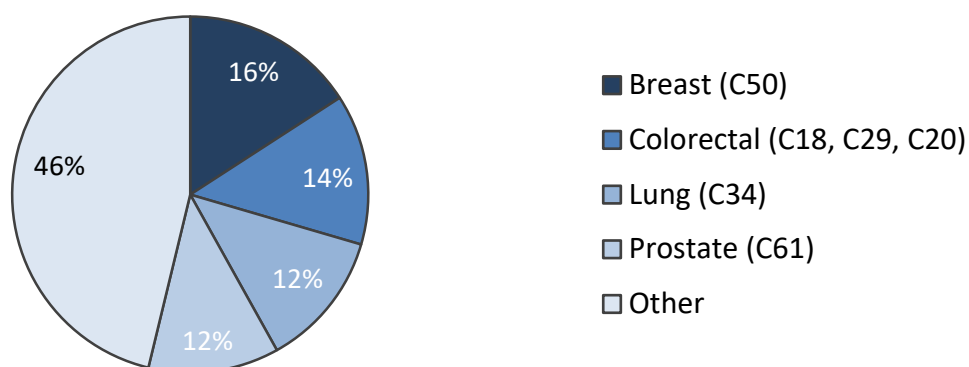


Figure 12: Percentage of invasive cancer incidence diagnosed from 2009-2019 by site, Persons

Percentage of cancer incidence by site diagnosed from 2009-2019:
Male

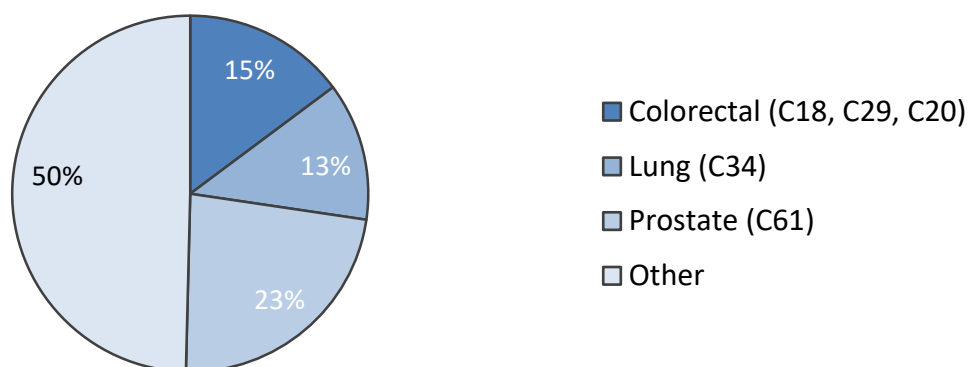


Figure 13: Percentage of invasive cancer incidence diagnosed from 2009-2019 by site, Males

**Percentage of cancer incidence by site diagnosed from 2009-2019:
Female**

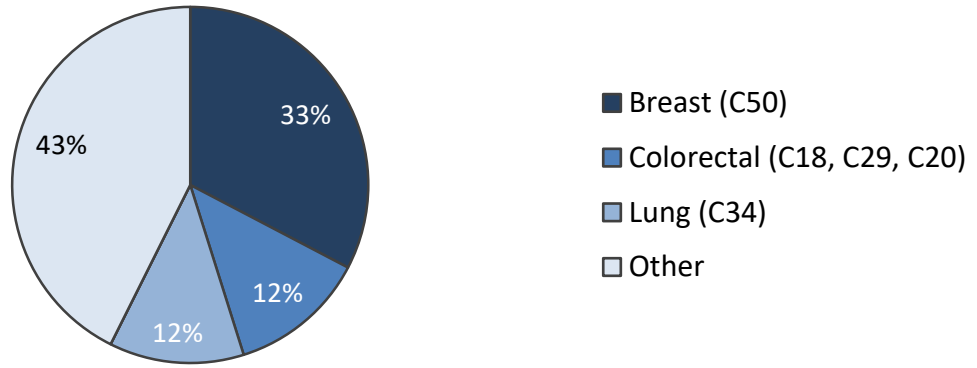


Figure 14: Percentage of invasive cancer incidence diagnosed from 2009-2019 by site, Females

4. Mortality

4.1 All Invasive Cancers (C00-C97 excluding C44)

Cancer is one of the leading causes of death in the Isle of Man, accounting for 29.1% of all deaths registered from 2009-2019.

This is slightly higher than in England, where in 2019 invasive cancers accounted for 27.6% of all deaths registered.⁸

Overall in the Isle of Man, there are a greater number of death registrations due to cancer for men than for women. The number of deaths being registered each year has not changed significantly from 2009-2019.

The rates presented below show the mortality registrations from 2009-2019 for deaths from invasive cancers. The age standardised mortality rates (ASMRs) for invasive cancers in both men and women in the Isle of Man are statistically similar to the rates seen in England and the North West, as shown in **Figures 15** and **16**.

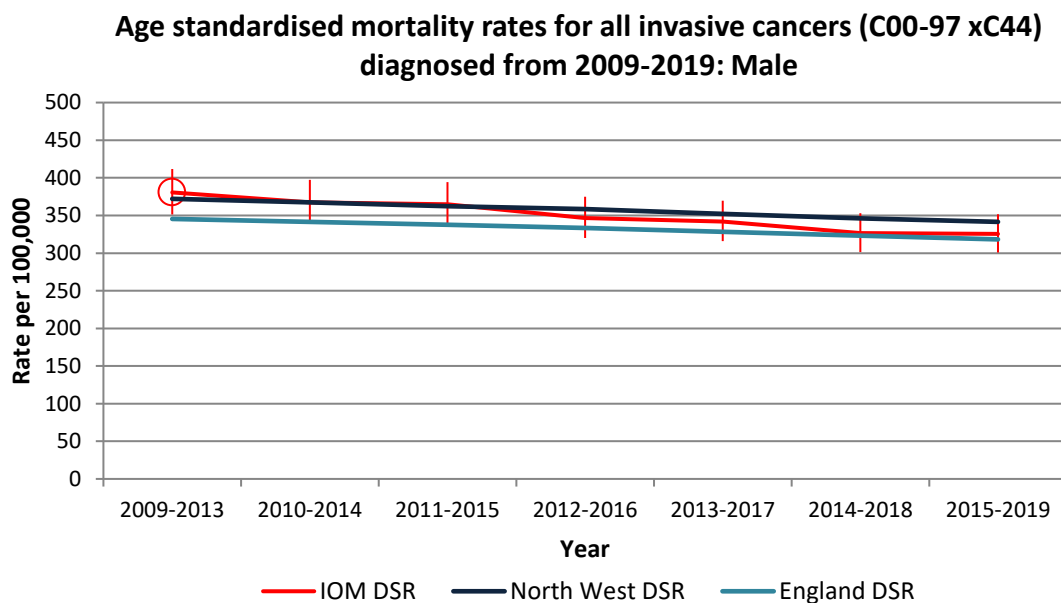


Figure 15: Mortality rates for all invasive cancers registered from 2009-2019, Males

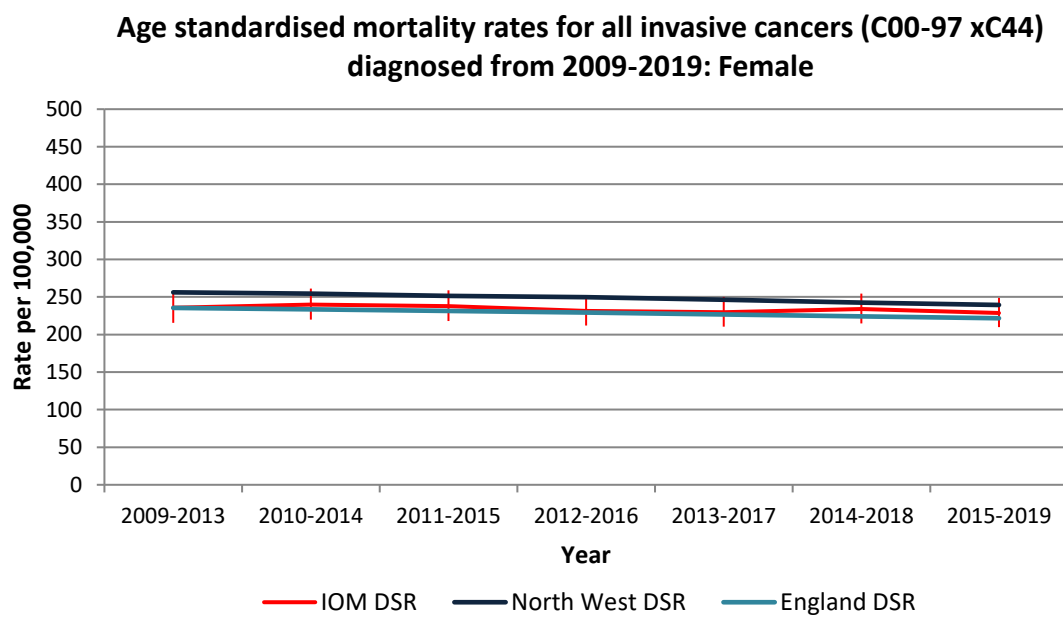


Figure 16: Mortality rates for all invasive cancers registered from 2009-2019, Females

4.2 Breast Cancer (C50)

The Isle of Man mortality rate for breast cancer in women is statistically similar to the rates in England and the North West, as **Figure 17** shows. Overall the rate does not seem to have changed significantly from 2009-2019. These rates do not include Ductal carcinoma in situ (DCIS).

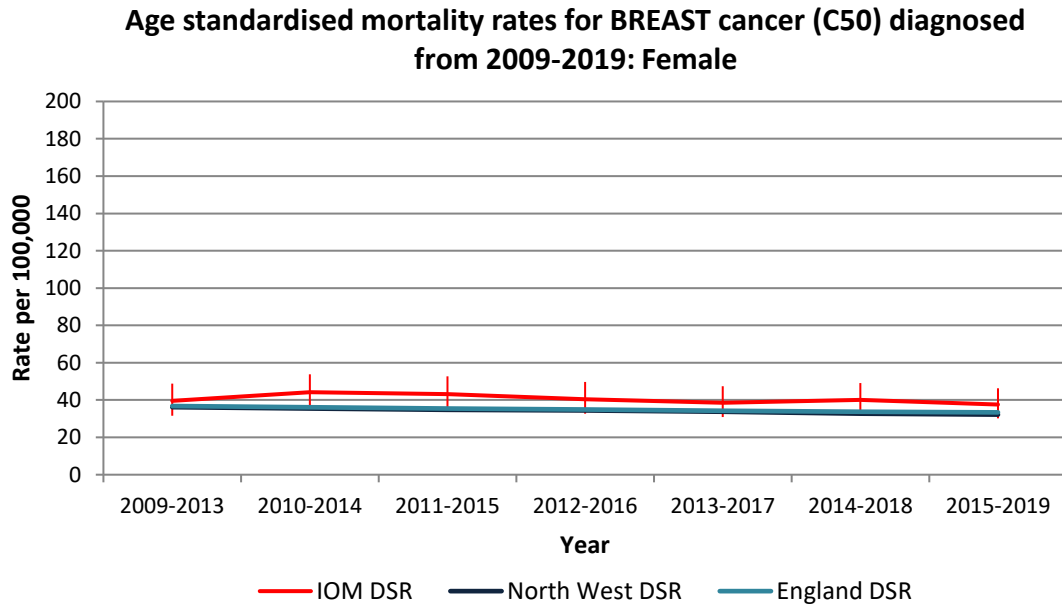


Figure 17: Mortality rates for invasive breast cancer registered from 2009-2019, Females

4.3 Colorectal Cancer (C18, 19, 20)

The Isle of Man mortality rate for colorectal cancer for women overall was statistically similar to the rates in England and the North West between 2009 and 2019, as **Figure 19** shows. However, more recently from 2015-2019 there is a decrease in the mortality rate in men, with the most recent five-year ASMRs being statistically similar to the rates for England.

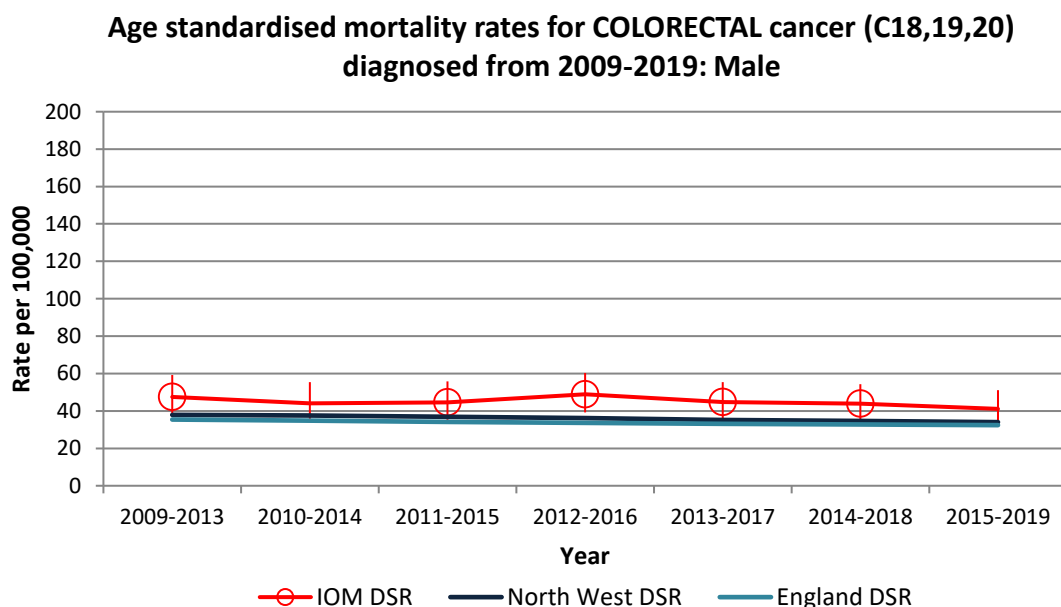


Figure 18: Mortality rates for invasive colorectal cancer registered from 2009-2019, Males

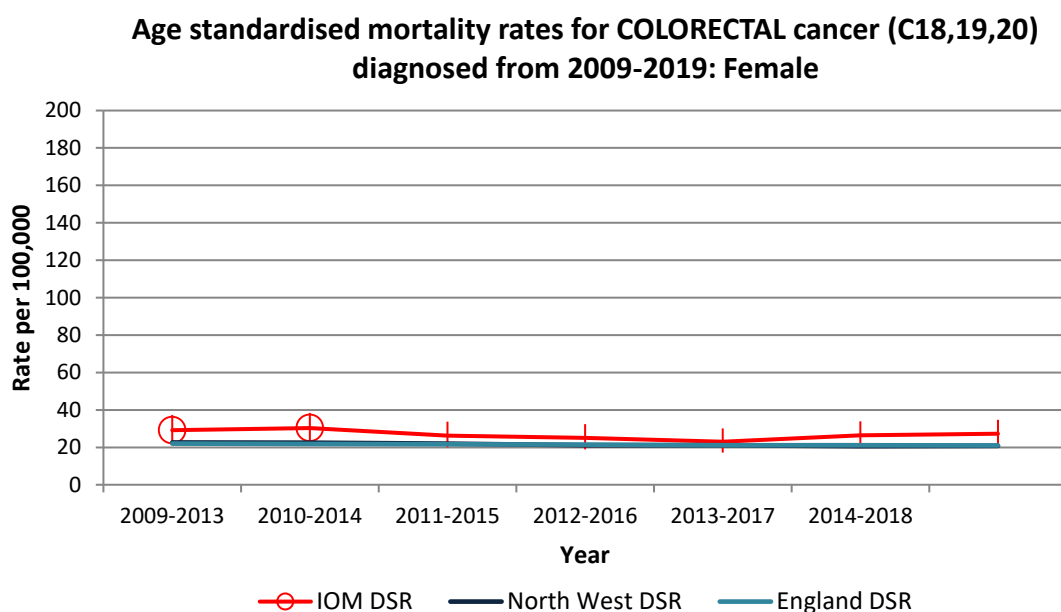


Figure 19: Mortality rates for invasive colorectal cancer registered from 2009-2019, Females

4.4 Lung Cancer (C34)

The Isle of Man mortality rate for lung cancer for both men and women is statistically similar to the rates in England and the North West, as shown in **Figure 20** and **21**.

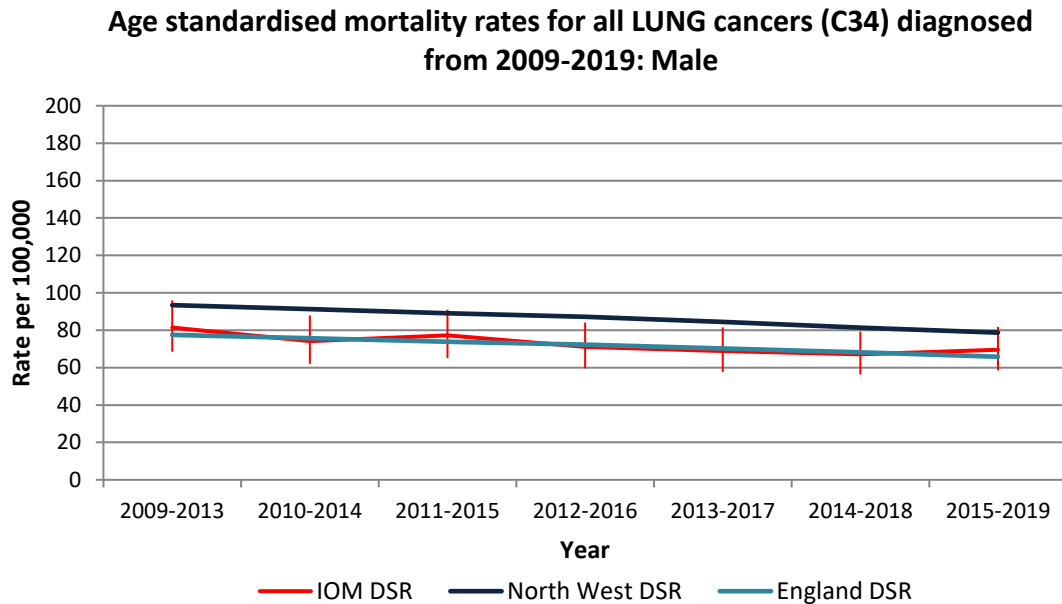


Figure 20: Mortality rates for invasive lung cancer registered from 2009-2019, Males

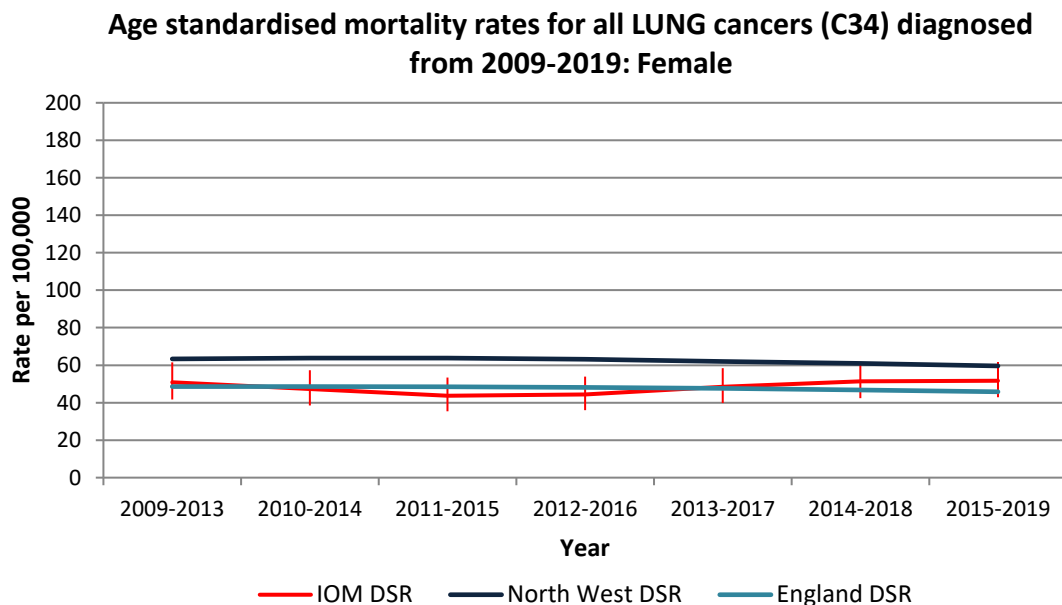


Figure 21: Mortality rates for invasive lung cancer registered from 2009-2019, Females

4.5 Prostate Cancer (C61)

The Isle of Man mortality rate for prostate cancer is statistically similar to the rates in England and the North West, as shown in **Figure 22**.

It is this similarity in rate that suggests a significant amount of underreporting in prostate cancer registrations for the Isle of Man, as the significantly lower incidence rate, does not align with the similarity in mortality.

Work is being undertaken to ensure that all registrations are reported, and it is expected that future analysis will see the Isle of Man prostate incidence rate move more in line with the incidence rates seen in England and the North West.

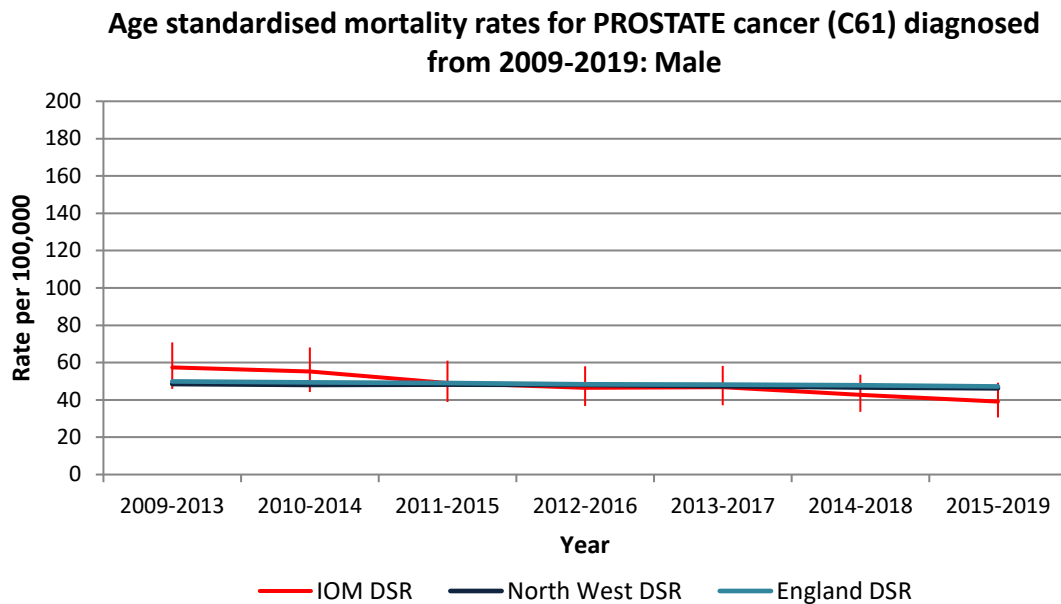


Figure 22: Mortality rates for invasive prostate cancer registered from 2009-2019, Males

4.6 Mortality Summary

Figures 23 – 25 show a summary breakdown of cancer mortality by site between 2009 and 2019 for Persons, Males, and Females.

Percentage of cancer mortality by site from 2009-2019: Persons

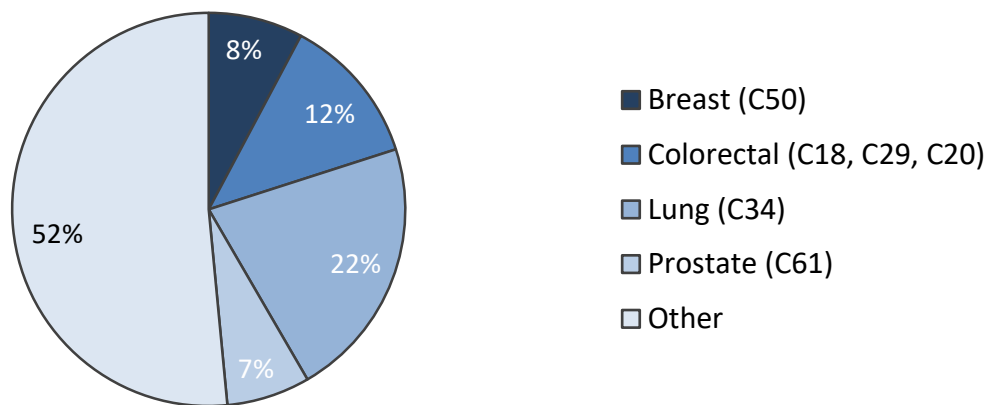


Figure 23: Percentage of invasive cancer mortality from 2009-2019 by site, Persons

Percentage of cancer mortality by site from 2009-2019: Males

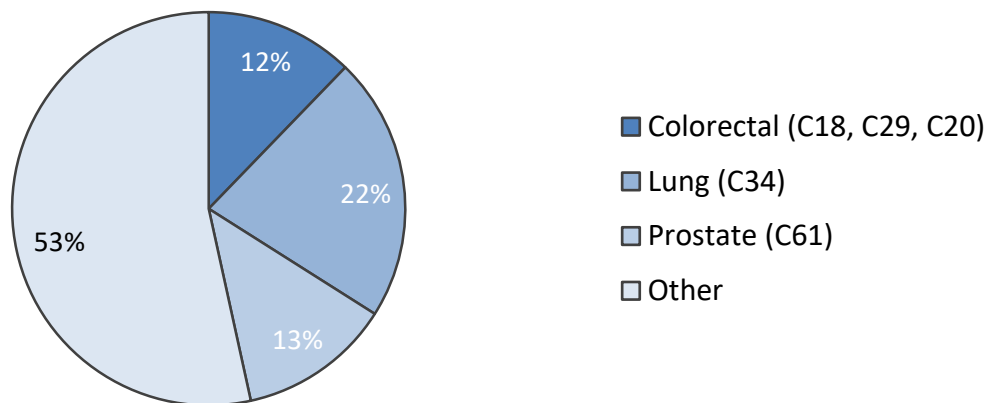


Figure 24: Percentage of invasive cancer mortality from 2009-2019 by site, Males

Percentage of cancer mortality by site from 2009-2019: Females

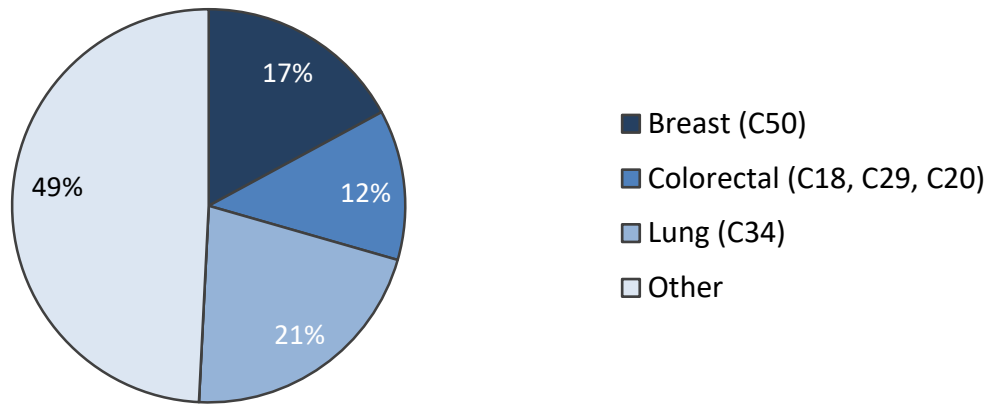


Figure 25: Percentage of invasive cancer mortality from 2009-2019 by site, Females

5. Developments for Future Reports

All future developments will be supported by the continued development of the Cancer Core Dataset for the Isle of Man. As more data becomes available, this will allow for more in-depth analysis to be undertaken to provide a broader picture of cancer prevalence in the Isle of Man.

5.1 Screening and Staging Data

Data on screening programmes and staging information are currently being collected, but they are not yet available for this report. We intend to include more information and data on these topics in future reports.

5.2 Other Future Developments

Future reports will aim to include supplementary data to explain the local context, including local data on risk factors such as smoking and alcohol consumption rates to allow for further analysis of cancer rates compared to England.

Glossary and Abbreviations

Key terms and abbreviations used in this report:

ASMRs	Age standardised mortality rates
DCIS	Ductal carcinoma in situ
DSRs	Direct Standardised Rates (also see below)
ICD-10	International Classification of Diseases (ICD-10) coding system
NCRAS	National Cancer Registration and Analysis Service
ONS	Office for National Statistics
PHE	Public Health England
SCR	Somerset Cancer Registry

European Standard Population:

An artificial population structure which is used in the weighting of mortality or incidence data to produce direct standardised rates (DSRs). It is a hypothetical population and assumes that the age structure is the same in both sexes, therefore allowing comparisons to be made between the sexes as well as between geographical areas.

Direct Standardised Rate (DSR):

A rate that allows for differences in the age structure of populations to be taken into account and therefore allows valid comparisons to be made between geographical areas and through time.

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Appendix 1: Cancer Diagnosis Codes

International Classification of Diseases and Related Health Problems 10th Revision (ICD-10) - Cancer Diagnosis Codes:

Cancer Site	ICD-10 codes
All cancers excluding non-melanoma skin	C00-C97 Excl. C44
Bladder	C67
Brain and CNS	C70-C72
Breast	C50
Colorectal	C18-C20
Head and Neck	C00-C14, C30-C32, C73
Hepatobiliary	C22-C24
Kidney and ureter	C64-C66
Leukaemia	C91-C95
Lung	C34
Lymphoma	C81-C85, C96
Male urogenital (excl. prostate)	C60-C63 Excl. C61
Malignant melanoma	C43
Other skin (non-melanoma skin cancer)	C44
Other cancer	Other Cs
Other gynaecological	C51-C53, C57-C58
Ovary	C56
Paediatric (0-19 years)	C00-C97 Excl. C44
Prostate	C61
Upper gastrointestinal	C15-C16, C25
Uterus	C54-C55



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