Cancer Poverty in Wales

Holistically measuring and demonstrating the extent of cancer poverty in Wales

November 2011

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Macmillan Cancer Support

Prepared by

Monitor Company Group

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Executive Summary

Introduction

Cancer poverty has been identified as a major problem in Wales by previous Macmillan-commissioned research (e.g. *The Unclaimed Millions*, *Cost of Cancer*). As a result, Macmillan Wales have planned to launch a *Cancer Poverty in Wales* campaign in 2012. The analysis described in this report sets out to contribute to that campaign by holistically measuring and demonstrating the extent of cancer poverty in Wales. This will support the campaign as it aims to raise awareness of this issue and enourage national stakeholders to take action.

Approach

The project set out to answer three key analytical questions:

- *How big is the financial burden of cancer in Wales?*
- *Are there any vulnerable groups who face a higher relative burden?*
- *Are people being routinely referred to the available financial advice and support?*

The project team agreed an analytical framework that was designed to incorporate existing data, patient surveys and research. Where data was not available, assumptions were developed and validated through expert interviews.

The project identified a number of aspects of financial impact that should be investigated. These were first assessed at an all-Wales level and then broken down by a number of priority sub-populations: age; gender; and local authority. The analysis was completed with a view to providing a clear sense of the scale of the impact across Wales. The project did not set out to capture the costs incurred across every possible cancer journey, although key differences amongst patients have been highlighted.

The analysis was completed in an excel-based model which provides the functionality to update the inputs and assumptions in the future if required.

Executive Summary

Background Statistics

Welsh cancer incidence in 2009 amounted to 17,852 individuals, with the top four cancers accounting for 54% of this total[1]:

- Breast Cancer: 2,577
- Lung Cancer: 2,267
- Colorectal Cancer: 2,356
- Prostate Cancer: 2,392
- Others: 8,260

All-cancer incidence in Wales has increased by ~40%[2] (3% CAGR) in Wales since 1989. With incidence set to grow across the UK by ~45%[3] to 2030, the number of people in Wales affected financially by cancer is due to reach ~ 26,000 a year by 2030.

Cancer incidence allows for a cohort of cancer patients to be isolated at a starting point of diagnosis. Prevalence data was considered for the project but not selected as it did not allow a comparable set of patients to be used to model changing impact along the cancer journey. Additionally, more robust incidence data existed for the sub-populations investigated. As a result, the financial impact of end of life care and cancer recurrence are not taken into account in this analysis.

The employed population of Wales in 2009 represented 43%[4] of the total population, as opposed to 47%[5] in the UK as a whole . Average earnings were also lower in Wales: £506.30 per week[6], as opposed to £587.20[7].

Executive Summary

Summary of Results

1. The project identified six financial impacts that are commonly experienced by people with a cancer diagnosis in Wales following diagnosis:

- Loss of Income (incurred by 43% of those in employment at diagnosis[8])
- Travel Costs for Treatment (incurred by 95% of all patients[9])
- Additional Clothing Costs (incurred by 40% of all patients[10])
- Increased Food Bills (incurred by 29% of all patients[11])
- Increased Household Fuel Bills (incurred by 44% of all patients[12])
- Increased Phone Bills (incurred by 42% of all patients[13])

2. For the proportion of people with cancer who are required to change their working status following diagnosis, loss of income is by far the biggest financial impact they will face. Of those employed at diagnosis ~15%[14] will stop work completely, and although some of this loss of income may be offset by benefit entitlement or pension provision, the effect of this impact will be felt acutely. A further ~30%[15] will change their working status in some way following a cancer diagnosis – either by reducing hours or changing role. In this group, those that switch to part-time employment, for example, will face significant income reduction. The loss of income is most significant in the first year post-diagnosis where the average person with a cancer diagnosis will lose ~20%[16] (~£5,500) of their employment earnings, whereas over five years the average loss of income is ~£16,500[17]. The range in this impact is vast – for example, removing those who do not change status, the average loss is 51%[18] (~£13,500) in the first year post diagnosis. However, it should be noted that those not working at diagnosis who therefore do not lose any income are more likely to be vulnerable to increased costs as they are more likely to be on low fixed incomes.

3. The increased costs faced by cancer patients after diagnosis are very closely tied to their treatment programmes[19]. As a result, on average, ~50% of the increased costs incurred in the five years following cancer diagnosis are encountered in the first year. The type of cancer suffered is therefore very closely tied to the amount, and length of time, of the increased costs.

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4. The biggest cost driver in year one is the travel cost associated with hospital appointments. On average, this amounts to ~£275[20] for each patient in the first year and ~£400[21] over the five years post-diagnosis. The main drivers of this cost are:

- The number of appointments required by the treatment programme (which varies by cancer type)
  - Breast cancer and Leukaemia typically involve the most number of hospital visits, ~80[22] on average over the five years post-diagnosis
- The distance travelled (which varies by local authority)
  - Patients in Powys face the longest distances to a dedicated cancer centre, with round-trips amounting to over four hours on average[23]
- The mode of transport used (which has been modelled consistently across the sub-populations)
  - The vast majority (~85%[24]) of patients in Wales travel by car to their hospital appointment with a small number using taxis, public or hospital transport
  - Cost can range from nothing (for those that walk or use hospital transport) to £1 per minute travelled[25] (for those using a taxi), depending on the mode of transport used

By combining these factors, variations amongst the patient population can be identified. For example, the cost incurred by women over five years (~£440[26]) are higher on average than those for men (~£340[27]). Similarly the cost for the average person living with cancer in Powys over five years (~£1,440[28]) is significantly above the national average (~£390[29]).

5. Additional clothing costs are also linked with treatment programmes and so are most significantly felt in the first year post-diagnosis. For the ~40%[30] of those with cancer who face this cost, the average increased cost amounts to ~£400[31] over five years, with ~75%[32] of that cost occurring in year one.

Executive Summary

6. Household bill expenditure can increase significantly following a cancer diagnosis. A large number of patients are faced with higher food, fuel or phone bills[33]. Combined, for the average patient, these amount to ~£320[34] in the first year post-diagnosis and ~£950[35] over five years. As with all these impacts, the ranges will vary considerably, with people in rural areas likely facing higher fuel costs due to the different sources of energy used.

7. When considering these principle costs, the total per person living with cancer amounts to ~£715[36] on average in the first year and ~£1,500[37] over five years. Given that many within the average will not incur all of these costs the total for individuals can be much higher, amounting to over ~£2,500[38] in the first year and ~£5,000[39] over five years.

8. A number of additional financial impacts which affect a much smaller proportion of those with cancer were identified by the project team. These include significant costs associated with home modifications, childcare costs and other miscellaneous household expenditure items. These costs are referenced in the report[40], but excluded from the overall quantification of the financial impact of cancer. Were these costs to be factored in to the total, the costs faced by some people living with cancer could be significantly higher than quoted above.

9. In many cases the financial pressures deriving from a cancer diagnosis have a major personal impact on the patient. Over 50%[41] of people with a cancer diagnosis are worried about their finances and there is evidence that around 20%[42] have to cut down on normal household expenditure. Furthermore, 17%[43] have problems paying bills, rent or their mortgage. These pressures can also result in emotional and mental health impacts, with 41%[44] of patients feeling more stressed as a result, and cause strain on personal relationships for almost a quarter of people living with cancer.

10. The financial impact of a cancer diagnosis also often affects people beyond the patient. Many of the same costs can be borne by family, friends and carers, such as loss of income which affects 15%[45] of carers. Similarly, increased travel costs associated with both hospital and home visits are as likely for a patient's network as for the patient themselves. These have not been quantified in this project but should be considered when assessing the overall financial impact of cancer on individuals in Wales.

11. Less than half (45%[46]) of people with a cancer diagnosis in Wales– and fewer than 30%[47] of over 65s – receive financial advice or support from any source. It does not appear that the financial impact of a cancer diagnosis is routinely part of the dialogue between doctor and patient. Only 25%[48] of those with cancer in Wales state that they discuss how to access financial advice or support with a health or social care professional. This problem is particularly acute for over 65s, where just 11%[49] have such a conversation.

Executive Summary

Summary of Results: Key Findings

- The average patient diagnosed with cancer in Wales in 2009 faced a total financial impact of ~£2,100[50] in their first year post-diagnosis and ~£5,800[51] in total over five years
- For the average person in employment at the time of diagnosis, the financial impact in the first year post-diagnosis is ~£6,400[52] and over five years totals ~£17,900[53]
- The aggregate financial impact faced by all cancer patients diagnosed in Wales in 2009 was ~£40 million[54] and will likely reach ~£105 million[55] for that cohort of people up until the end of 2014
- By looking at the financial impact of cancer relative to average salaries by local authority, those from Powys (impact equates to ~12.5%[56] of average salary) face the largest impact, although the impact felt by more deprived parts of Wales, such as Blaenau Gwent (impact equates to ~9.0%[57] of average salary) may be more acutely felt
- Breast Cancer patients in the most remote parts of Wales, such as Powys, face hospital-related travel costs of ~£1,500[58] in their first year post-diagnosis and ~£2,100[59] in total over five years
- The total financial impact of a cancer diagnosis on people on a fixed state pension equates on average to ~15%[60] of that income in the first year
- In Wales, ~55%[61] of those living with cancer express concern about the financial impact of their diagnosis, whilst only ~25%[62] received guidance from a health or social care professional as to where financial advice or support could be accessed

Executive Summary

Conclusions

It is clear from the results that at a general level cancer diagnosis has a significant financial impact on people living with cancer in Wales. Looking at the aggregate impact across those diagnosed with cancer in 2009, for example, shows that across Wales those with cancer lose ~£75 million[63] in potential earnings and face increased costs of ~£25 million[64] in the five years following cancer diagnosis. Faced with such a financial burden, it is clear that patients should be made aware of what costs they may be likely to incur and where they can access financial support. At present, health and social care professionals do not appear to be routinely engaging their patients in such a dialogue[65].

Considerations

The analysis adopted conservative estimates and excluded costs that may be significant, but that are only experienced by a small portion of all those with cancer. In the future, the project team will be able to update the inputs and assumptions in the model with more recent incidence data or revised assumptions based on additional research, should this be required.

The results should not be used to assume a precise quantification of financial impacts, but used as a starting point to direct further investigation into specific areas of concern. For example, the campaign team have discussed the potential use of case studies and have scheduled focus groups to generate a deeper qualitative understanding of the individual experiences of people across their cancer journeys. Such further research will also be used to gain insight into the provision of signposting to available financial support.

The increased costs under consideration do not include costs incurred by patients as a result of cancer recurrence or costs associated with end of life care.

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Overview of the Project

Project Objectives & Context

Cancer poverty has been identified as a major problem in Wales by previous Macmillan-commissioned research (e.g. *The Unclaimed Millions*, *Cost of Cancer*). The previous research identified many components of the financial impact of cancer, such as salary impact and increased costs. This work has demonstrated that, for example, almost half of people with a cancer diagnosis in Wales face a reduction in household income after diagnosis and the majority worry about their finances[66].

As a result, Macmillan planned a two phase *Cancer Poverty in Wales* campaign. Phase 1 aims to:

- Raise awareness of the financial impact of cancer amongst the public, supporters and stakeholders
- Influence national stakeholders to understand, recognise and respond to policy calls and solutions around the importance of making financial advice and support routinely available for people affected by cancer in Wales

Phase 2 will focus on the issue of the provision of welfare rights advice and support to people affected by cancer in Wales.

The analysis described in this report forms the basis of phase 1 of the *Cancer Poverty in Wales* campaign. It sets out to holistically measure and demonstrate the extent of cancer poverty in Wales.

Overview of the Project

Literature Review

This project has been able to leverage previous work that has investigated the financial impact of cancer, principally drawing on survey data. Much of the work that has previously been completed (by Macmillan and others) investigates individual components of financial pressure at a UK or English level. Examples of such work include:

- *Long-term cancer survivors experience work changes after diagnosis: results of a population-based study*, Floortje Mols, Mellissa S.Y. Thong, Gerard Vreugdenhil, Lonneke V. van de Poll-Franse, 2009
- *CPPA 2010 Super Survey*, YouGov on behalf of Macmillan
- *The Financial Impact of a Cancer Diagnosis*, Linda Sharp and Aileen Timmons, 2010
- *Cost of Skin Cancer in England*, Steve Morris, Laura Vallejo-Torres, Jonas Kinge, University College London, 2010
- *2011 Media Survey*, YouGov on behalf of Macmillan

Whilst many of these sources include data on Wales they do not explicitly set out to investigate and illustrate the problem of cancer poverty in Wales at an holistic level.

Overview of the Project

Project Team

The Monitor Team carried out the day-to-day project work, with regular input and guidance from Macmillan.

Macmillan Project Team	
Dr. Caroline Walters	Macmillan, Involvement Coordinator
Rachel Wrathall	Macmillan, Campaigns, Policy and Public Affairs Officer
Nerys Evans	Macmillan, External Affairs Manager, Wales
Clara Miglio	Macmillan, Market Research Project Manager
Laura Jenkins	Macmillan, Evaluation Officer
Neal Southwick	Macmillan, Financial Support Programme Lead
Stephen Dubbins	Benefits Advice Programme Manager
Dr. Catherine Boyle	Macmillan, Strategic Research Advisor
Mark Bermingham	Macmillan, Strategic Insight Manager
Arwenna Davis	Macmillan, Market Researcher/ Data Analyst
Gwenllian Griffiths	Macmillan, External Affairs Manager, Wales

Overview of the Project

Monitor Team

Dr. Ashley Woolmore	Monitor Group
Reid Adrian	Monitor Group
Andrew Middleton	Monitor Group
George Thomas	Monitor Group

Experts Consulted

A number of experts were consulted to advise on inputs and assumptions, as well as to validate outputs.

Experts Interviewed

Rhian Jones	Macmillan Lead Cancer Nurse
Kerie Morris	Chemotherapy Clinical Nurse Specialist
Helen Powell	Senior Welfare Benefits Advisor
Neal Southwick	Macmillan, Financial Support Programme Lead
Rolf Millican	Macmillan Grants Manager
Stephen Dubbins	Macmillan, Benefits Advice Programme Manager
Liz Egan	Working Through Cancer Programme Manager

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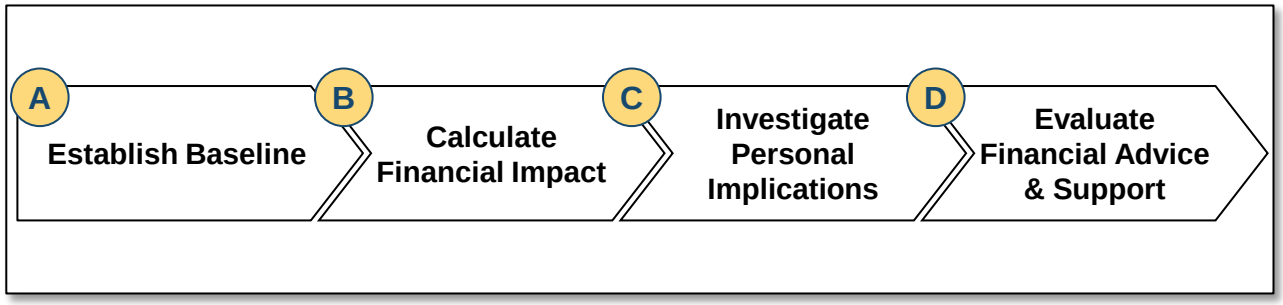
Overview of Approach

It was agreed that the project would not involve commissioning any original research. Instead, an analytical framework was created to draw upon existing materials and secondary research.

A four step analytical approach was agreed for the project:

Figure 1: Overview of Analytical Framework



A. The first step was to establish a population baseline for people with a cancer diagnosis in Wales to define cancer incidence and financial position at diagnosis. Those with cancer were split into sub-populations according to gender, age and local authority.

B. The second step was to assess the extent of financial impact on the population groups, in terms of both loss of income and increased costs. This impact was calculated across a number of factors and informed by:
   - *Agreed assumptions;*
   - *Patient survey data, secondary research and existing case studies; and*
   - *Validated by experts*

C. Thirdly, the project carried out an assessment of the impact on living standards, mental health and carers for each population group.
   - *Derived from patient survey data, secondary research and existing case studies*

D. Finally, the project quantified the level of signposting, awareness and uptake of various sources of financial support:
   - *Qualitative assessment based upon existing case studies and secondary research*

Model Design

An excel-based model was developed to complete the analysis required to estimate the financial impact of cancer in Wales. The model combined the following inputs:

1. Statistical data providing the starting point for the analysis:
   - *Cancer incidence*
   - *Employment and average earnings*

2. Patient surveys to identify which financial pressures particularly impacted different sub-populations of those with cancer:
   - *E.g., percent of patients that lost their job after diagnosis, by cancer type*

3. Input assumptions where data was not available for detailed assumptions:
   - *Derived from patient survey data, secondary research and existing case studies, and validated by experts*

A number of design assumptions were then built into the model to shape the analysis and create outputs.

(For a full list of inputs, sources and assumptions, see Appendix)

Design Choice Assumptions

A number of high-level design choices were made to define the structure of the analysis:

1. Cancer incidence data formed the basis of the analytics, allowing a cohort of cancer patients to be isolated at a starting point of diagnosis. Prevalence data was considered for the project but not selected as it did not allow a comparable set of patients to be used to model changing impact along the cancer journey. Additionally, more robust incidence data existed for the sub-populations investigated. As a result, the financial impact of end of life care and cancer recurrence are not taken into account in this analysis. 2009 incidence data was chosen as it was the most up to date available that allowed consistent figures to be used throughout the analysis.

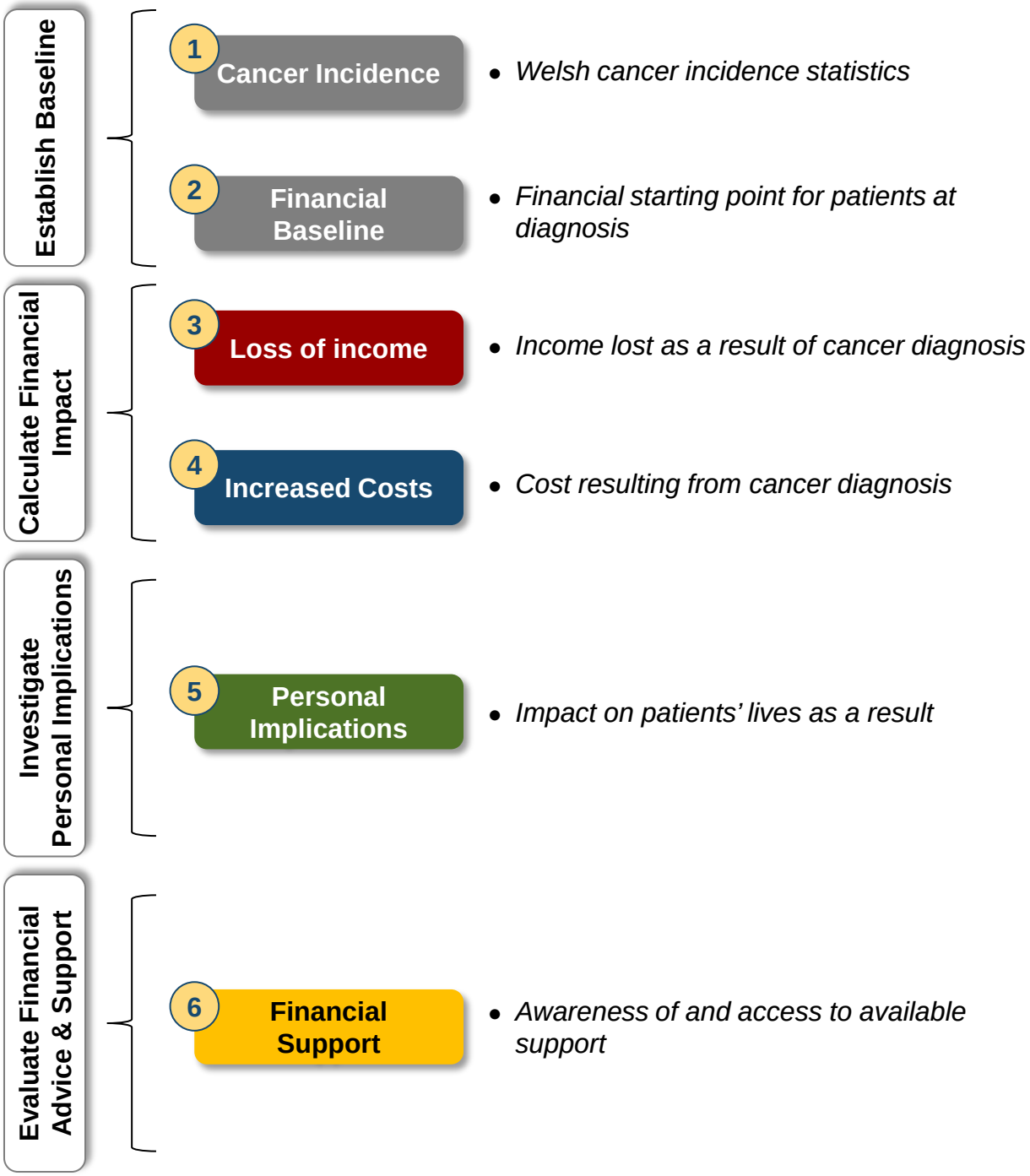
2. The project analysed financial impact up to a maximum length of time of five years, starting at diagnosis. This decision was informed by survey data and expert input suggesting the average impact lasted around 33 months. The length of impact varied within these five years for both the loss of income and the individual costs.

3. The project analysed the financial impacts at an all-Wales level and at a number of sub-population levels:
   - *Gender*
   - *Age bracket: 0-15, 16-24, 25-49, 50-64, 65+*
   - *Local Authority*

Outputs by social class were discussed by the project team, but data limitations inhibited this analysis. Although some incidence figures cut by deprivation existed, it was not possible to accurately establish a financial baseline at this level. Instead, particularly vulnerable sub-populations were identified using indicators such as the Welsh Index of Multiple Deprivation and Fuel Poverty.

Model Structure

The model produced outputs across six layers of analysis, also cut by the sub-populations under review in the project:



Outputs

Once completed, the model resulted in the following outputs:

1. Increased costs and loss of income, quantified at patient level and then aggregated to assess the scale of impact by sub-population

2. Personal implications associated with the financial pressures of cancer, including the impact on carers

3. Assessment of financial support to understand whether those with cancer are being routinely and effectively signposted to financial support

Approach Limitations

The analytical approach was designed to leverage existing cancer and survey data to highlight the financial impact faced by those with cancer. The approach was:

- An estimation meant to provide data on the extent of the problem faced by those with cancer in Wales and any subgroups that may be particularly vulnerable
- Based on existing data and literature, brought together in a cohesive framework and supplemented with selected assumptions

However, the approach was not:

- A clinical study and did not use ‘real world’ patient data (i.e. HES Outpatient)
- Designed to map every possible cancer journey, instead a limited degree of variance was modeled
- Designed to take into account changes in the cancer population under consideration as it isolated a cohort of patients at diagnosis

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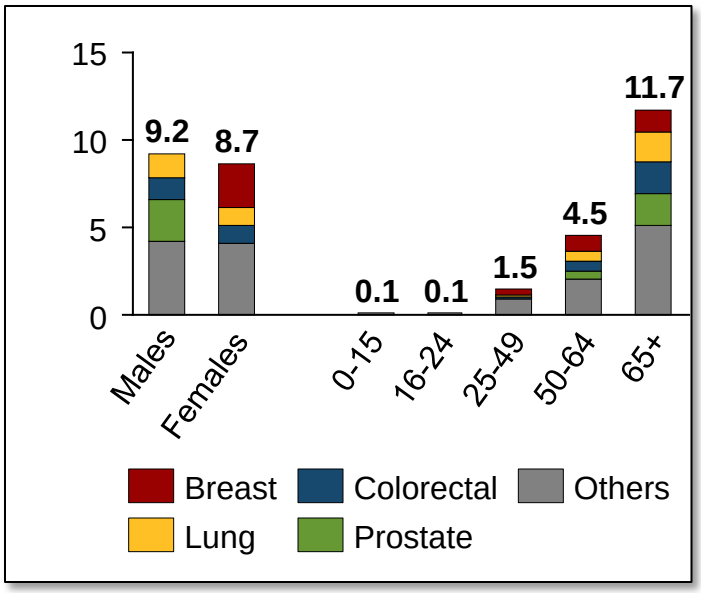
All Wales – Cancer Incidence

Cancer Incidence

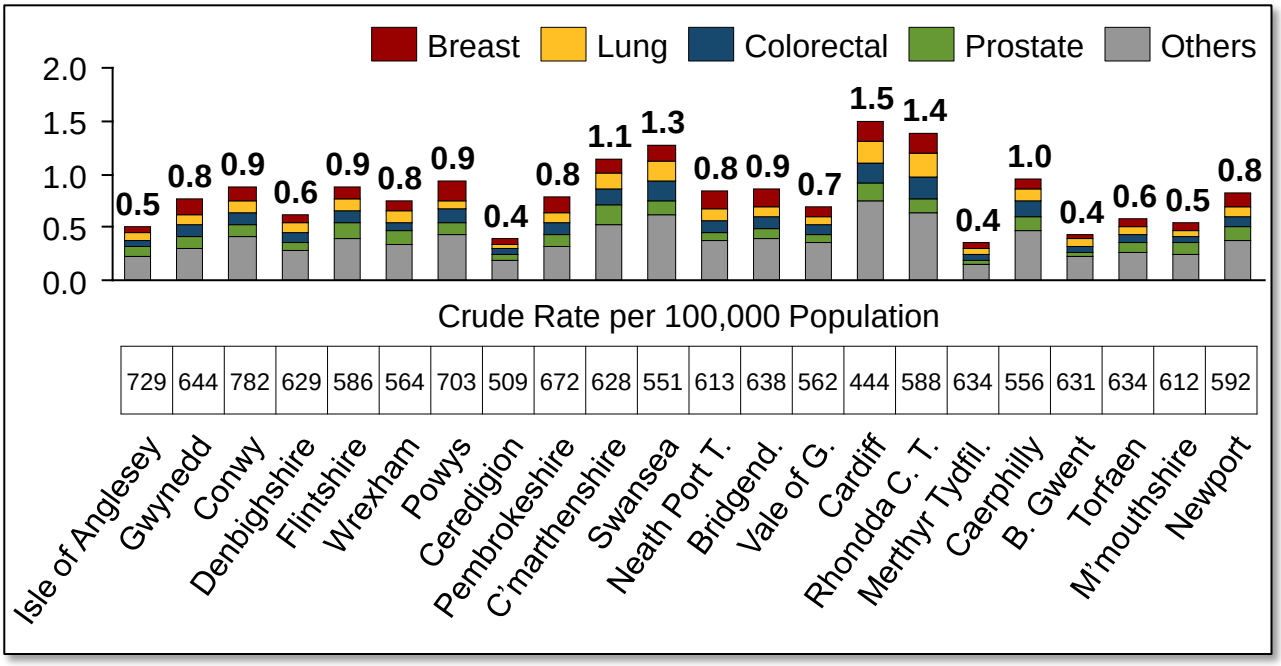
The basis of the analysis is 2009 Welsh cancer incidence data. The top four cancers make up 54%[68] of total incidence in Wales, with cancer incidence particularly high amongst the over 65s (65%[69] of total incidence). Breast cancer is the most prevalent tumour type and accounts for 30%[70] of total incidence in women.

Figure 2: Cancer Incidence by Sub-Population, 2009 (000s)[67]



Geographically, changes in cancer incidence are broadly in line with population as crude incidence rates do not vary significantly. Variations are largely driven by changes in average age as Local Authorities with older populations are more likely to experience higher cancer incidence.

Figure 3: Cancer Incidence by Local Authority, 2009 (000s)[71]

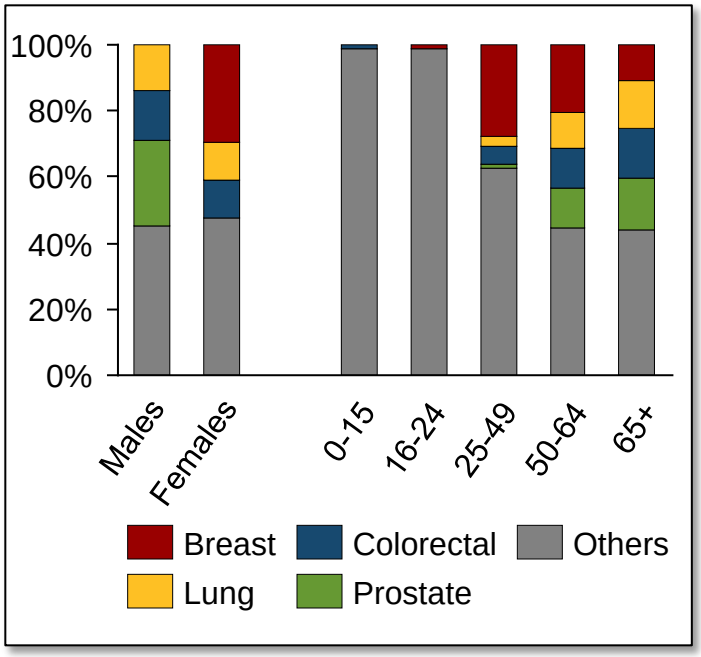


All Wales – Cancer Incidence

Cancer Incidence

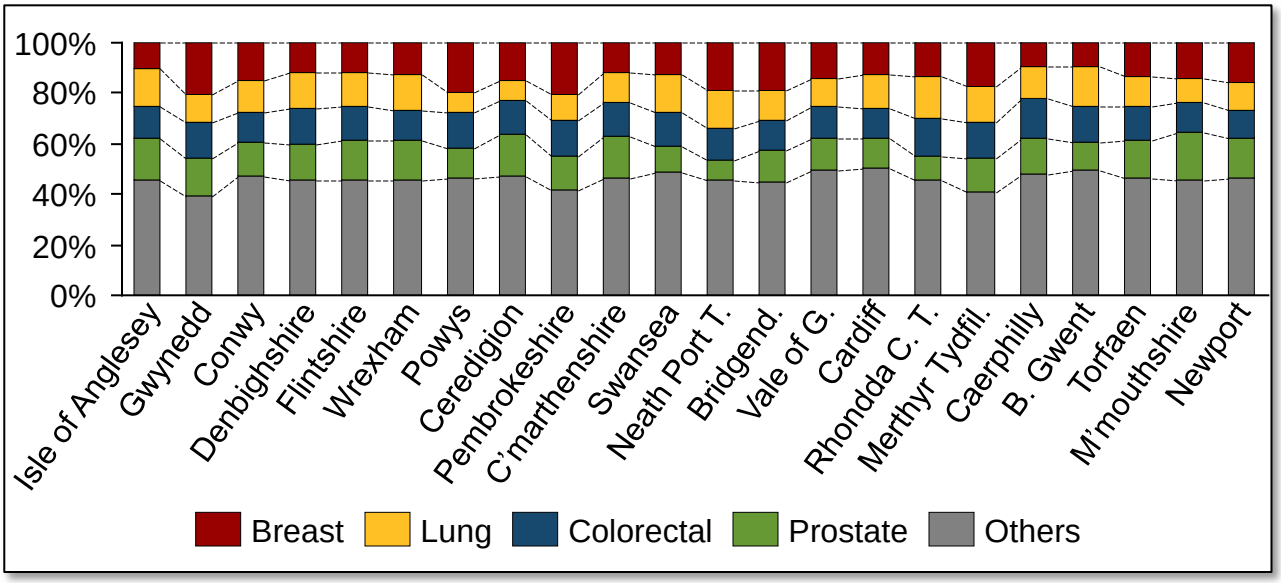
Incidence distribution varies by sub-population – largely along expected lines. For example, Prostate cancer is the largest cancer affecting men and breast cancer the largest for women. Similarly, from an age perspective, Leukaemia and Head and Neck tumours account for the majority of cancer in the "Others" category for under 25s; Breast affecting the working age population particularly; and Lung growing in impact through the older age brackets.

Figure 4: Cancer Incidence Distribution by Sub-Population, 2009[72]



Age is the main determinant of variations in cancer incidence amongst sub-populations. As age does not drastically vary from one Local Authority to another, cancer distribution is relatively consistent. This impacts the amount of variation there is in the costs incurred by people living with cancer in different Local Authorities

Figure 5: Cancer Incidence Distribution by Local Authority, 2009[73]



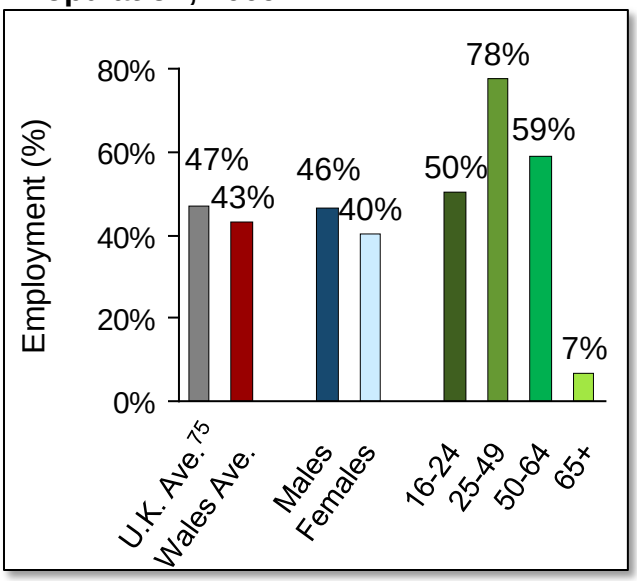
All Wales – Financial Baseline

Financial Baseline

A financial baseline was defined for each sub-population, in terms of employment and average earnings, to assess loss of income after diagnosis

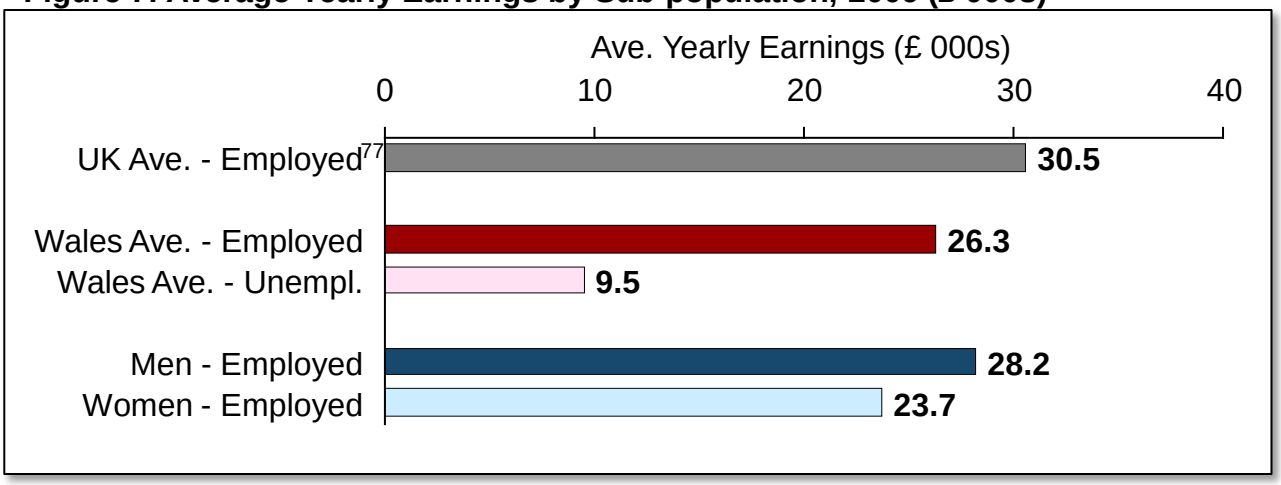
Employment Status at diagnosis is the first measure used to establish such a financial baseline. Figure 6 displays average employment as a percentage of the entire Welsh population, including those not of working age. This measure was used, rather than traditional unemployment, in order to capture the fact that the majority of those with cancer are past the age of retirement. Women and the over 65s have the lowest employment rates.

Figure 6: % Employed by Sub-Population, 2009[74]



Average Earnings for those in employment, as displayed below, are lower in Wales than the UK as whole. Women also earn less on average than men.

Figure 7: Average Yearly Earnings by Sub-population, 2009 (£ 000s)[76]



Note: For the purposes of this analysis, earnings are assumed to be constant across all ages due to the unavailability of consistent data though it is expected that earnings would rise with age. Variation in employment by age ensures differences between age groups are captured in the analysis. Average earnings for those not in employment has been assumed as £100.00 per week (State Pension = £102.15[78]; combination of common benefits ranges between £70.00 and £120.00 per week[79])

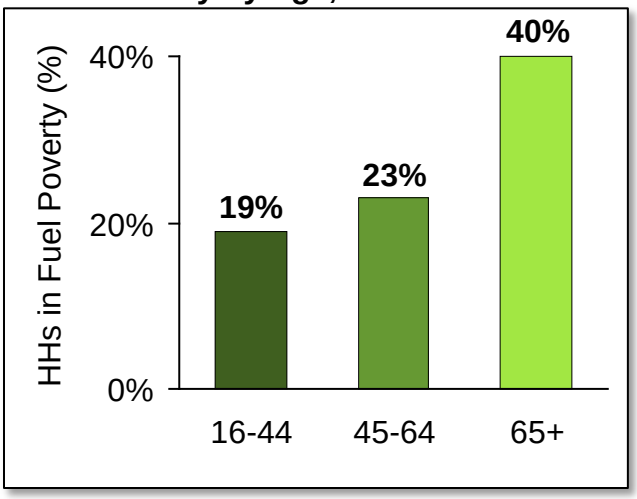
All Wales – Vulnerability Assessment

Financial Baseline

For those not in employment at diagnosis, although loss of income does not affect them, increased costs remain a source of financial pressure.

Individuals on low fixed incomes such as benefits or pensions are particularly vulnerable, with those on jobseekers' allowance receiving as little as £70 per week[81] and those on a State Pension in Wales receiving just over £100 per week[82]. Those in fuel poverty, spending more than 10% of income on heating, are especially vulnerable to increased costs associated with cancer as they already struggle to afford bills. The over 65s are considerably more likely to fall in to this group, suggesting that people living with cancer are likely to be at risk given the majority are past the age of retirement. Although data does not exist at a Welsh level, the under 30s have also been identified as a high risk group for fuel poverty in the UK.

Figure 8: % of Welsh Households in Fuel Poverty by Age, 2008[80]



All Wales – Individual Loss of Income

Loss of income

Loss of income has been quantified for those in employment at diagnosis. The impact of cancer diagnosis on income varies across three groups (see Figure 9):

- Those stopping work altogether;
- Those changing role; and
- Those not changing working status

Figure 9: Change in Working Status – Wales Ave.(%)[83]

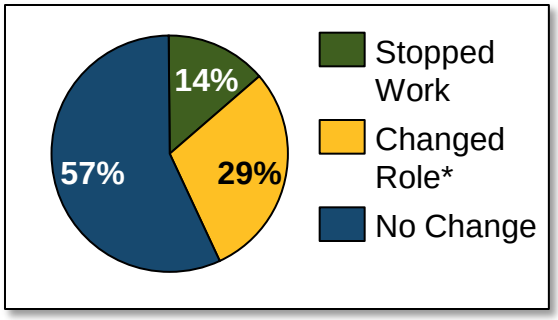
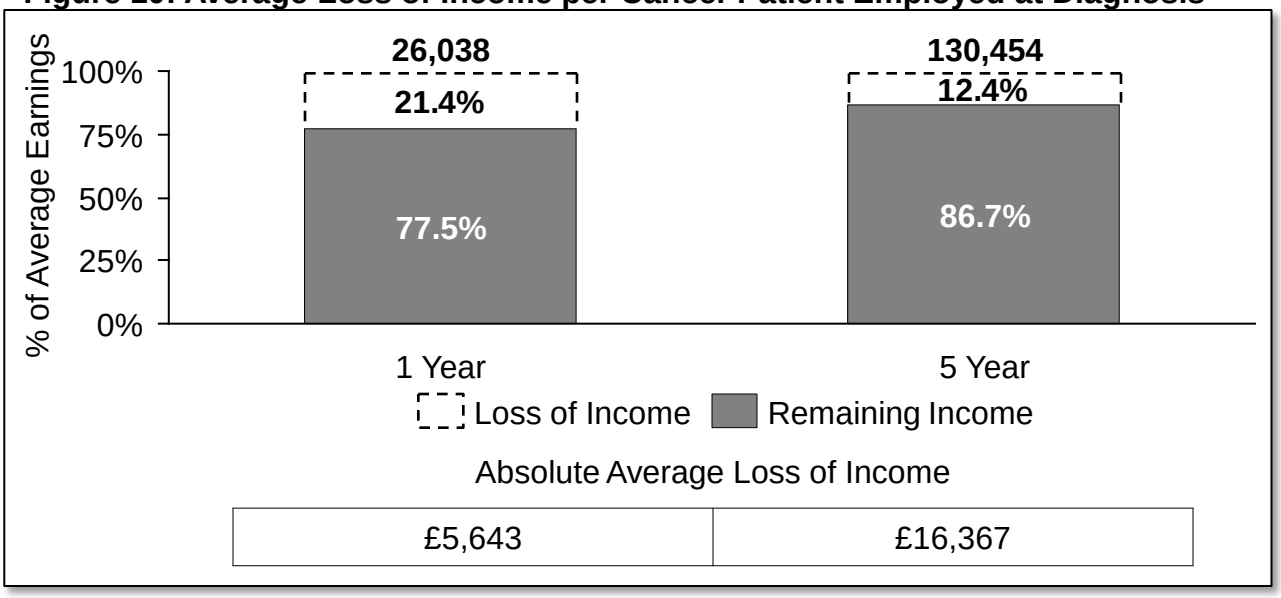


Figure 10 combines the data across these three groups to identify the average loss of income for someone in employment at diagnosis, including those who do not change working status. The decrease takes into account income change, income replacement and other benefits (see pages 97-98 and 108-109). The average loss of income is significantly higher in year one as people with a cancer diagnosis are unlikely to suffer the effects of loss of income for the full 5 years[84]. The length of the impact may relate to mortality, return to work or alternate career decisions (for example, early retirement) depending on individual circumstances. In absolute terms, average year one loss is £5,643[85] from average earnings of £26,038[86], whilst the five year impact is £16,367[87] from £130,454[88]. Only considering those who changed working status, the average loss in the first year is £13,427[89], or 51% of average earnings.

Figure 10: Average Loss of Income per Cancer Patient Employed at Diagnosis[90]



Note: *Those changing role either reduced the number of hours they worked, changed employer or moved to a different role with the same employer[91]

All Wales – Individual Increased Costs

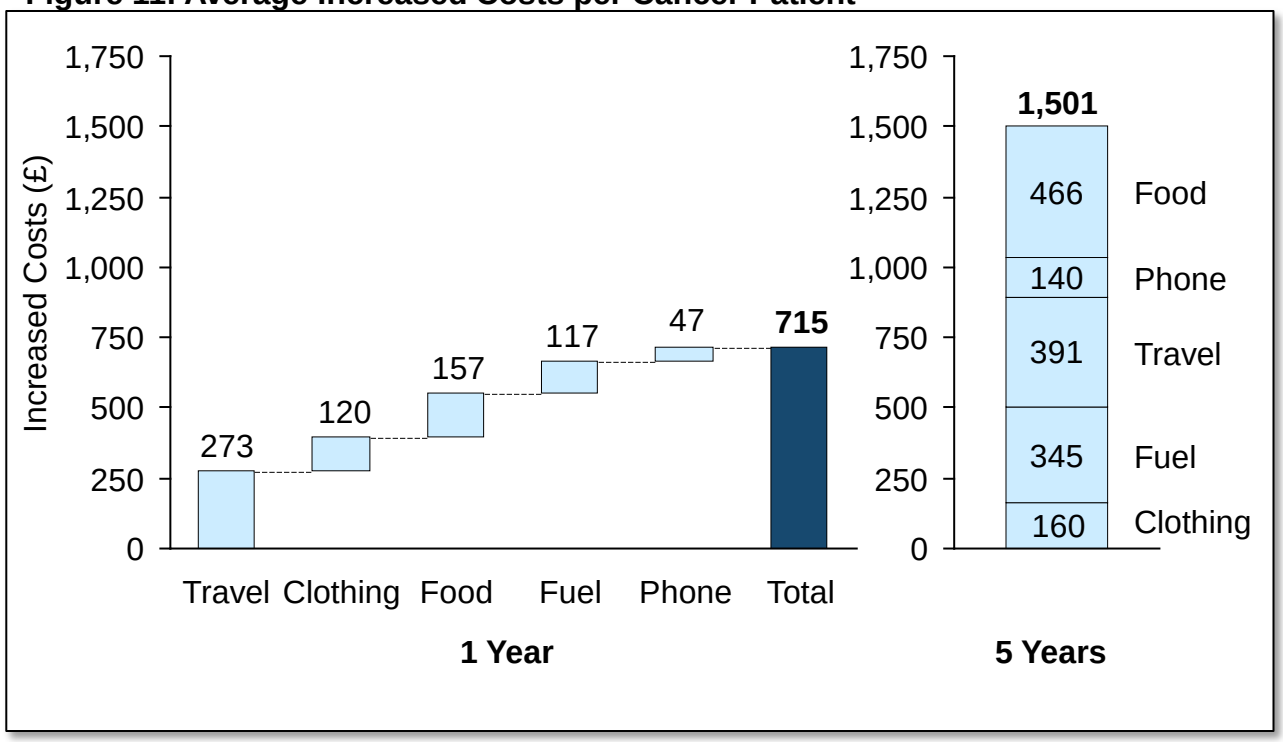
Increased Costs

Whilst not all of those with cancer face loss of income as a result of diagnosis, the vast majority face increased costs. The five main costs are travel, clothing, food, fuel for household heating and telephone bills. In addition, a number of additional costs were identified as being relevant for small groups of the population, but have not been quantified as part of this research (see page 39). As a result the average costs faced are likely to be even higher than those quoted below.

Costs in the first year post-diagnosis amount to £715[92] on average. This equates to 48% of the total 5 year increase – £1,501[93]. The high share of year one costs is driven by clothing and travel which are primarily incurred in the first year[94]. In subsequent years, food and fuel costs become relatively more important.

As these costs reflect the average impact, including those who do not incur the costs, the actual impact on patients facing each increased cost will be much higher.

Figure 11: Average Increased Costs per Cancer Patient[95]

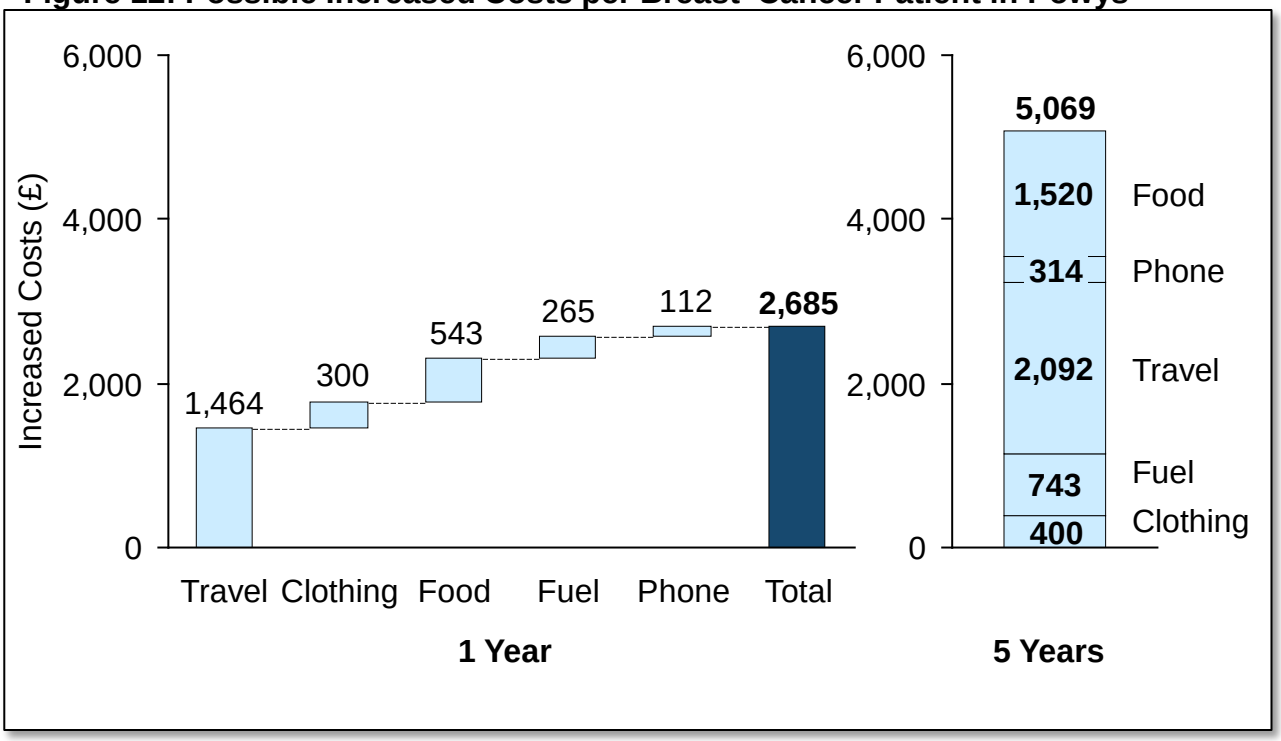


All Wales – Individual Increased Costs

Increased Costs

In order to demonstrate the increased costs to those who incur them, Figure 12 illustrates the increased costs faced by a breast cancer patient in Powys who incurs the average for every possible cost (incidence in 2009 was 181[96]). This amounts to almost £2,000[97] more than the average cost in the first year, and £3,500[98] more over five years. Travel costs, in excess of £2,000[99],are the largest cost over five years and are the main reason that this scenario is significantly above the overall Welsh average.

Figure 12: Possible Increased Costs per Breast Cancer Patient in Powys[100]



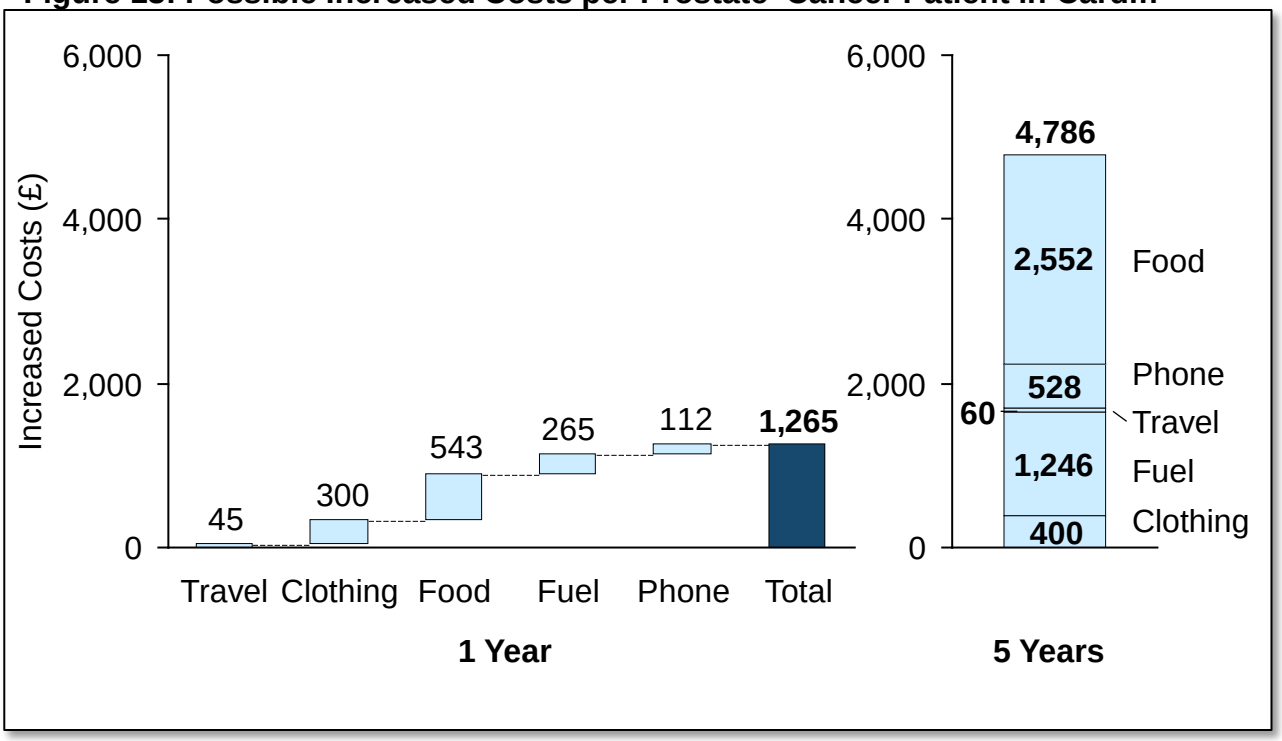
- *People living with breast cancer make the highest number of journeys to hospital due to the need for regular treatment and checkups[101]*
- *Patients in Powys face the longest journeys of all Local Authorities (almost 5 hours), leading to high travel costs[102]*

All Wales – Individual Increased Costs

Increased Costs

By contrast, someone living with prostate cancer in Cardiff (2009 incidence:176[103]), incurring every possible cost, will face much lower travel costs, only £60[104] over five years, due to the reduced number of visits required and the significantly shorter distances involved. Over five years, however, food, telephone and fuel bills will be significantly higher due to the longer period of time those with Prostate cancer face these financial impacts[105].

Figure 13: Possible Increased Costs per Prostate Cancer Patient in Cardiff[106]



- *Those living with prostate cancer are affected financially for the longest period of time[107]*
- *Patients in Cardiff face the shortest journeys of all Local Authorities, greatly reducing travel costs[108]*

All Wales – Individual Increased Costs

Increased Costs

Travel Costs:

For the 97%[110] of people with a cancer diagnosis in Wales paying for their transport to hospital appointments, travel is estimated to be the largest cost during their treatment period. The issue is particularly acute in Wales given the large distances that patients often have to travel to appointments with specific hospitals. This cost is proportionally larger in the first year post diagnosis as the majority of hospital visits take place in this time[111].

Figure 14: Method of Transport to Hospital – Wales Ave. (%)[109]

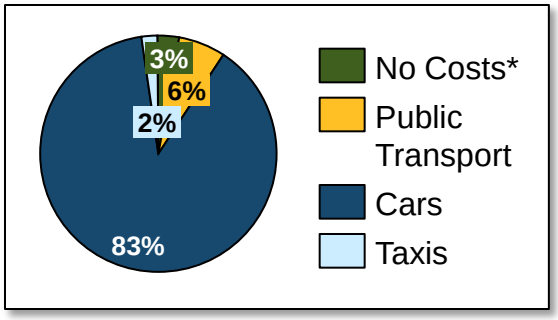


Figure 15 illustrates the average travel costs faced by patients across Local Authorities. The large distance patients in Powys have to travel to reach a relevant Cancer Centre results in the highest cost by Local Authority – £1,439[112] on average over five years. For individuals, this cost varies according to the mode of transport they chose to take and could exceed this figure for the small group of patients taking taxis. Furthermore, the assumptions informing these estimates are conservative and individuals could face significantly higher costs in certain cases.

Figure 15: Estimated Average 1 and 5 Year Travel Costs for Cancer Patients by Local Authority[113]

Travel Costs (£)

	Powys	Ceredigion	Pembrokeshire	Conwy	Isle of Anglesey	Gwynedd	B. Gwent	M'mouthshire	Wrexham	Denbighshire	Torfaen	C'marthenshire	Flintshire	Bridgend.	Caerphilly	Rhondda C. T.	Merthyr Tydfil.	Vale of G.	Newport	Swansea	Neath Port T.	Cardiff
1 Yr.	1,007	554	498	444	372	350	303	301	301	252	248	244	243	242	206	194	183	144	131	80	71	56
2+ Yrs.	432	238	214	190	159	150	130	129	129	108	106	105	104	104	88	83	79	62	56	34	30	24
Total	1,439	792	712	635	531	500	432	431	430	360	354	348	347	346	294	277	262	206	187	115	101	80

Note: *Patients with no transport costs either travel to hospital on foot or use free hospital transport

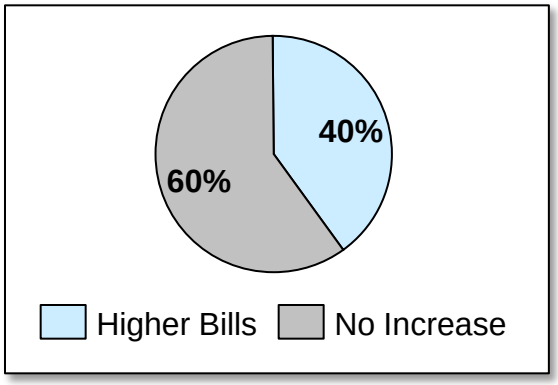
All Wales – Individual Increased Costs

Increased Costs

Clothing Costs:

A number of patients face a requirement to buy new or additional clothing as a result of their cancer diagnosis. This often derives from weight change experienced during the patient's treatment programme or from cancer-specific impacts on appearance. Although this cost is not faced by everyone (40%[115] of those with cancer), for those it does affect the costs are substantial. Evidence from the Macmillan Grants Database suggests that this cost will stretch to the hundreds of pounds for individuals. In addition, a number of patients make repeat requests over many years of their journey, suggesting this will not simply be a one-off cost incurred in year one[116]. Over five years, the cost is estimated to average £400[117].

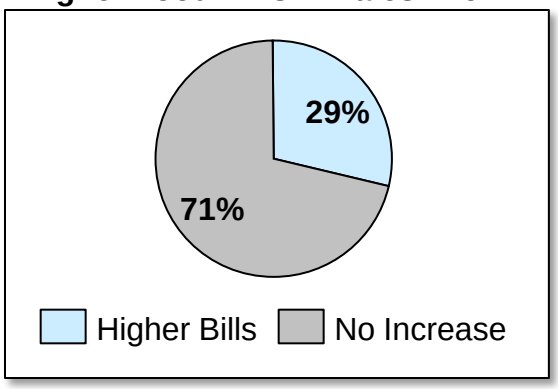
Figure 16: % of Patients Facing Clothing Costs – Wales Ave.[114]



Food Bill Increases:

Over a five year period, increased food bills are the greatest costs[119] faced by the 29%[120] of people with a cancer diagnosis who are affected. Experts suggest that they arise for a number of reasons such as patients changing their diet to include more fruit and vegetables, organic items and expensive supplements. Patients may also eat more expensive pre-prepared meals when they feel too weak to prepare their own food[121]. These costs average £540 a year[122] for those incurring them.

Figure 17: % of Patients Facing Higher Food Bills – Wales Ave.[118]



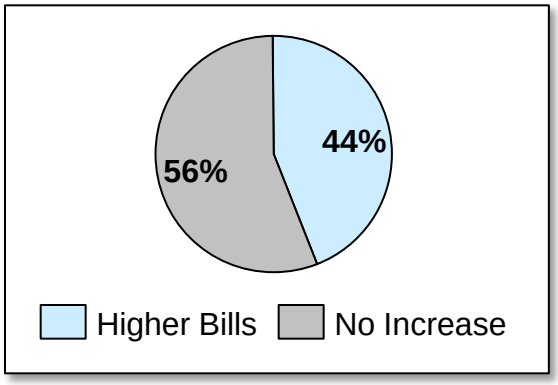
All Wales – Individual Increased Costs

Increased Costs

Fuel Bills:

Over 40%[124] of patients face increased household fuel bills during their treatment as they spend more on heating their homes. This is a result of both the fact that they will spend more time in their homes recovering from treatment, and may be more susceptible to the cold as a result of weight loss and immobility due to their therapy[125]. This increase amounts to an estimated £265 a year[126], though can reach much higher levels depending on the fuel used. For example, experts have suggested that patients in rural Wales who are much more likely to heat their homes using oil face significantly higher costs. Vulnerable groups in fuel poverty pre-diagnosis may not incur this cost because they cannot afford to increase their heating.

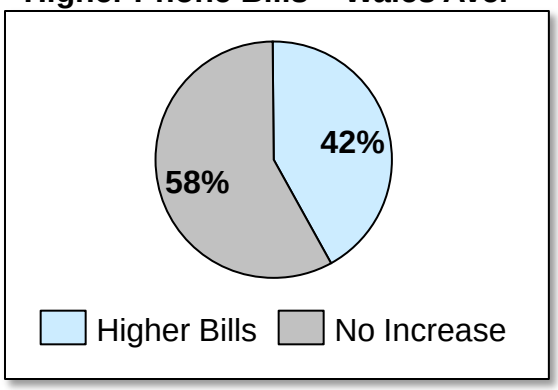
Figure 18: % of Patients Facing Higher Fuel Bills – Wales Ave.[123]



Phone Bills:

Surveys of people living with cancer have also shown that many spend more on phone bills after diagnosis[128]. This is a result of extra time spent arranging hospital visits, applying for benefits and updating friends and relatives of treatment progress. They may also spend money upgrading their internet to broadband to widen their communication options[129]. In total, these costs are estimated to average £110 a year[130] for the 42%[131] of patients affected.

Figure 19: % of Patients Facing Higher Phone Bills – Wales Ave.[127]



All Wales – Individual Increased Costs

Increased Costs

In addition to the 5 main cost drivers, detailed above, people living with cancer may be exposed to a number of other costs after diagnosis[132]. These were not modeled explicitly as they only affect a small proportion of those with cancer and many are very difficult to accurately estimate.

Extra Bedding is often required by patients for a number of reasons. People living with cancer may spend more time in bed recovery and may become more susceptible to the cold, thus requiring heavier blankets. They may also soil their bedding as a result of treatment programmes.

Major Household Modifications, such as installing downstairs showers or stairlifts, are a significant potential cost driver for patients whose mobility is affected. Means-tested Grants and local authority funding are often available for patients who require such modifications and as result only a small proportion of patients are likely to incur this type of cost. However, for those that do the impact can be extreme, with costs stretching to thousands of pounds. Some homeowners may even be forced to move home and pay all the related costs.

Miscellaneous Household Items such as recliner chairs, banisters and shower seats, may also be purchased by those living with cancer, though Welsh Local Authorities often offer grants to cover such costs. It should be noted that such grants can on occasion be delayed, resulting in patients purchasing such items with their own money.

Kitchen Appliances such as fridges and freezers are often the source of requests to Macmillan for grants. These items are used to store medicine or, in the case of freezers, food for patients who are unable to shop regularly.

Childcare Costs may also increase for those living with cancer and dependent children as they may have to pay for extra childcare during their hospital visits.

If these costs are taken into account, an approximate estimate of the total possible impact for people living with cancer suggests costs could exceed £10,000 over five years[133].

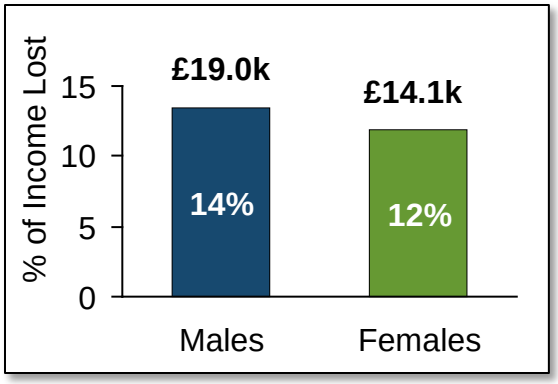
Key Differences by Sub-Population

Having established the average loss of income and increased costs faced by individuals in Wales, the project also examined how financial impact differs between sub-populations.

Gender:

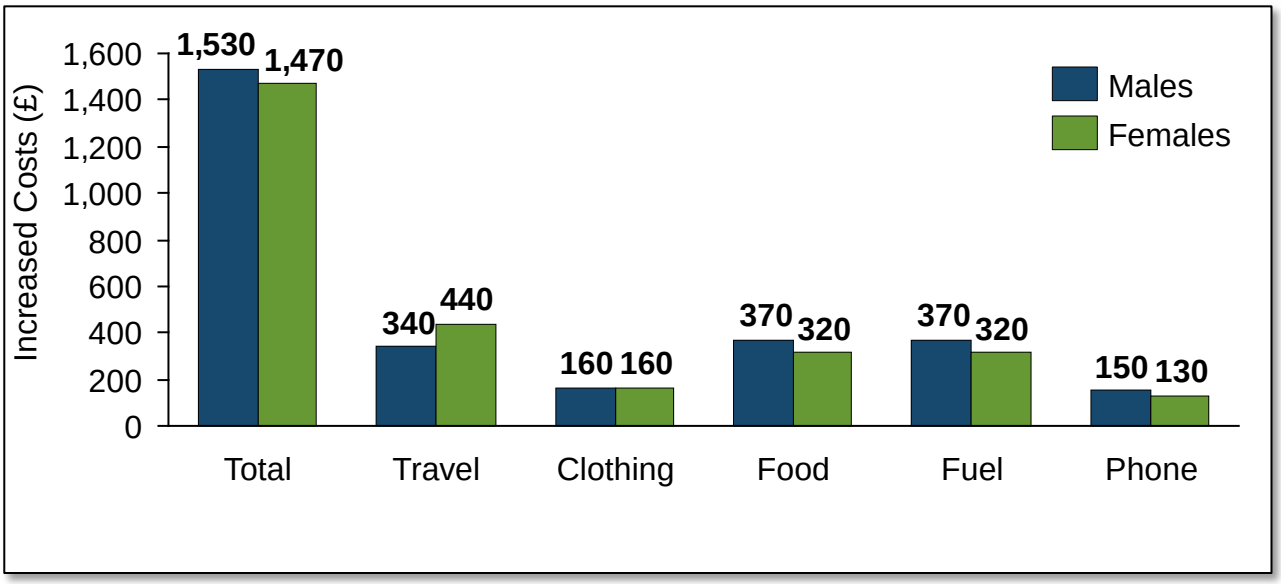
Men, on average, spend longer in treatment due to the long treatment period necessitated by prostate cancer[135]. As a result, male patients (in employment at diagnosis) lose, on average, a larger proportion of their income over five years, as Figure 20 demonstrates.

Figure 20: Average % Loss of Income over 5 Years, by Gender[134]



By contrast, the large number of hospital visits made over the course of breast cancer treatment results in higher travel costs for females[136]. This increase is mitigated by the lower costs resulting from shorter treatment durations[137], as Figure 21 shows:

Figure 21: 5 Year Increased Costs per Cancer Patient, by Gender[138]



Average Financial Impact - Summary

Wales

Over a one year period, patients in employment at diagnosis face a higher relative financial impact (24% of average employment income[139]) than others (14% of fixed income[140]). However, if only increased costs are taken into account, those not in employment at diagnosis face a much higher burden relative to income with costs accounting for 14%[141] of income, as opposed to 3%[142].

Figure 22: Average 1 Year Financial Impact for Cancer Patients in Employment at Diagnosis[143]

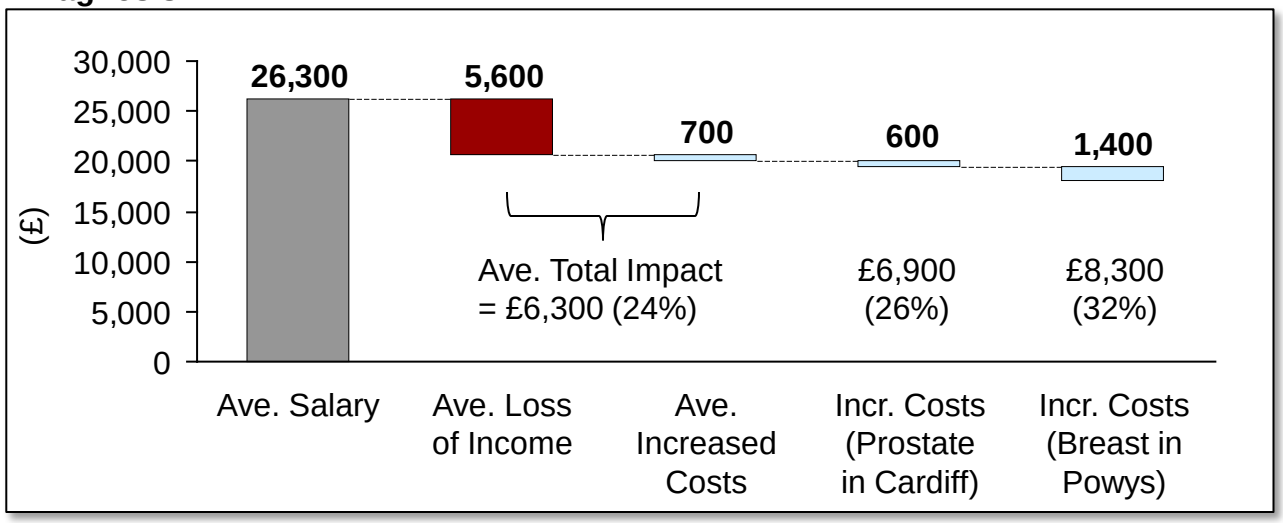
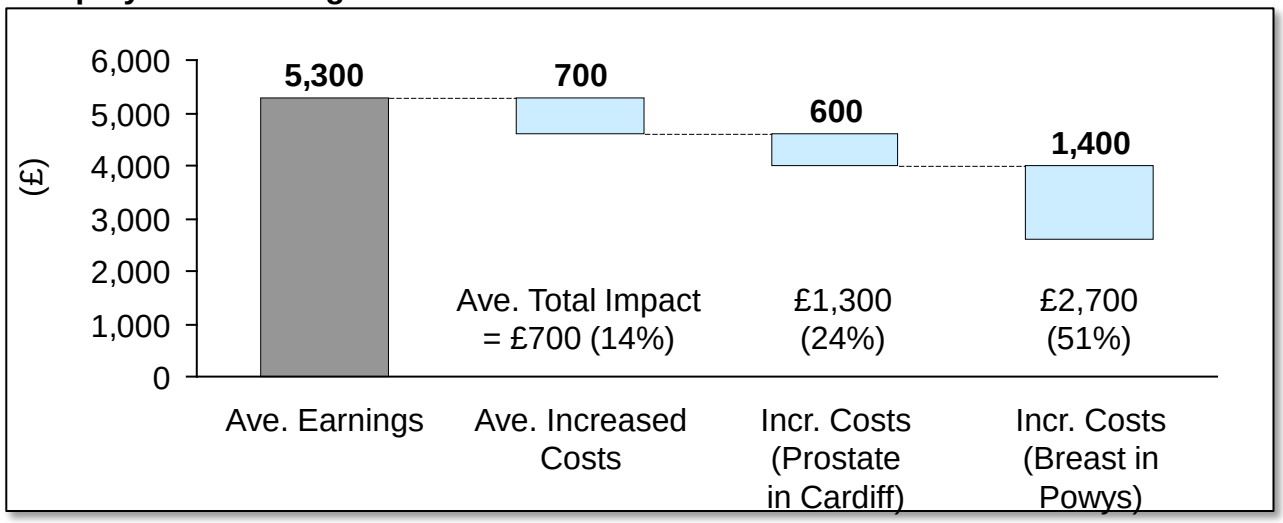


Figure 23: Average 1 Year Financial Impact for Cancer Patients not in Employment* at Diagnosis[144]



Note: *Assumes benefits income of 20% of average earnings[145]

Average Financial Impact - Summary

Over five years, financial impact in terms of income decreases in relative terms compared to the first year post-diagnosis as loss of income and increased costs do not apply across the full five years[146]. Once again, the employed face a greater relative burden[147]. However, for those not in employment costs amounting to an average 6%[148] of income will be harder to afford.

Figure 24: Average 5 Year Financial Impact for Cancer Patients in Employment at Diagnosis[149]

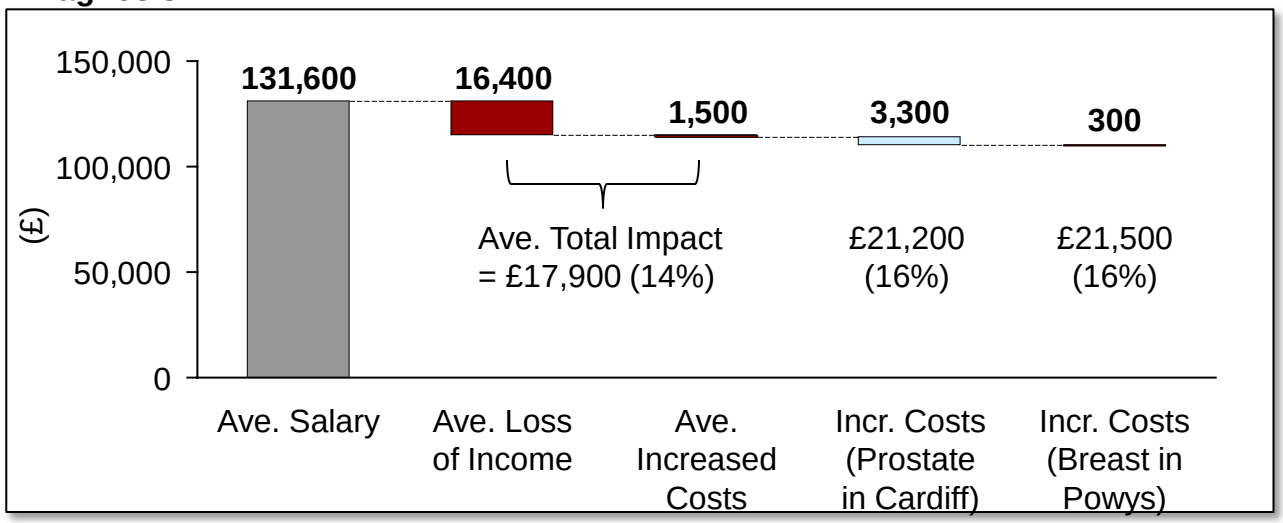
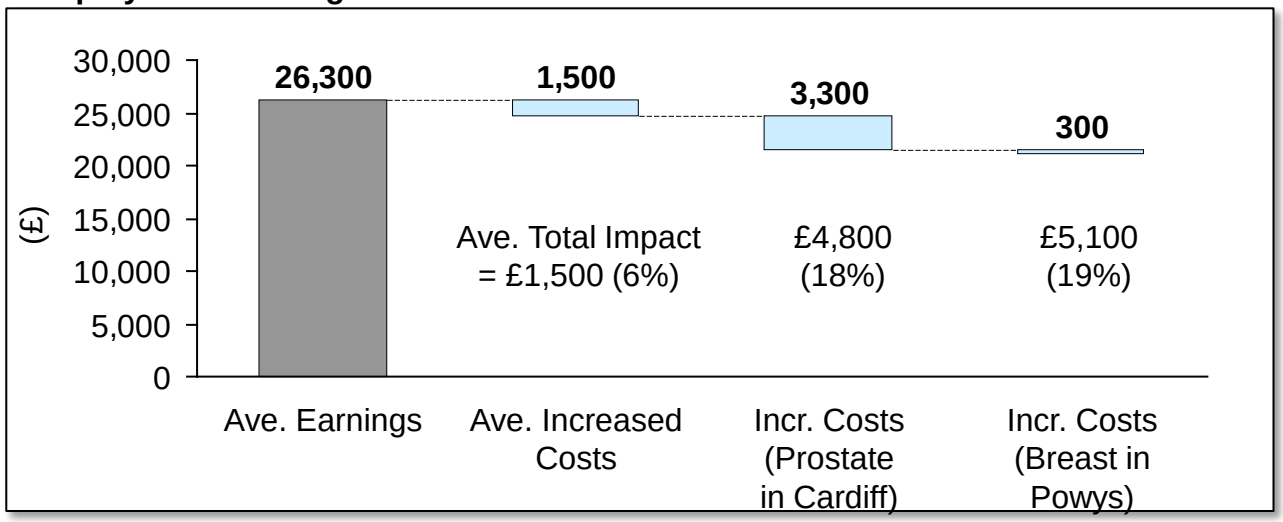


Figure 25: Average 5 Year Financial Impact for Cancer Patients not in Employment* at Diagnosis[150]



Note: *Assumes benefits income of 20% of average earnings[151]

Average Financial Impact - Summary

Gender

Due to their higher average salary[152], men employed at diagnosis face a larger financial impact (almost £7,000[153]) than women (~£6,000[154]). In relative terms, however, women face a slightly higher financial burden.

Figure 26: Average 1 Year Financial Impact for Male Cancer Patients in Employment at Diagnosis[155]

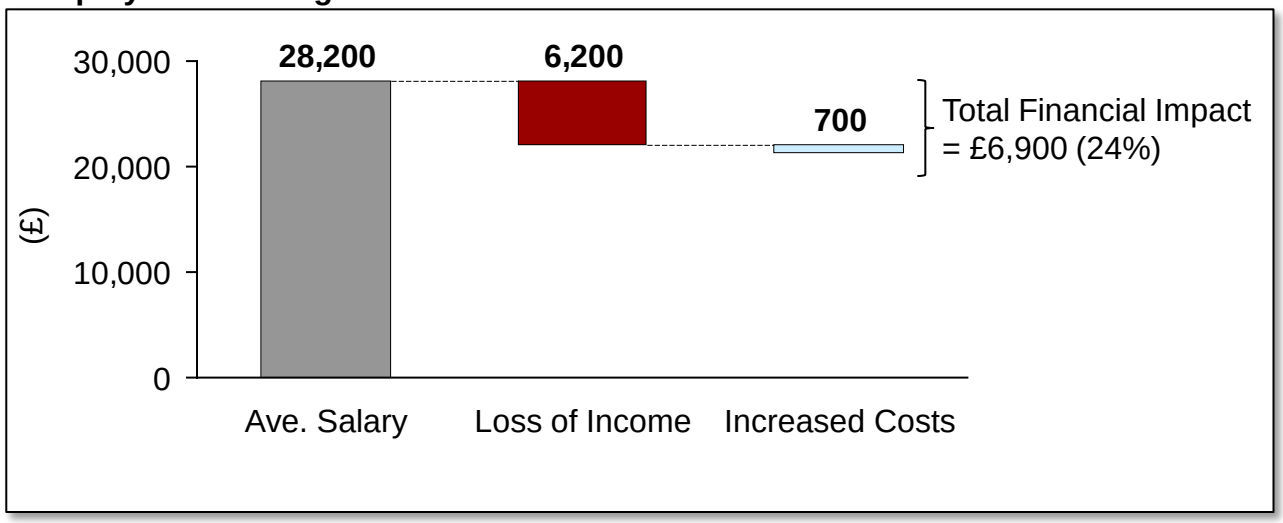
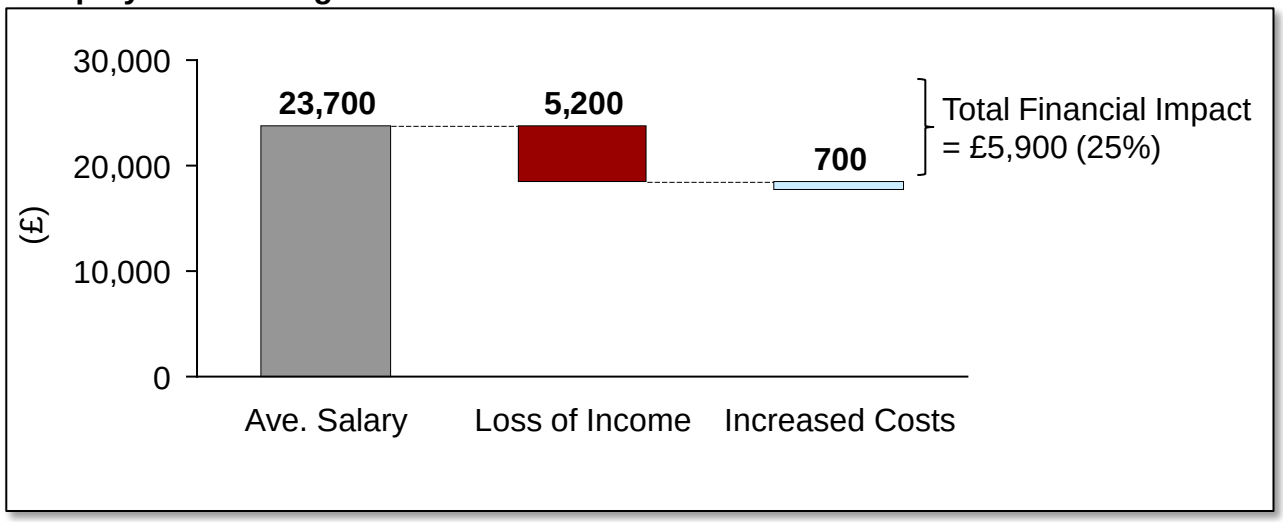


Figure 27: Average 1 Year Financial Impact for Female Cancer Patients in Employment at Diagnosis[156]



Average Financial Impact - Summary

Over 5 years, however, men face a higher relative burden of 15%[157] of average salary compared to 13%[158] for women. Differences in the length of impact[159] between prostate cancer and breast cancer explain this change as men are more likely to experience longer term financial impact.

Figure 28: Average 5 Year Financial Impact for Male Cancer Patients in Employment at Diagnosis[160]

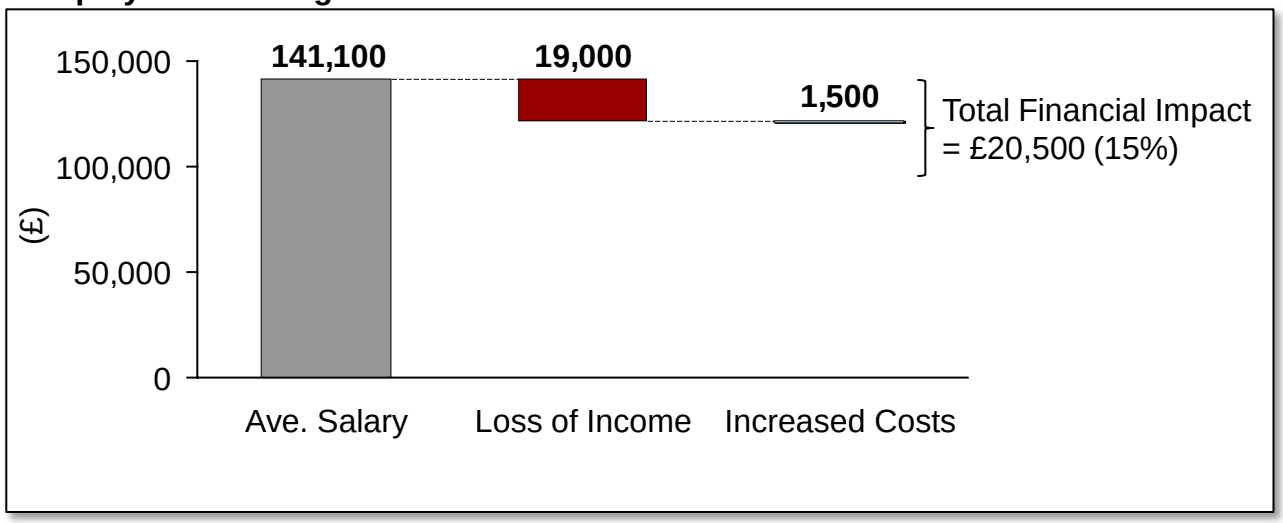
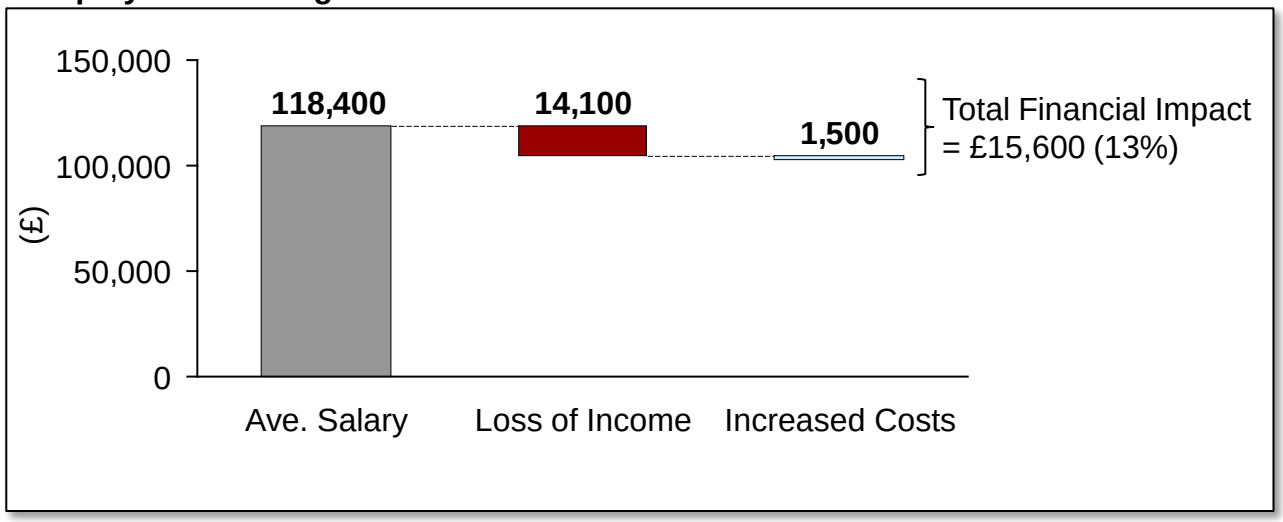


Figure 29: Average 5 Year Financial Impact for Female Cancer Patients in Employment at Diagnosis[161]



Average Financial Impact - Summary

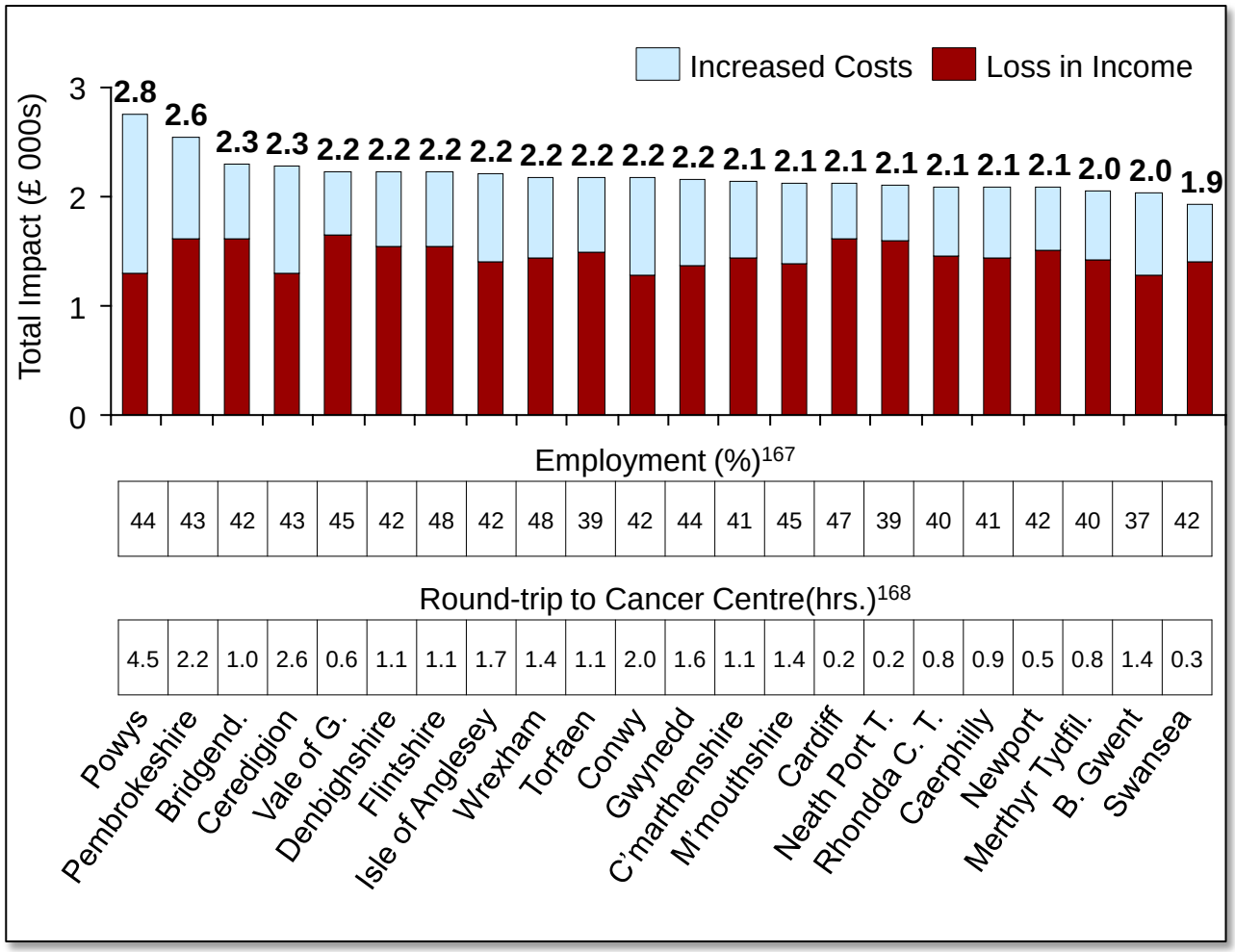
Local Authority

Variations in impact by Local Authority are mainly driven by :

- Average salary (impacting loss of income)[162]
- Distance to Cancer Centres (impacting travel costs)[163]

Hence, loss of income is highest in the Vale of Glamorgan[164], whilst Powys' lack of local Cancer Centres[165] drives the extremely high costs those living with cancer experience there. Please note that in Figure 30, loss in income is averaged for the total population of people living with cancer, whereas in previous pages loss in income has been shown as an average for those in employment at diagnosis only.

Figure 30: Average 1 Year Financial Impact, by Local Authority[166]

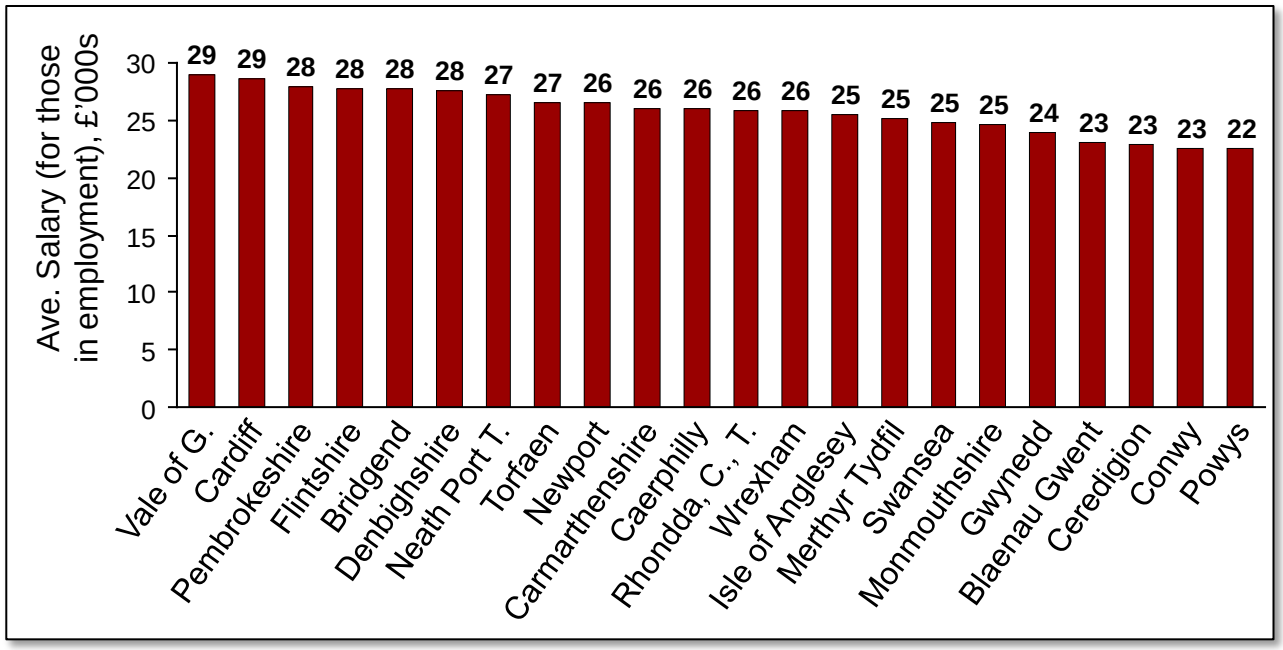


Average Financial Impact - Summary

Local Authorities where individuals are most at risk from increased costs can be identified using a number of measures, such as average salary by Local Authority (Figure 31 below). Vulnerable Local Authorities are likely to be those with a lower average salary, although other indicators (such as the Welsh Index of Multiple Deprivation) can also be used.

There is a considerable amount of variation in the average salary amongst Welsh Local Authorities, stretching from £29,000[169] in Vale of Glamorgan to just £22,000[170] in Powys. Note that even in the Vale of Glamorgan the average salary is below the all-UK average (£31,500[171]).

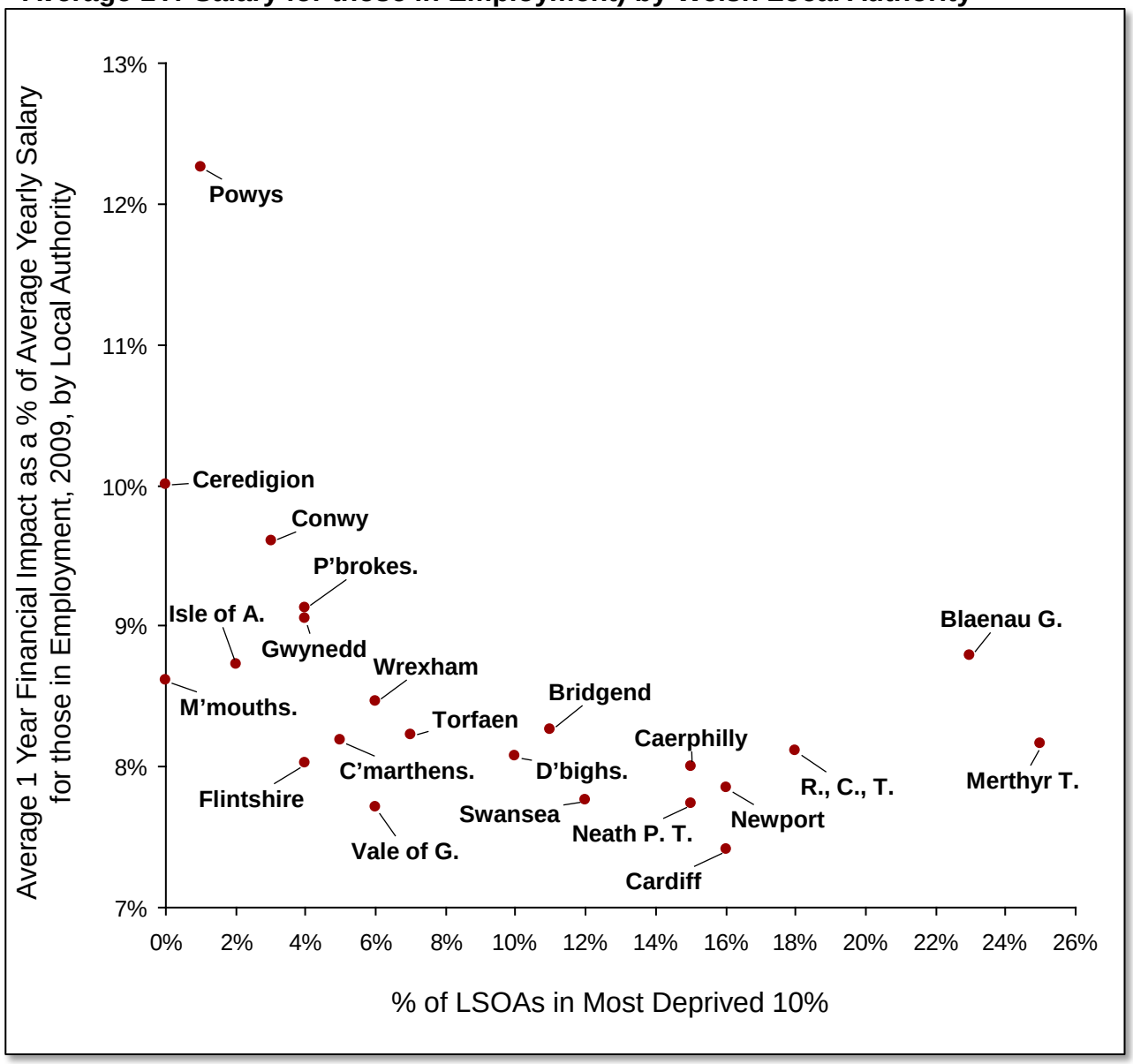
Figure 31: Average Yearly Salary for those in Employment, 2009, by Local Authority[172]



Average Financial Impact - Summary

By combining the analysis from the two previous pages it is possible to give an indication of the relative impact for the average person in each Local Authority. Figure 32 below demonstrates this by plotting Local Authorities according to the average financial impact as a proportion of the average salary of an employed person[173] against the level of deprivation in the Authority[174].

Figure 32: Average 1 Yr Financial Impact (Absolute and as a Percentage of Average 1Yr Salary for those in Employment) by Welsh Local Authority[175]



All Wales – Aggregate Financial Impact

At the aggregate level, the total financial impact faced by people living with cancer in Wales is ~£105 million[176] over five years. This is spread across the ~18,000[177] individuals diagnosed with cancer in Wales in 2009. Loss of income remains the single largest impact, accounting for 74%[178] (~£76 million) of that impact.

Costs also have a significant impact, with travel costs reaching ~£5 million[179] in the first year post diagnosis. This increases to ~£7 million[180] over five years, though food costs have an even greater impact and exceed £8 million[181] over this period.

Figure 33: Total 1 Year Financial Impact of Cancer in Wales[182]

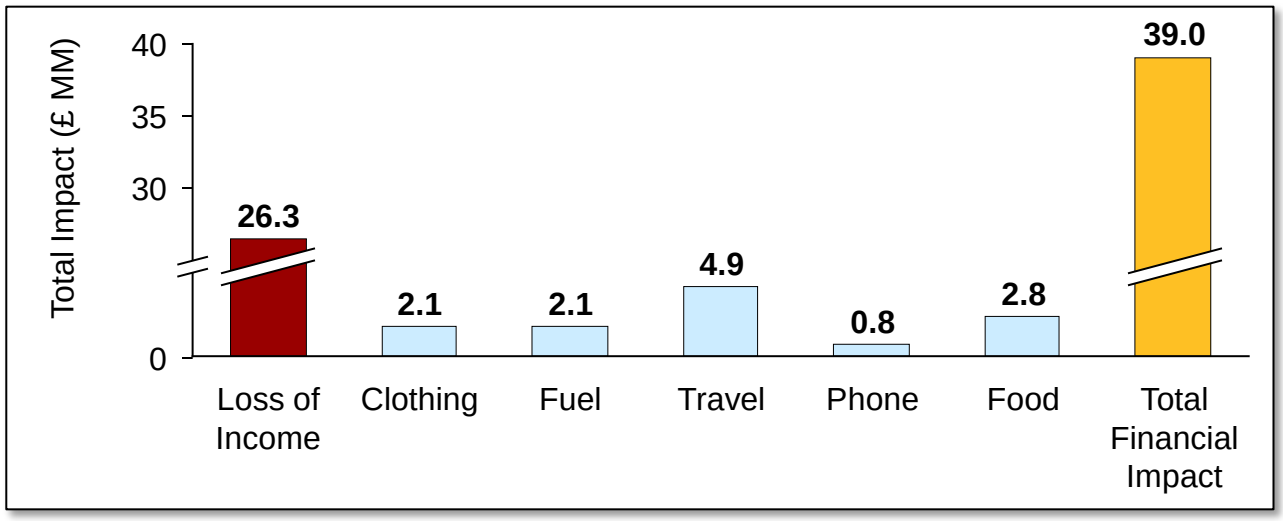
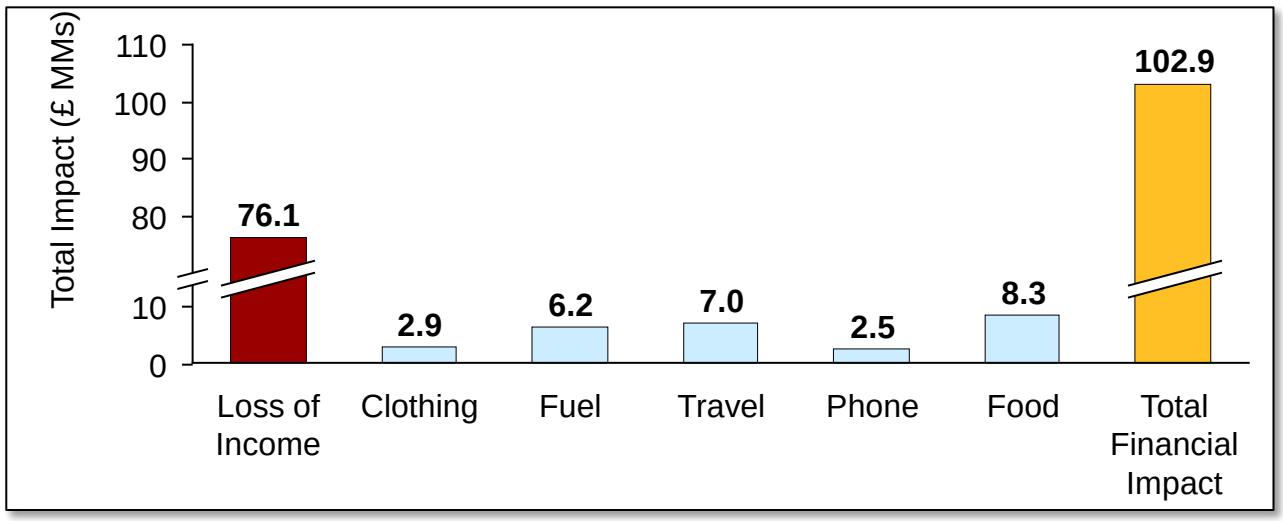


Figure 34: Total 5 Year Financial Impact of Cancer in Wales[183]



Personal Implications

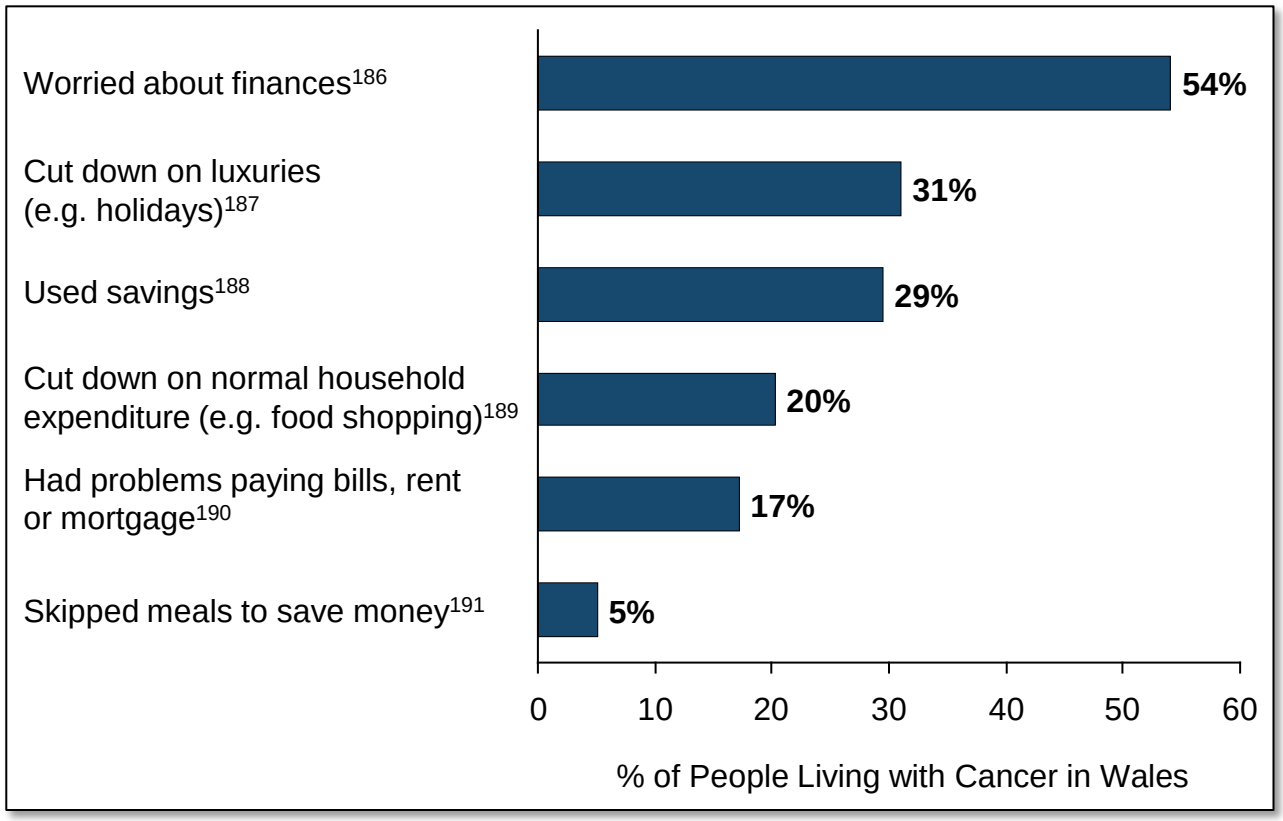
Personal Implications

The financial impact of cancer has a demonstrable impact on the lives of people living with cancer in Wales. The increased financial pressure can negatively affect their finances and mental health[184]. Furthermore, the impact is not limited to those living with cancer alone as their loved ones and those that care for them may also be affected financially[185].

Effect on Finances:

The financial impact of cancer can lead to a negative effect on patients' finances. Many are forced to change their lifestyles to adapt to lower income and increased costs. In some cases, this can be as extreme as cutting down on essential spending such as food shopping, as Figure 35 demonstrates:

Figure 35: Impact on Finances



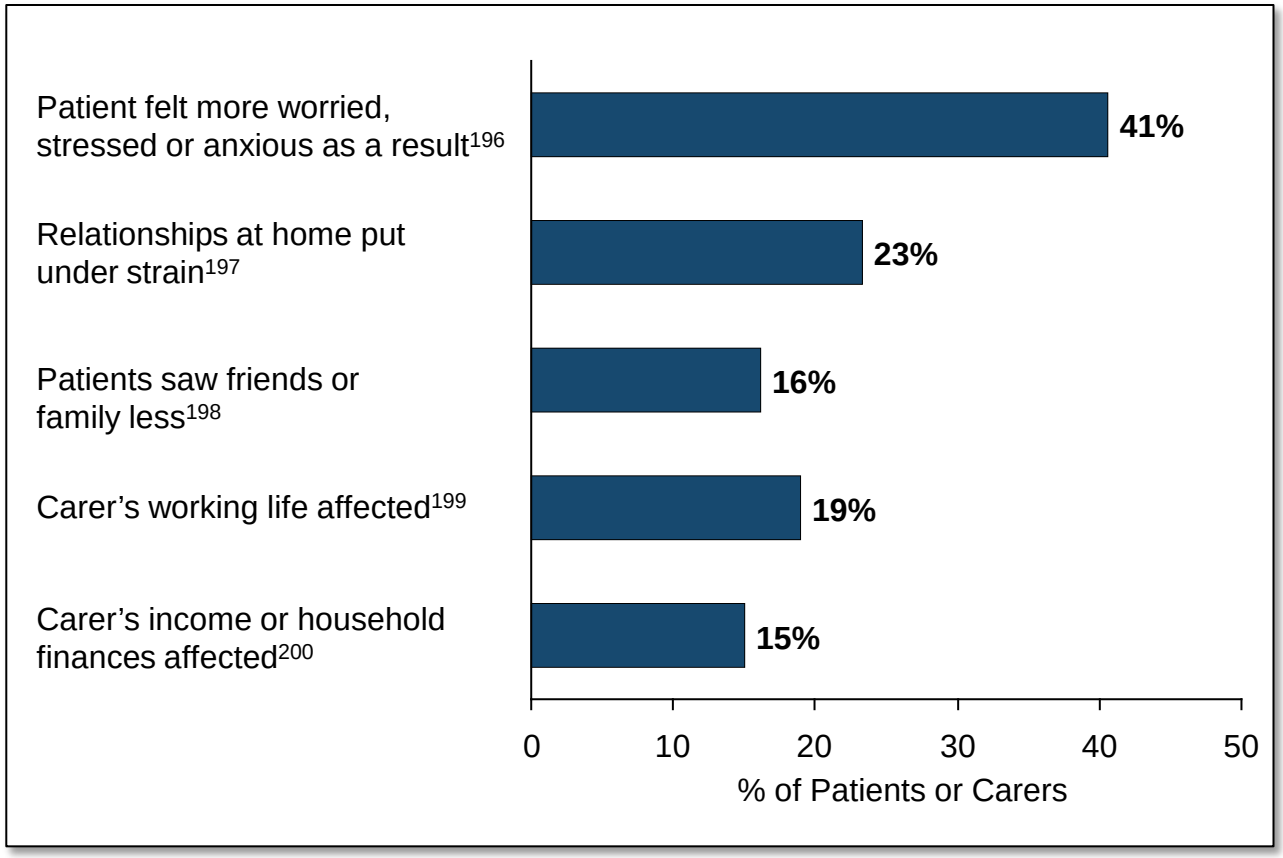
Personal Implications

Personal Implications

Emotional Impact:

Concern caused by the financial pressure of cancer can lead to increased stress on both the individual in question and those around him or her. Over 40%[192] of people with a cancer diagnosis feel more stressed as a result of financial pressure, and almost 25%[193] find their relationships put under strain. Furthermore, the finances of those caring for people with a cancer diagnosis can also be impacted[194]. As a result of spending time caring for patients, their income may be negatively affected and their careers could be harmed[195].

Figure 36: Emotional Impact and Effect on Others



Note: Carers data is UK-wide

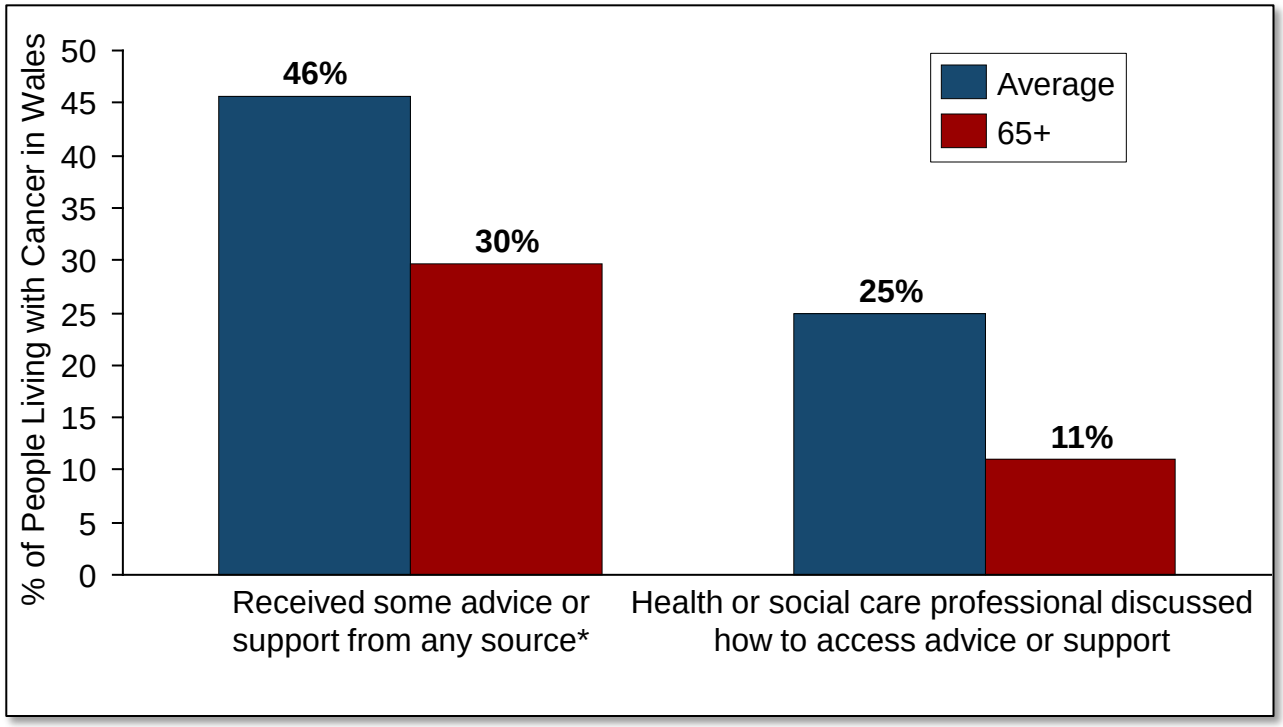
Financial Support – Access to Advice

Financial Support

Financial support, in the form of benefits (such as the Disability Living Allowance and Attendance Allowance) and Macmillan Grants, is available to people with a cancer diagnosis in Wales. However, there are concerns that uptake of this financial support is lower than it should be and that many of those with cancer are struggling unnecessarily with their finances. One cause of this lack of uptake is a lack of systematic referral to financial support, such as the Macmillan welfare advice services[201]. The over 65s, a vulnerable group given their fixed income, are particularly likely to suffer from a lack of financial advice[202].

Figure 37 demonstrates the extent of this problem in Wales:

Figure 37: Welsh Cancer Patients Receiving Financial Advice[203]



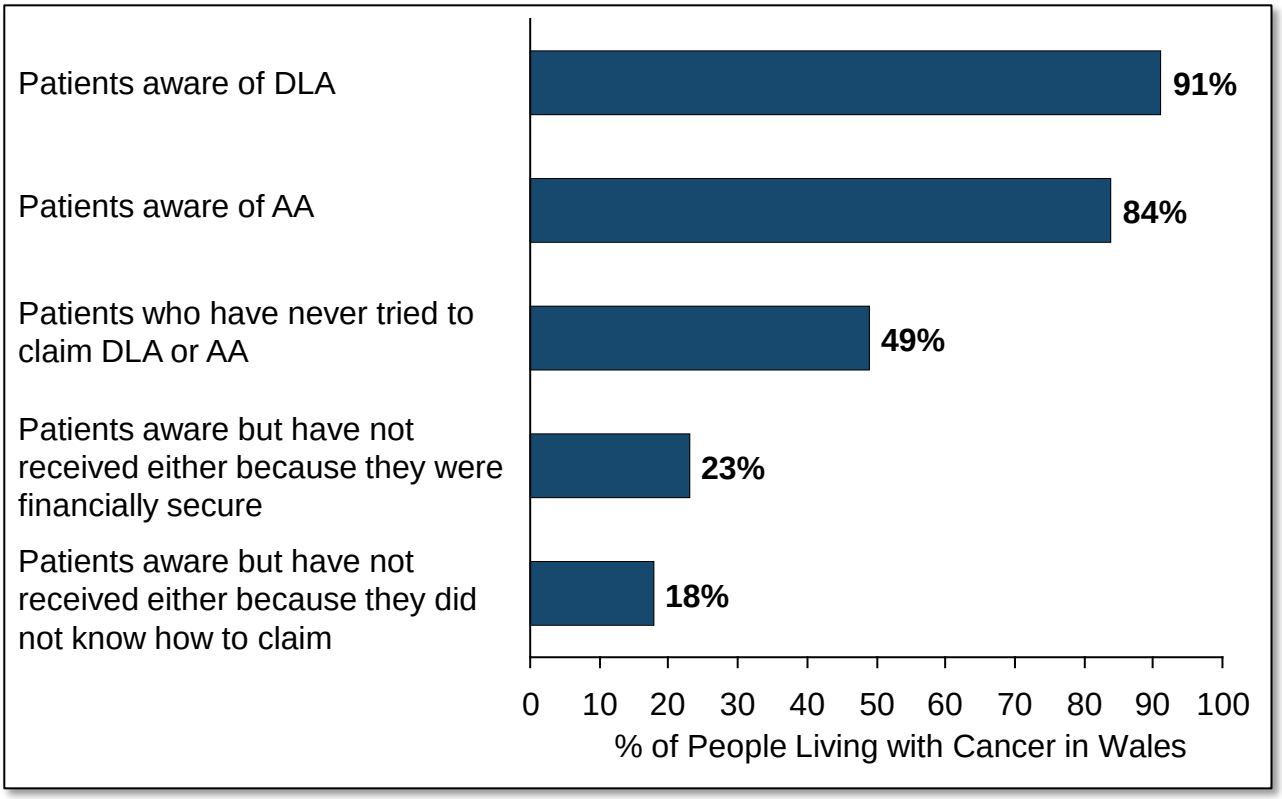
Note: *Includes advice from family, friends and financial advisors

Financial Support – Awareness of Support

Financial Support

Despite the low levels of uptake of financial advice[204], lack of awareness does not appear to be the main driver[205]. Rather, lack of knowledge of how to claim benefits is a major factor for those in need of financial help[206].

Figure 38: Welsh Cancer Patients Aware of Available Support[207]



Overall Impact for the Over 65s

The overall financial impact of cancer for over 65s can be summarised, taking into account each level of output from the analysis:

Financial Baseline

- Only **6.7%**[208] of people with a cancer diagnosis over the age of 65 are in employment at diagnosis and many may rely on low fixed incomes from pensions[209]
- **40%**[210] of this sub-population are in **fuel poverty** and are thus very vulnerable to increased costs

Loss of income

- Although it only affects a small proportion of this sub-population[211], loss of income amounts to **21.6%**[212] of the average salary for those affected in the first year, or **£5,697**
- This increases to **£16,774**[213] over five years

Increased Costs

- Average one year increased costs are **£707**[214], stretching to **£1,498**[215] over five years
- For those worst affected, this could reach **£1,783**[216] in the first year and **£5,530**[217] over five years
- Increased fuel costs, a problem pre-diagnosis for almost half this group[218], will cost those affected up to **£1,246**[219] over five years

Personal Implications*

- The majority of people living with cancer in Wales (**54%**[220]) worry about their finances, while almost as many (**41%**[221]) feel more stressed and anxious as a result
- This may affect their relationships at home and the careers and finances of their carers[222]

Financial Support

- Despite these large pressures on their finances, less than a third of those living with cancer in the over-65 group (**30%**[223]) receive any financial advice or support
- Even fewer (**11%**[224]) will be pointed to available financial advice by their health or social care professionals

Increased costs resulting from cancer diagnosis are likely to be particularly hard to afford for those on low fixed pension incomes. This group may well be forced to make sacrifices in their day-to-day lives to afford these costs. However, very few are directed to available support which could help them alleviate the financial burden.

Note: *Figures reflect the Welsh average

Overall Impact for Bridgend

The overall financial impact of cancer for people with cancer in Bridgend can be summarised, taking into account each level of output from the analysis:

Financial Baseline

- **42.3%**[225] of the population of Bridgend are in employment, below the Welsh average
- It is the **ninth most deprived**[226] local authority in Wales and thus contains many individuals that are very vulnerable to increased costs

Loss of income

- Those in employment at diagnosis lose on average **21.7%**[227] of their income, or **£6,023**[228], in the first year post diagnosis, the fifth highest total of any Local Authority
- This increases to **£17,418**[229] over five years

Increased Costs

- Average one year increased costs are **£683**[230], stretching to **£1,453**[231] over five years
- Increased travel costs, amounting to **£242**[232], are the greatest burden in the first year
- Over five years, increased food bills amounting to **£464**[233] are the largest cost

Personal Implications*

- The majority of people living with cancer in Wales (**54%**[234]) worry about their finances, while almost as many (**41%**[235]) feel more stressed and anxious as a result
- This may affect their relationships at home and the careers and finances of their carers[236]

Financial Support

- Despite these large pressures on their finances, less than half of those living with cancer in Wales (**46%**[237]) receive any financial advice or support
- Even fewer (**25%**[238]) will be pointed to available financial advice by their health or social care professionals

Taking into account both total financial impact and deprivation, Bridgend is a significantly at risk Local Authority. People with cancer in highly deprived areas will find the increased costs from cancer diagnosis hard to bear, whilst other losing significant proportions of their income will have to make significant adjustments to their lives to cope.

Note: *Figures reflect the Welsh average

Overall Impact for Breast Cancer

The overall financial impact of cancer for women with breast cancer can be summarised, taking into account each level of output from the analysis:

Financial Baseline

- Women are less likely to be in employment than men (**40.1%** vs. 46.3%)[239] and may therefore be more likely to be on low fixed incomes and vulnerable to increased costs
- They also earn less than men on average (**£455.50** vs. £542.50)[240] and are thus doubly vulnerable to rising costs

Loss of income

- Breast cancer patients in employment at diagnosis lose on average 23.6%[241] of average income, or £5,597[242], in the first year post diagnosis, the second highest percentage of any cancer type
- This increases to **£15,672**[243] over five years

Increased Costs

- Average one year increased costs are **£835**[244], the highest of any cancer type, stretching to **£1,622**[245] over five years
- Breast cancer patients face the highest travel costs of all cancer types due to the large number of hospital visits required[246]: **£393**[247] in the first year and **£562**[248] over five years

Personal Implications*

- The majority of this group (**54%**[249]) worry about their finances, while almost as many (**41%**[250]) feel more stressed and anxious as a result
- This may affect their relationships at home and the careers and finances of their carers[251]

Financial Support

- Despite these large pressures on their finances, less than half of those living with cancer in Wales (**46%**[252]) receive any financial advice or support
- Even fewer (**25%**[253]) will be pointed to available financial advice by their health or social care professionals

Breast cancer is the most prevalent in Wales[254] and has the largest aggregate financial impact of any cancer type[255]. As women are, on average, less well off than men[256] in Wales they are likely to struggle to afford the increased costs and be forced to make significant adjustments, especially as the largest proportion of costs are a result of unavoidable hospital travel.

Note: *Figures reflect the Welsh average

Contents

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– Design of Analysis

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– Results
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Potential Areas for Further Investigation

Appendices

Local Authority Overview - Definitions

The table overleaf combines a number of data points by Local Authority for ease of comparison. Each data point is defined below:

Population	• Mid-year population estimate, 2009 (thousands)
Employment	• Population in employment divided by total population
Average Wage	• Full-time average gross annual earnings (£)
Deprivation	• Percentage of LSOAs in the most deprived 10% of Wales
Incidence (Absolute)	• 2009 total cancer incidence
Incidence (Crude Rate)	• 2009 crude incidence rates per 100,000
Increased Costs	• Average five year increased costs per person with a cancer diagnosis (£)
Loss of Income	• Average five year loss of income per person with a cancer diagnosis who was employed at diagnosis (£ 000s)

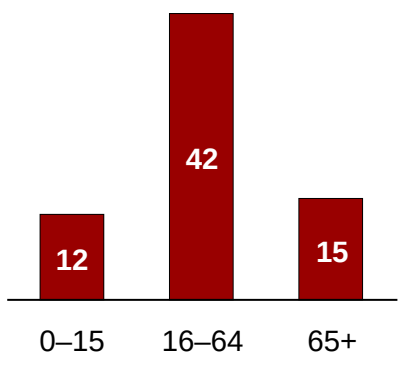
Local Authority Overview

	Population (over 65s)	Employ-ment Rate	Average Wage (£'000s)	Deprivation	Incidence (Absolute)	Incidence (Crude Rate)	Loss of Income (£'000s)	Increased Costs (£)
Merthyr Tydfil	55.7 *(17%)*	40.10%	25.1	25%	353	634	15.8	1,367
Blaenau Gwent	68.6 *(18%)*	37.30%	23.1	23%	433	631	14.3	1,522
Rhondda Cynon Taff	234.4 *(17%)*	40.40%	25.8	18%	1,379	588	15.8	1,352
Cardiff	336.2 *(13%)*	47.30%	28.6	16%	1,494	444	17.9	1,180
Newport	140.45 *(17%)*	41.60%	26.5	16%	831	592	16.9	1,317
Neath Port Talbot	137.4 *(19%)*	39.40%	27.2	15%	843	613	16.6	1,172
Caerphilly	172.7 *(16%)*	40.90%	26	15%	961	556	16.5	1,412
Swansea	231.3 *(18%)*	42.40%	24.8	12%	1,275	551	15.4	1,203
Bridgend	134.2 *(18%)*	42.30%	27.7	11%	856	638	17.4	1,453
Denbigh-shire	96.7 *(21%)*	42.50%	27.6	10%	608	629	17.5	1,473
Torfaen	90.7 *(18%)*	39.20%	26.5	7%	575	634	16.8	1,476
Wrexham	133.2 *(17%)*	48.20%	25.8	6%	751	564	16.4	1,551
Vale of Glamorgan	124.6 *(18%)*	45.30%	28.9	6%	700	562	18.2	1,322
C'marthen-shire	180.8 *(21%)*	41.40%	26	5%	1,135	628	16.6	1,477
Gwynedd	118.8 *(20%)*	43.70%	23.9	4%	765	644	15.2	1,626
Flintshire	149.9 *(17%)*	48.50%	27.8	4%	879	586	17.8	1,472
Pembroke-shire	117.4 *(21%)*	43.30%	27.9	4%	789	672	17.6	1,829
Conwy	111.4 *(24%)*	42.30%	22.6	3%	871	782	14.2	1,747
Isle of Anglesey	68.8 *(21%)*	41.70%	25.4	2%	501	729	16.3	1,654
Powys	131.7 *(22%)*	43.80%	22.5	1%	926	703	14.1	2,556
Ceredigion	76.4 *(21%)*	43.10%	22.8	0%	389	509	14.7	1,934
Monmouth-shire	88 *(20%)*	45.40%	24.6	0%	538	612	16	1,581

Introduction to LA Factsheets

Demographics

	Isle of Anglesey	Welsh Average	LA Ranking
GDHI per Capita	£13,751	£13,484	4/12
GVA per Capita	£11,333	£15,222	12/12
Average Earnings	£489	£506	14/22
Employment	42%	43%	14/22
WIMD Ranking			4/22



GDHI per capita

- *Gross Domestic Household Income per Capita, 2009*
- *Ranking by NUTS 3 Area of Wales which the LA falls in (coloured by tercile)*
- *Source: StatsWales*

GVA per capita

- *Gross Value Added per Capita (proxy for GDP), 2008*
- *Ranking by NUTS 3 Area of Wales which the LA falls in (coloured by tercile)*
- *Source: StatsWales*

Average Earnings

- *Full time average gross weekly earnings for non self-employed, employed population, 2009*
- *Ranking by Local Authority (coloured by tercile)*
- *Source: StatsWales*

Employment

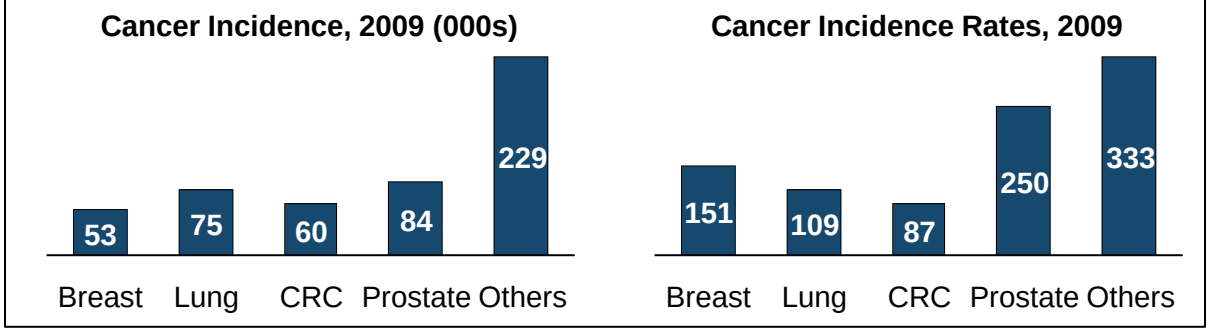
- *Those in employment, divided by total LA population, 2009*
- *Ranking by Local Authority (coloured by tercile)*
- *Source: StatsWales*

WIMD

- *Welsh Index of Multiple Deprivation, 2011*
- *Ranking by Local Authority according to percent of LSOAs (geographical areas of analysis) in most deprived 10%*
- *Source: StatsWales*

Introduction to LA Factsheets

Cancer Incidence



Incidence

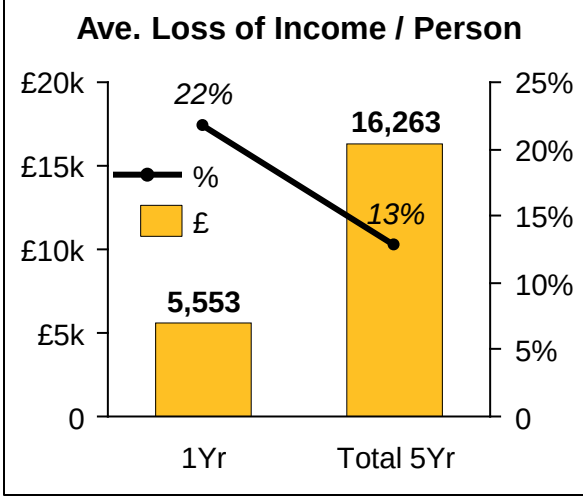
- *Cancer Incidence, 2009*
- *Source: Welsh Cancer Intelligence and Surveillance Unit*

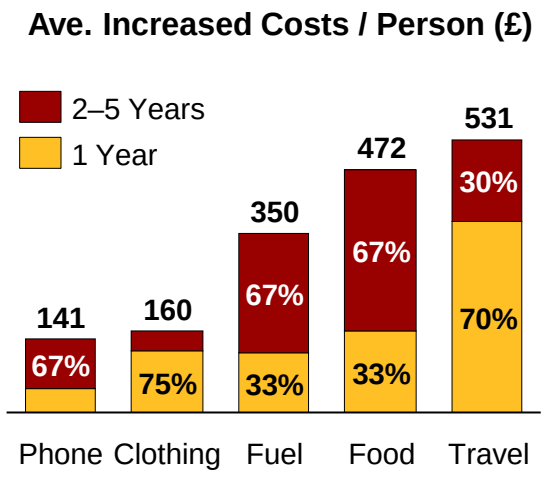
Incidence Rates

- *Crude Incidence Rates per 100,000, 2009*
- *Source: Welsh Cancer Intelligence and Surveillance Unit*

Introduction to LA Factsheets

Financial Impact





Loss of Income

- *Average loss of income per employed person at diagnosis (bar)*
- *Percent of average income lost (line)*

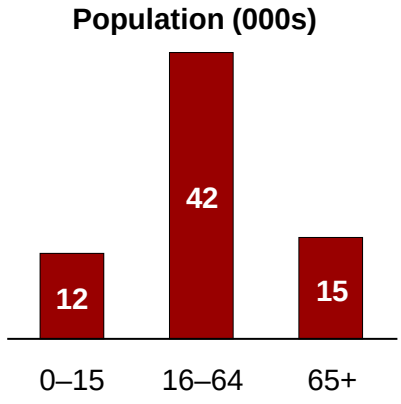
Increased Costs

- *Average increased costs per person with a cancer diagnosis*

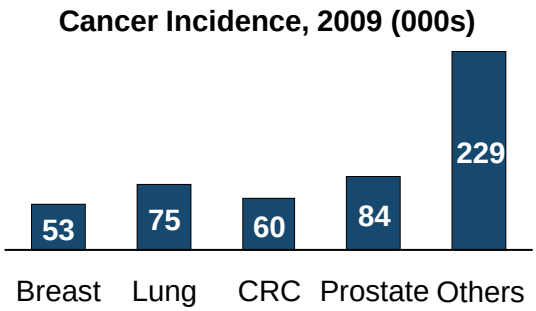
Isle of Anglesey — Summary

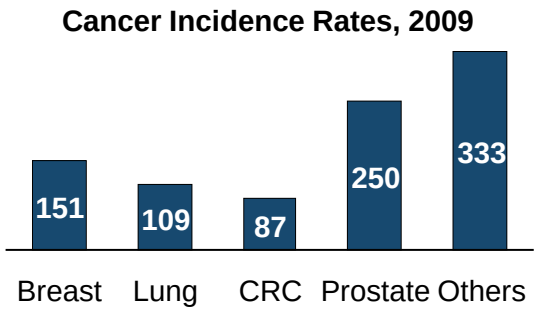
Demographics

	Isle of Anglesey	Welsh Average	LA Ranking
GDHI per Capita	£13,751	£13,484	4/12
GVA per Capita	£11,333	£15,222	12/12
Average Earnings	£489	£506	14/22
Employment	42%	43%	14/22
WIMD Ranking			4/22

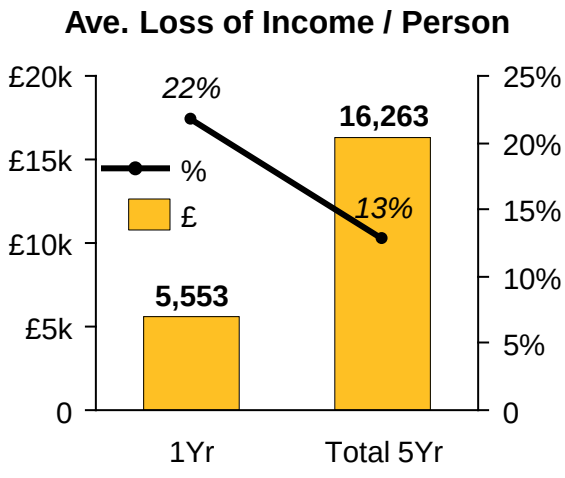


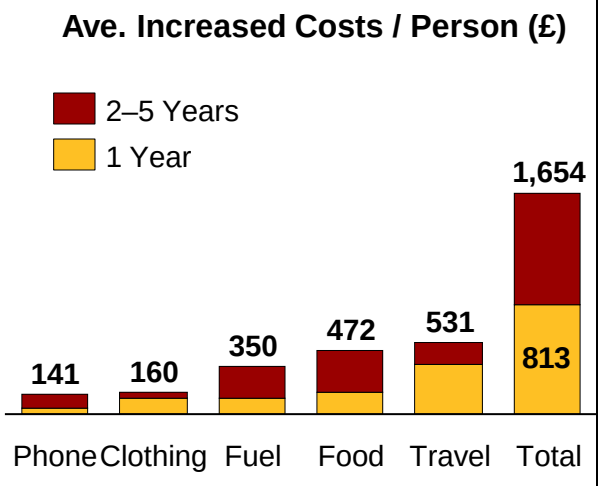
Cancer Incidence





Financial Impact

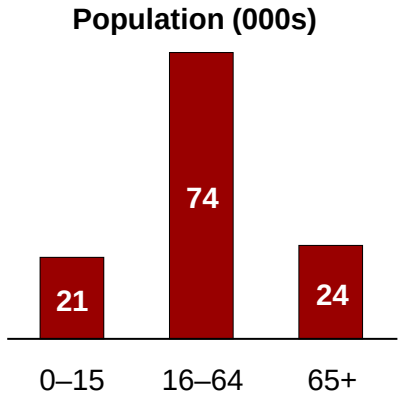




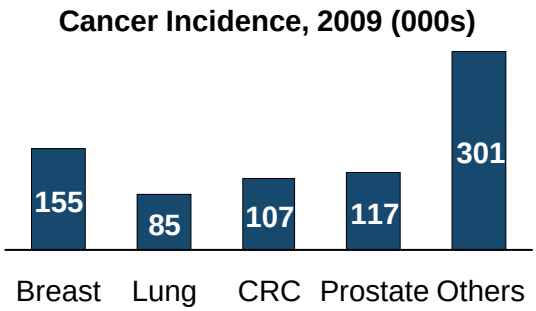
Gwynedd — Summary

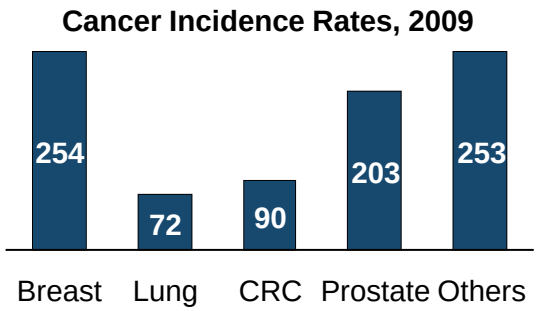
Demographics

	Gwynedd	Welsh Average	LA Ranking
GDHI per Capita	£12,900	£13,484	10/12
GVA per Capita	£13,664	£15,222	6/12
Average Earnings	£459	£506	18/22
Employment	44%	43%	7/22
WIMD Ranking			6/22

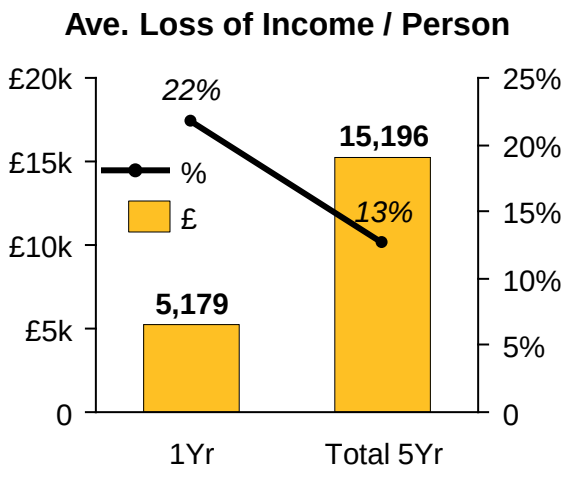


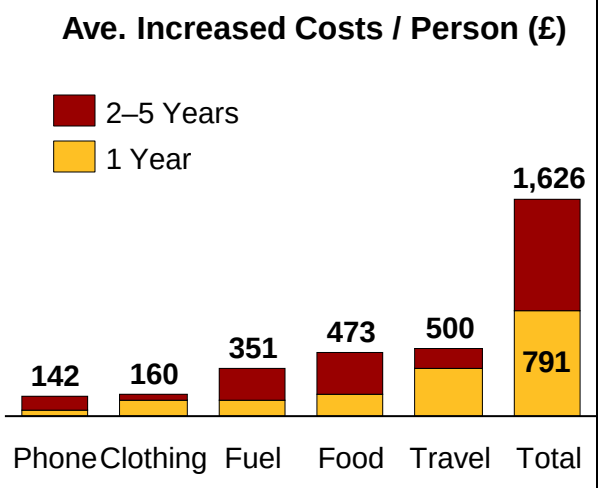
Cancer Incidence





Financial Impact

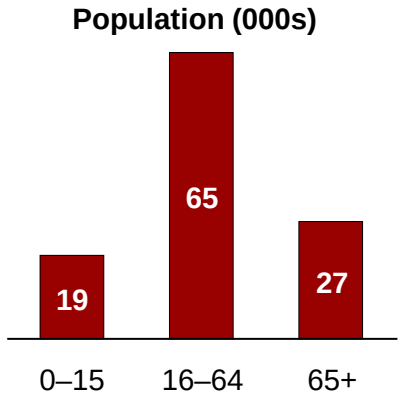




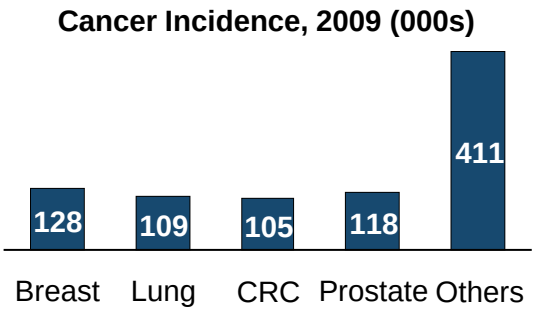
Conwy — Summary

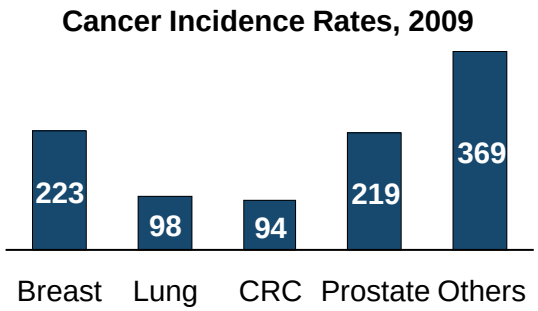
Demographics

	Conwy	Welsh Average	LA Ranking
GDHI per Capita	£14,089	£13,484	2/12
GVA per Capita	£12,218	£15,222	9/12
Average Earnings	£434	£506	21/22
Employment	42%	43%	13/22
WIMD Ranking			5/22

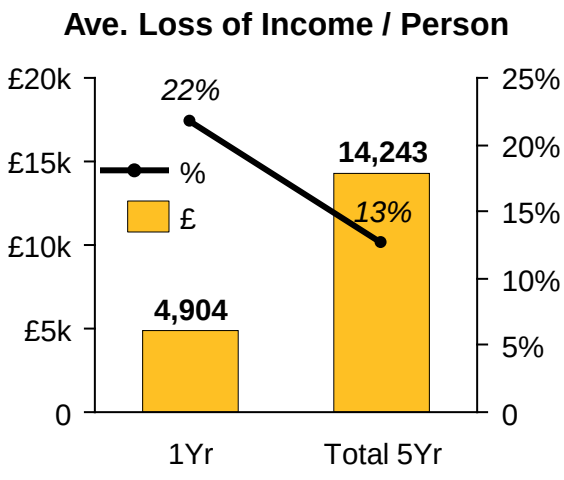


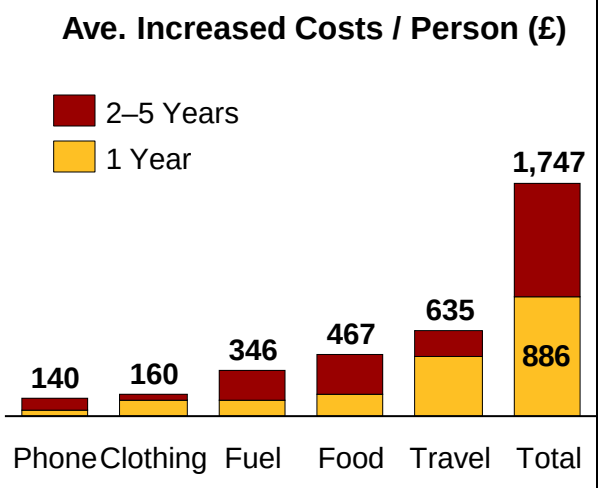
Cancer Incidence





Financial Impact

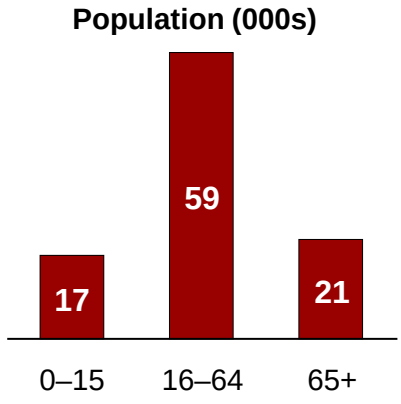




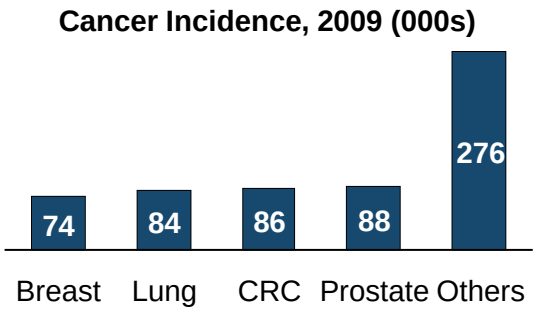
Denbighsire — Summary

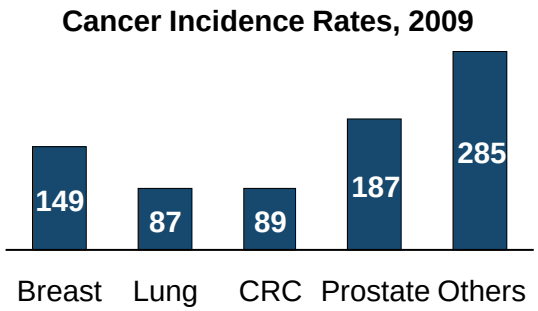
Demographics

	Denbighsire	Welsh Average	LA Ranking
GDHI per Capita	£14,089	£13,484	2/12
GVA per Capita	£12,218	£15,222	9/12
Average Earnings	£531	£506	6/22
Employment	43%	43%	10/22
WIMD Ranking			13/22

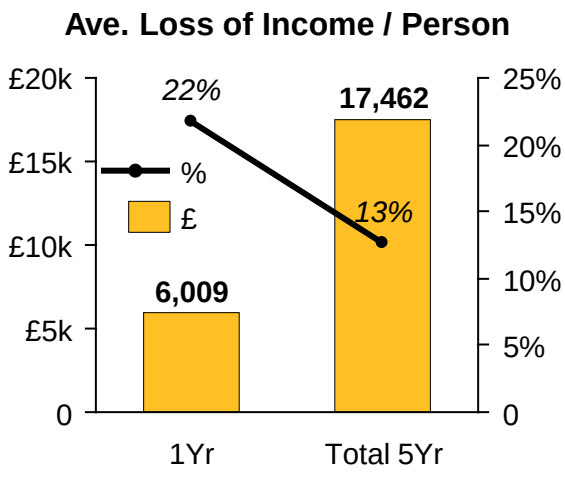


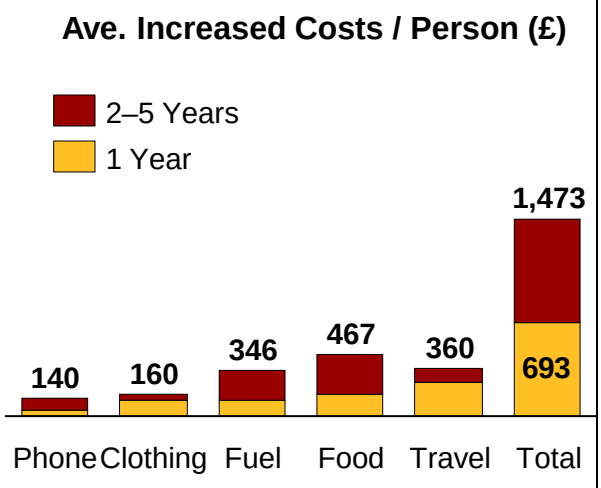
Cancer Incidence





Financial Impact

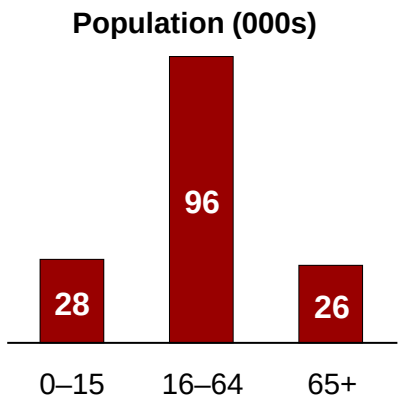




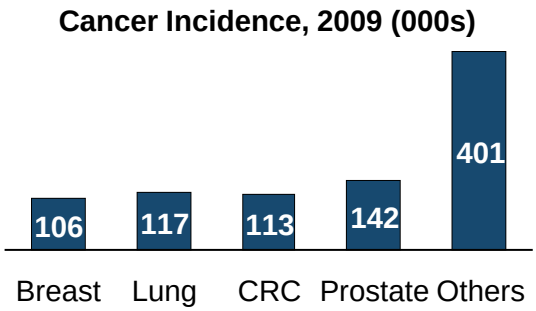
Flintshire — Summary

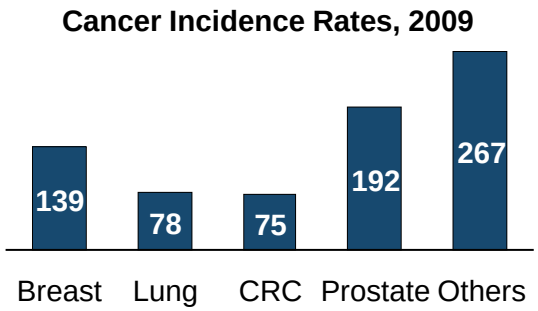
Demographics

	Flintshire	Welsh Average	LA Ranking
GDHI per Capita	£13,657	£13,484	5/12
GVA per Capita	£17,382	£15,222	3/12
Average Earnings	£535	£506	4/22
Employment	49%	43%	1/22
WIMD Ranking			6/22

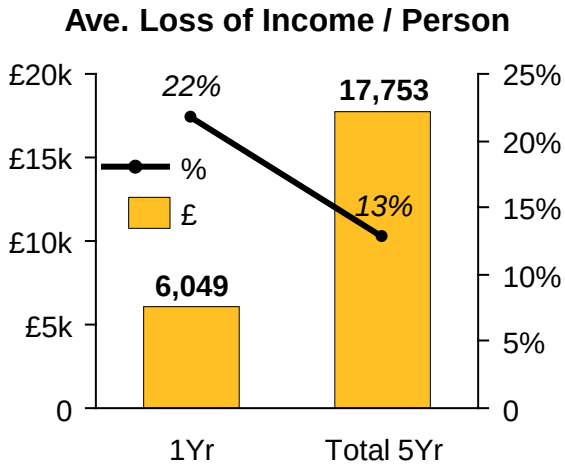


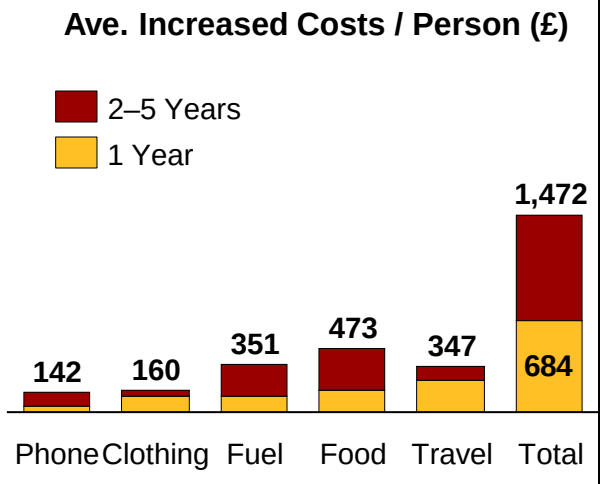
Cancer Incidence





Financial Impact

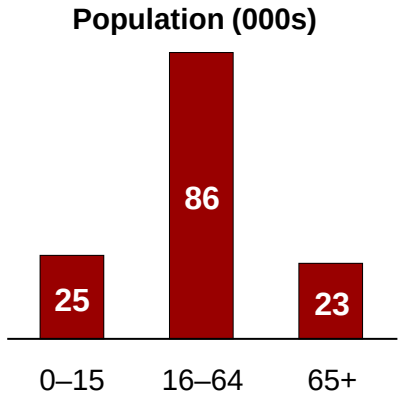




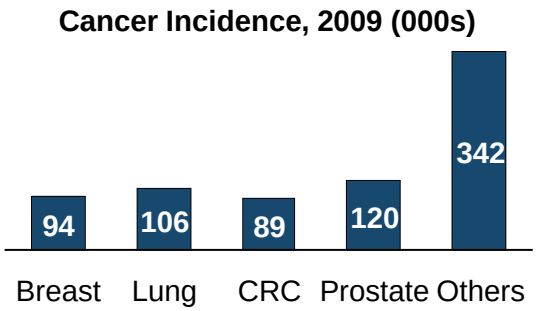
Wrexham — Summary

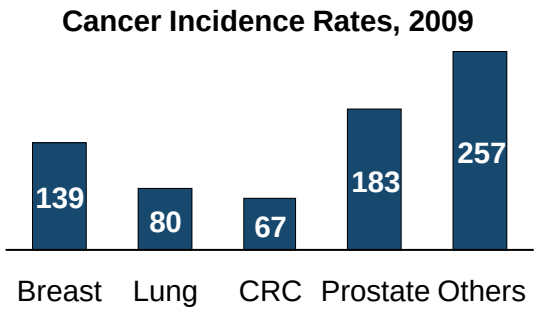
Demographics

	Wrexham	Welsh Average	LA Ranking
GDHI per Capita	£13,657	£13,484	5/12
GVA per Capita	£17,382	£15,222	3/12
Average Earnings	£496	£506	13/22
Employment	48%	43%	2/22
WIMD Ranking			10/22

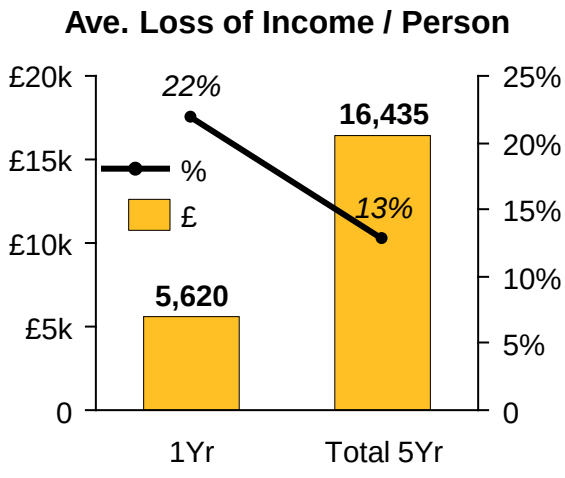


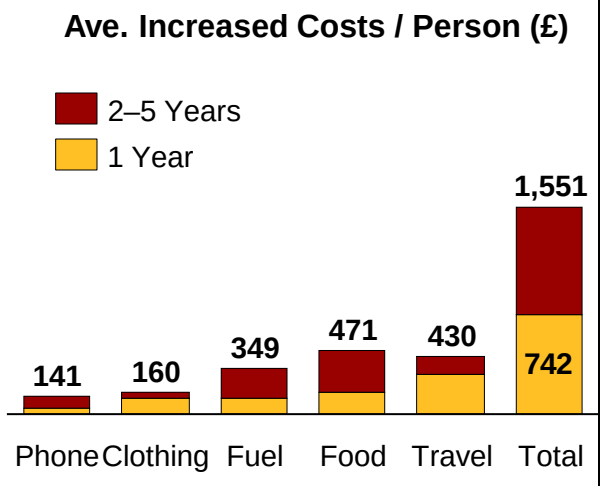
Cancer Incidence





Financial Impact

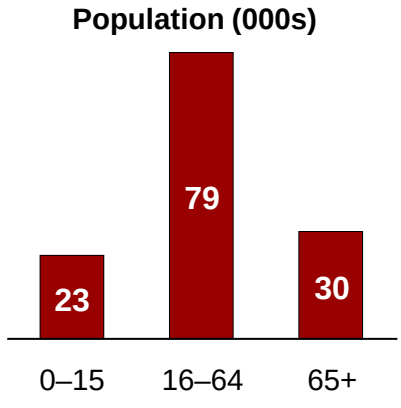




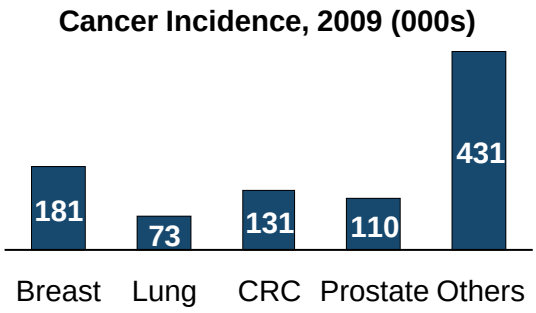
Powys — Summary

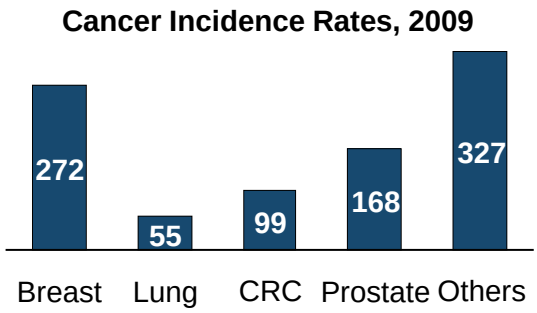
Demographics

	Powys	Welsh Average	LA Ranking
GDHI per Capita	£13,623	£13,484	6/12
GVA per Capita	£12,952	£15,222	7/12
Average Earnings	£432	£506	22/22
Employment	44%	43%	6/22
WIMD Ranking			3/22

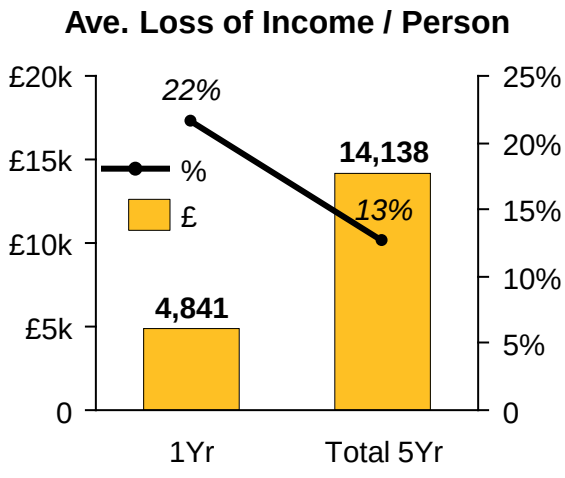


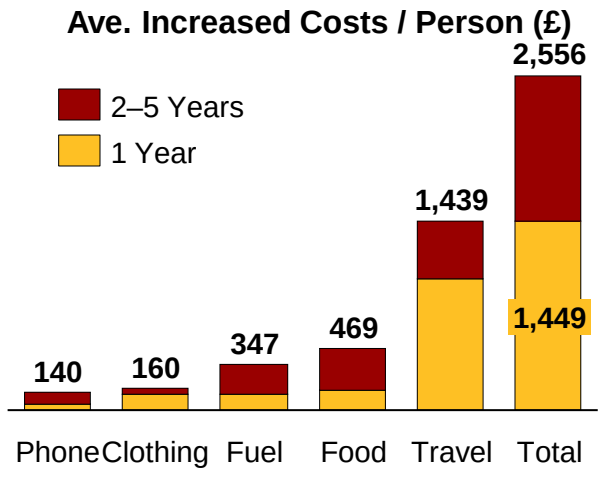
Cancer Incidence





Financial Impact

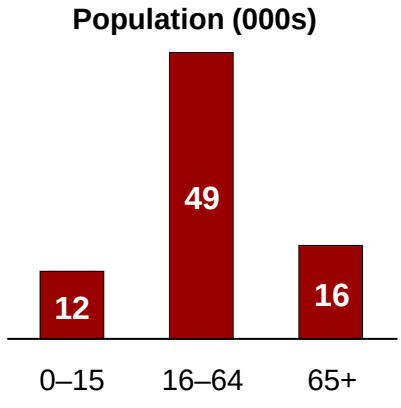




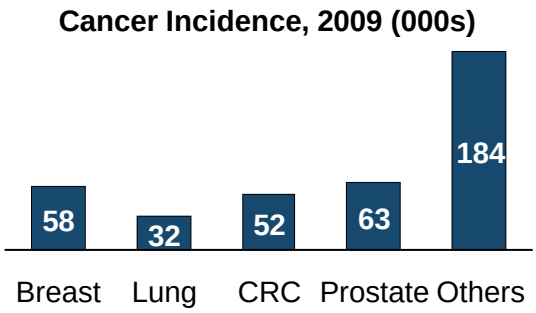
Ceredigion — Summary

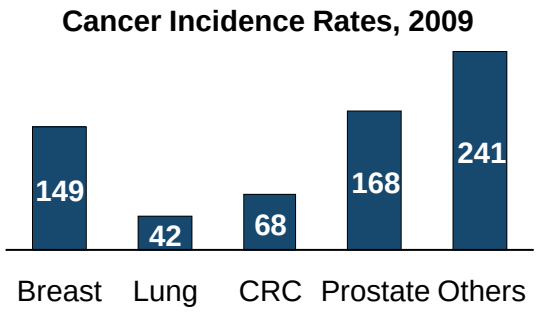
Demographics

	Ceredigion	Welsh Average	LA Ranking
GDHI per Capita	£13,178	£13,484	9/12
GVA per Capita	£12,382	£15,222	8/12
Average Earnings	£439	£506	20/22
Employment	43%	43%	9/22
WIMD Ranking			1/22

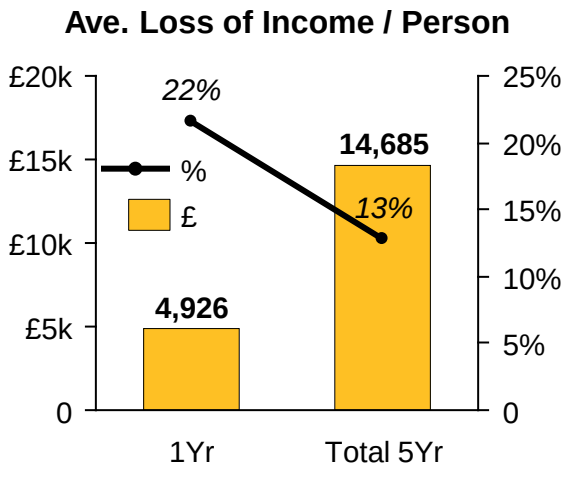


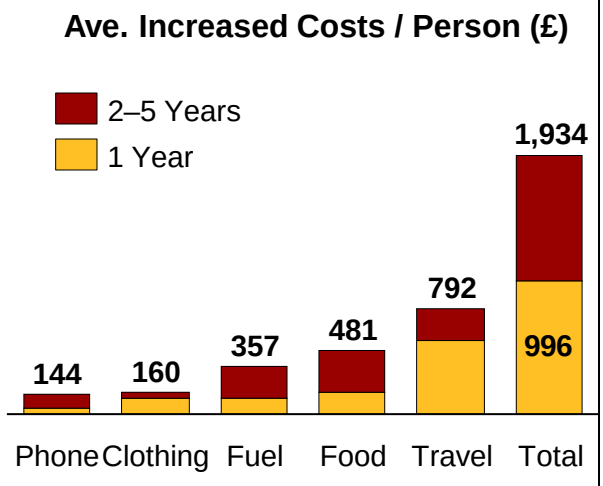
Cancer Incidence





Financial Impact

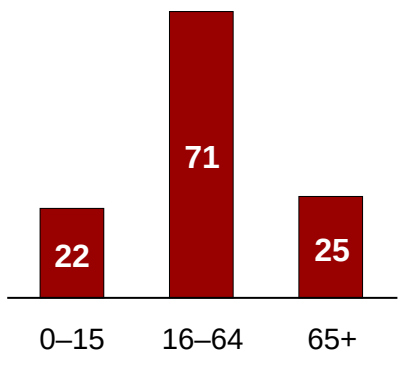




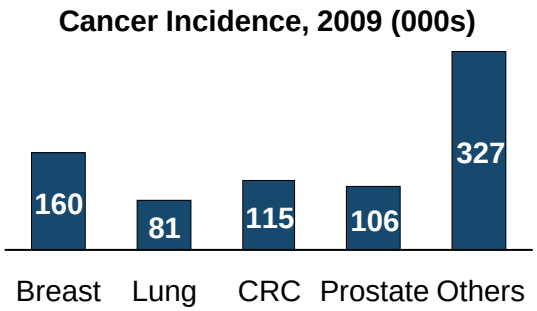
Pembrokeshire — Summary

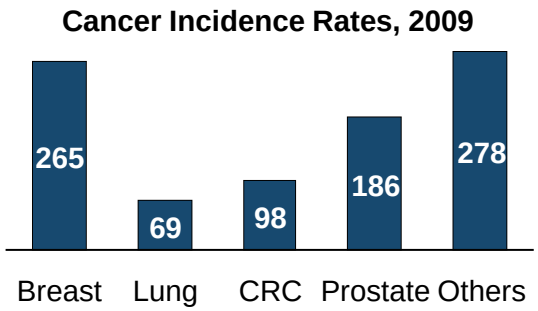
Demographics

	Pembroke-shire	Welsh Average	LA Ranking
GDHI per Capita	£13,178	£13,484	9/12
GVA per Capita	£12,382	£15,222	8/12
Average Earnings	£537	£506	3/22
Employment	43%	43%	8/22
WIMD Ranking			4/22

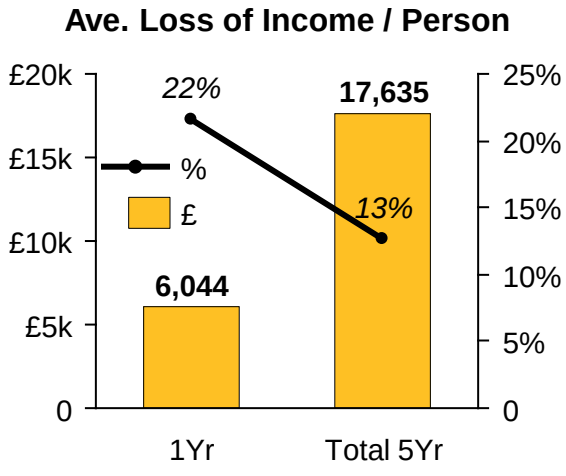


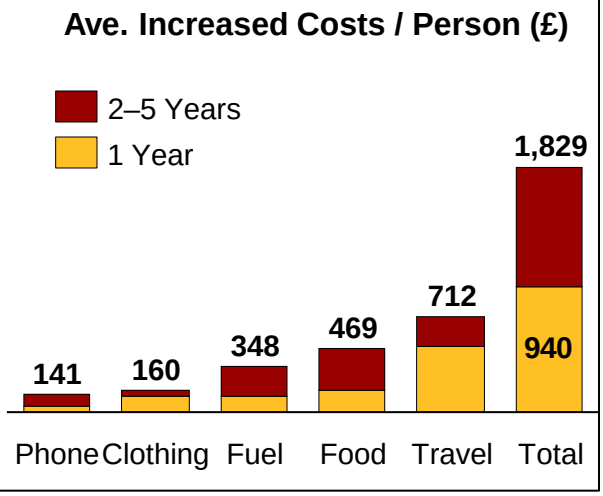
Cancer Incidence





Financial Impact

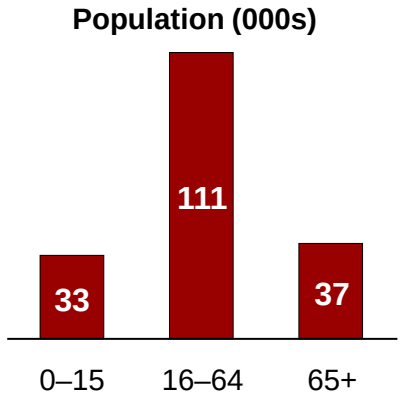




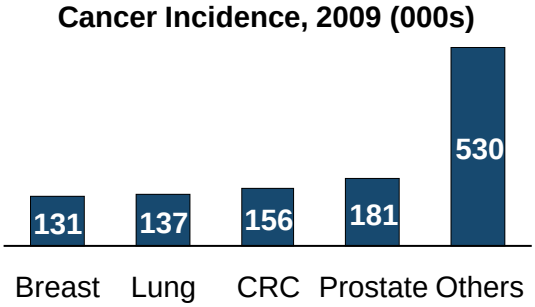
Carmarthenshire — Summary

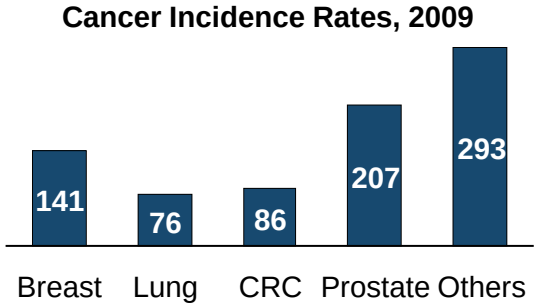
Demographics

	Carmarthen-shire	Welsh Average	LA Ranking
GDHI per Capita	£13,178	£13,484	9/12
GVA per Capita	£12,382	£15,222	8/12
Average Earnings	£501	£506	10/22
Employment	41%	43%	16/22
WIMD Ranking			4/22



Cancer Incidence





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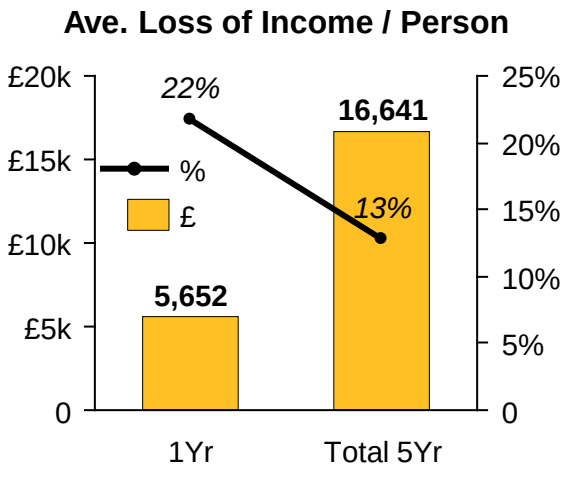
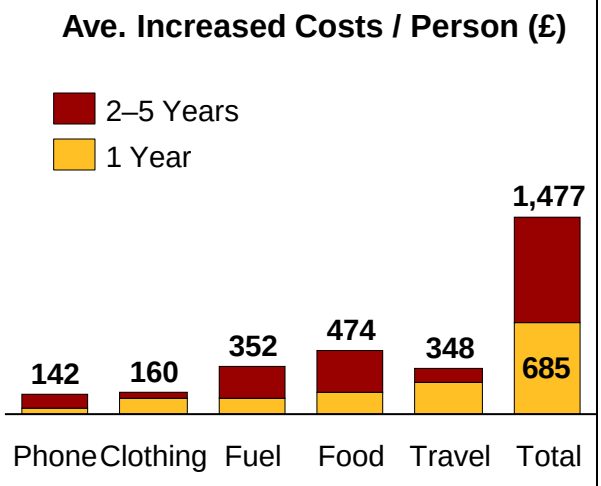
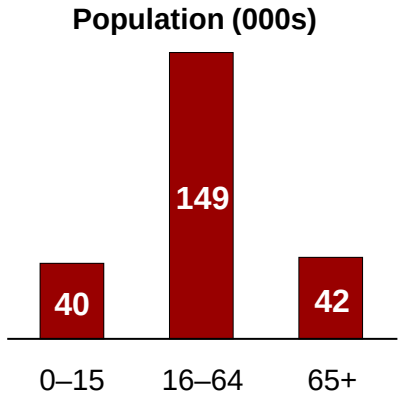




Swansea — Summary

Demographics

	Swansea	Welsh Average	LA Ranking
GDHI per Capita	£13,447	£13,484	8/12
GVA per Capita	£15,820	£15,222	4/12
Average Earnings	£477	£506	16/22
Employment	42%	43%	11/22
WIMD Ranking			16/22



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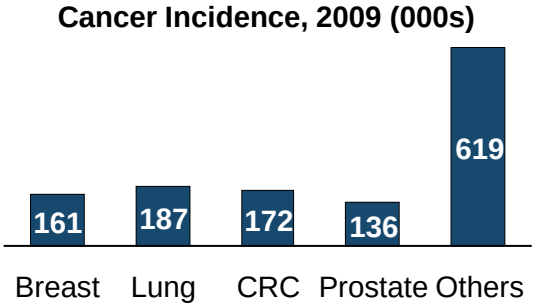
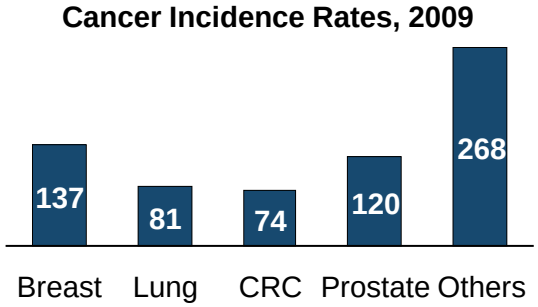
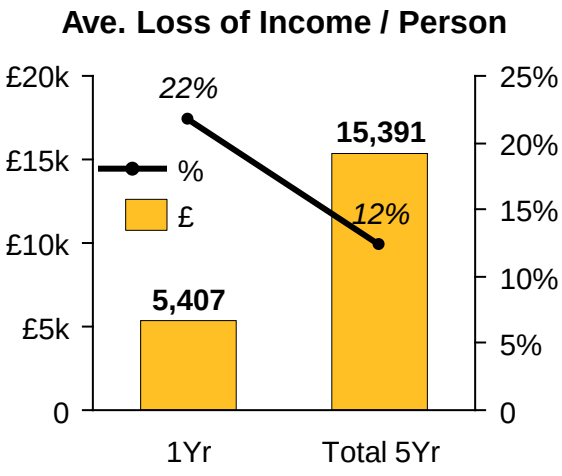
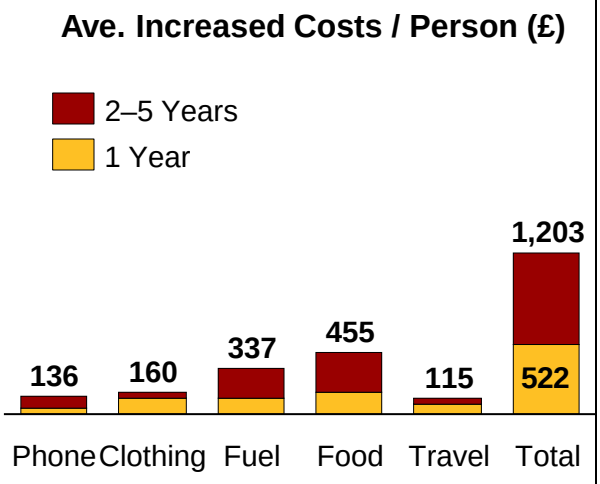




Financial Impact

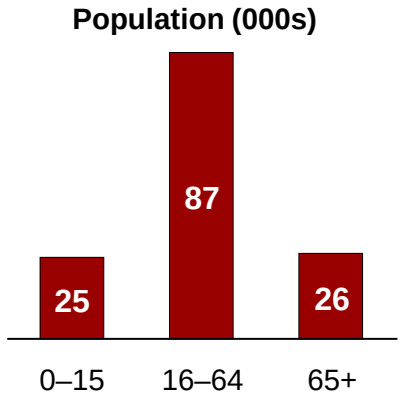




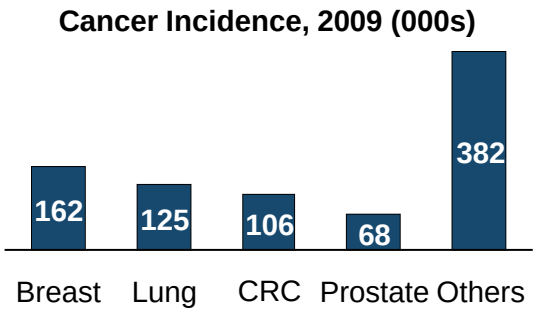
Neath Port Talbot — Summary

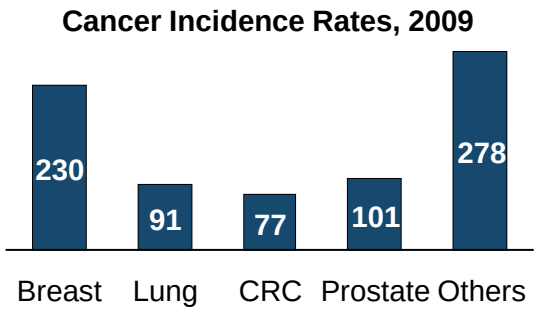
Demographics

	Neath Port Talbot	Welsh Average	LA Ranking
GDHI per Capita	£13,500	£13,484	7/12
GVA per Capita	£14,246	£15,222	5/12
Average Earnings	£522	£506	7/22
Employment	39%	43%	20/22
WIMD Ranking			18/22

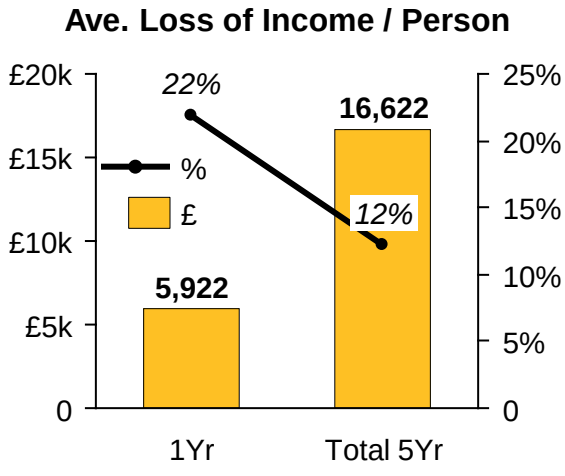


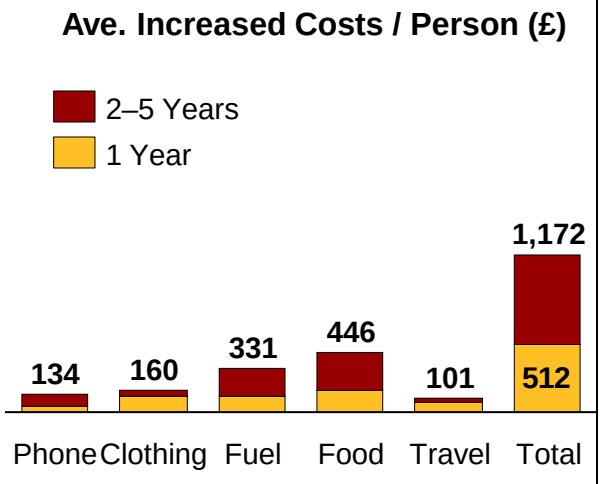
Cancer Incidence





Financial Impact

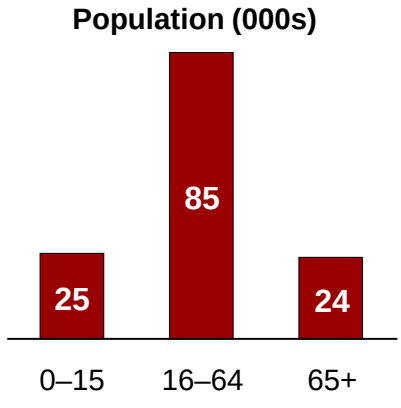




Bridgend — Summary

Demographics

	Bridgend	Welsh Average	LA Ranking
GDHI per Capita	£13,500	£13,484	7/12
GVA per Capita	£14,246	£15,222	5/12
Average Earnings	£533	£506	5/22
Employment	42%	43%	12/22
WIMD Ranking			10/22



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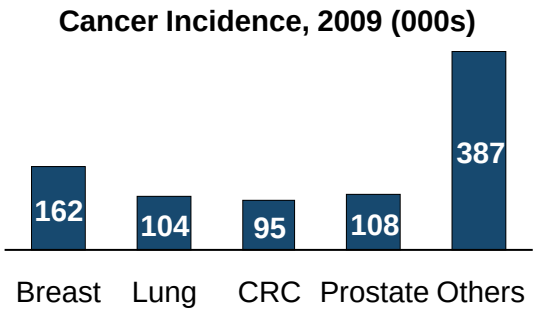
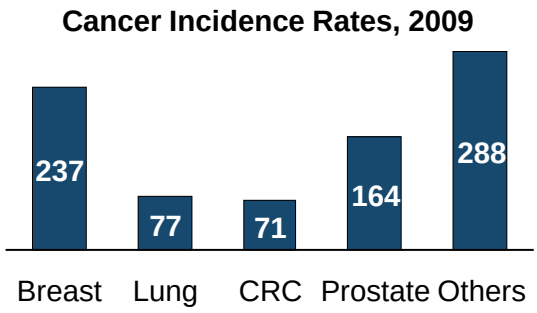
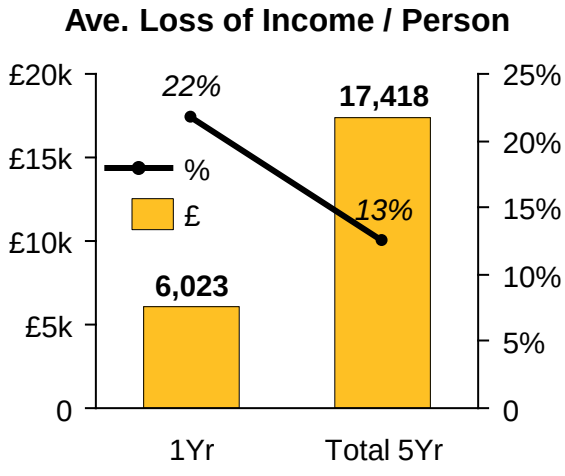
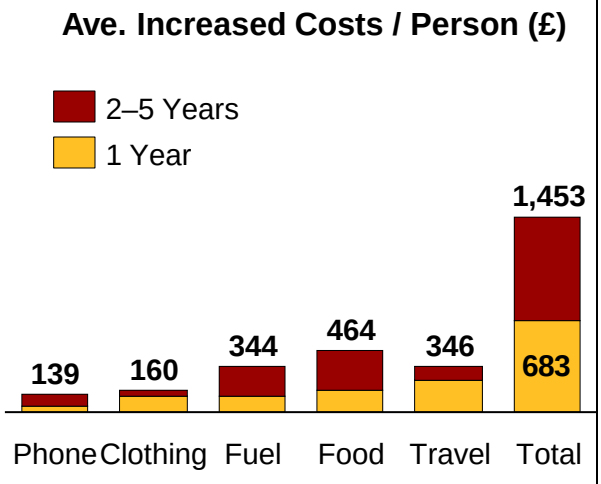




Financial Impact

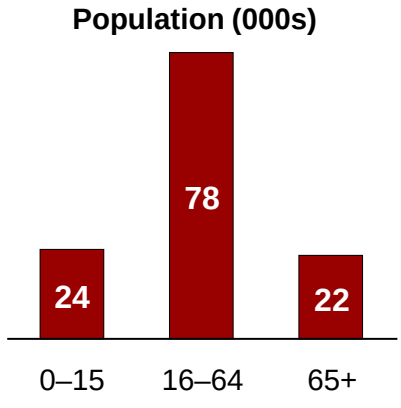




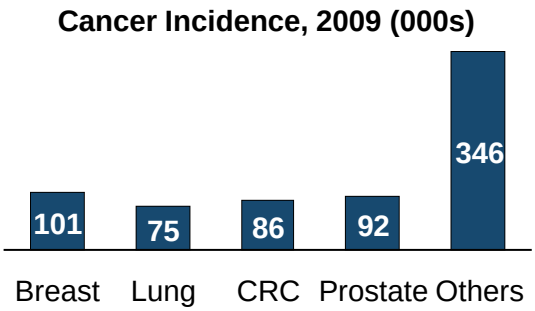
Vale of Glamorgan — Summary

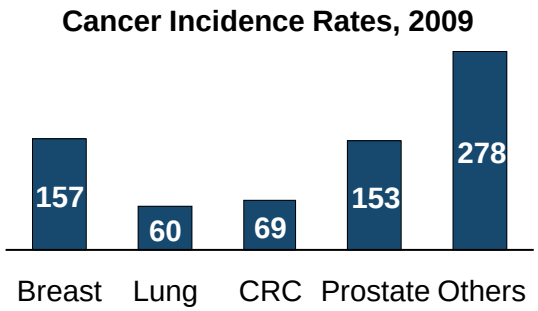
Demographics

	Vale of Glamorgan	Welsh Average	LA Ranking
GDHI per Capita	£14,065	£13,484	3/12
GVA per Capita	£22,234	£15,222	1/12
Average Earnings	£556	£506	1/22
Employment	45%	43%	5/22
WIMD Ranking			13/22

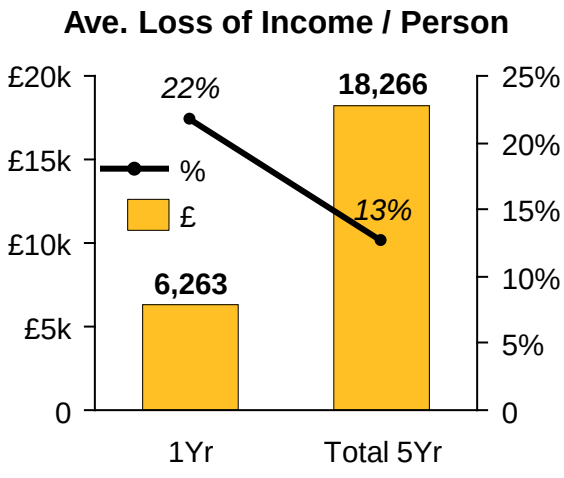


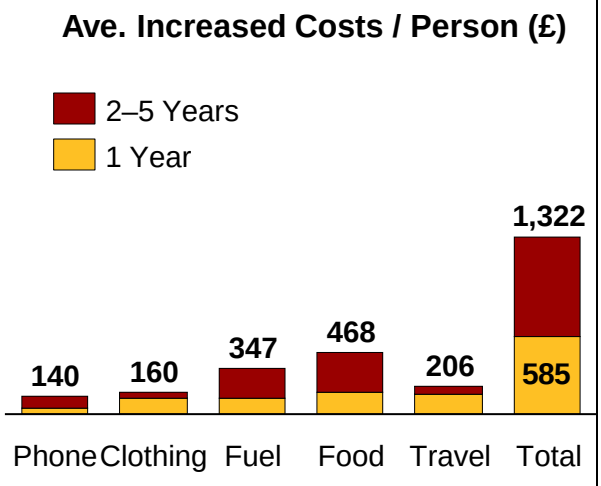
Cancer Incidence





Financial Impact

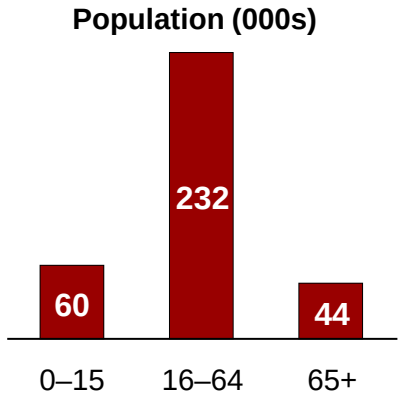




Cardiff — Summary

Demographics

	Cardiff	Welsh Average	LA Ranking
GDHI per Capita	£14,065	£13,484	3/12
GVA per Capita	£22,234	£15,222	1/12
Average Earnings	£550	£506	2/22
Employment	47%	43%	3/22
WIMD Ranking			21/22



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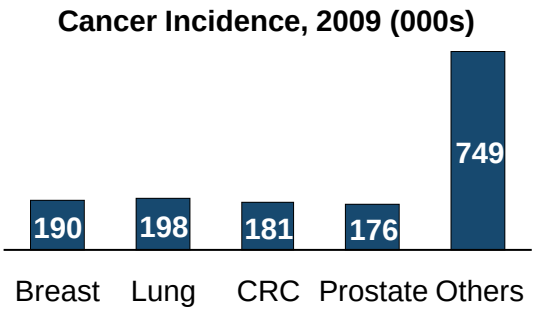
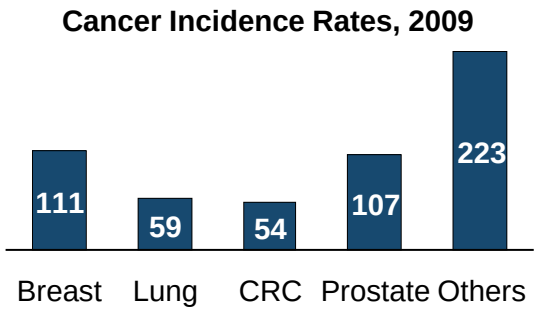
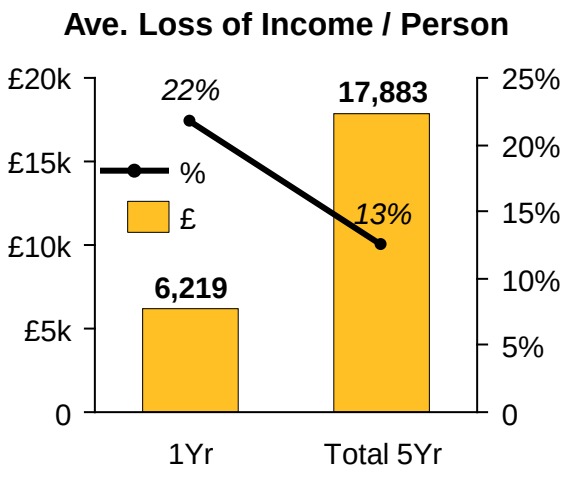
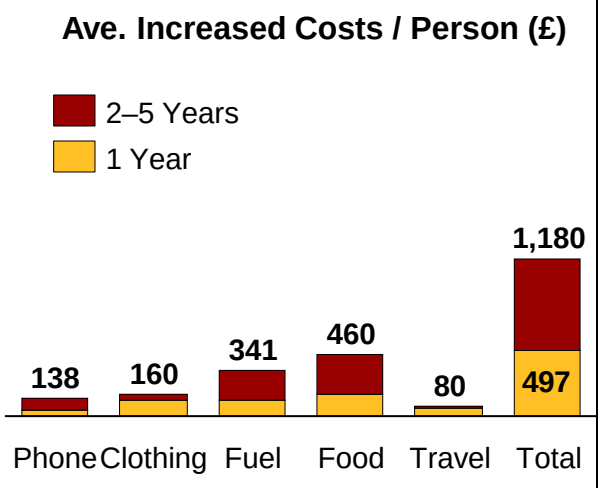




Financial Impact

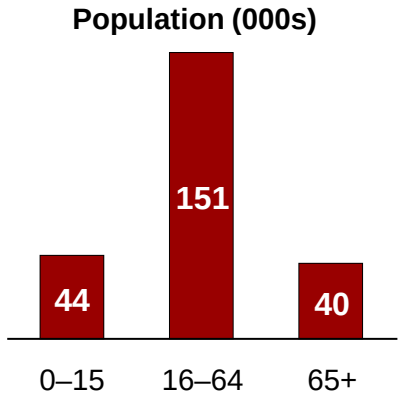




Rhondda Cynon Taf — Summary

Demographics

	Rhondda Cynon Taf	Welsh Average	LA Ranking
GDHI per Capita	£12,510	£13,484	11/12
GVA per Capita	£11,996	£15,222	10/12
Average Earnings	£496	£506	12/22
Employment	40%	43%	18/22
WIMD Ranking			15/22



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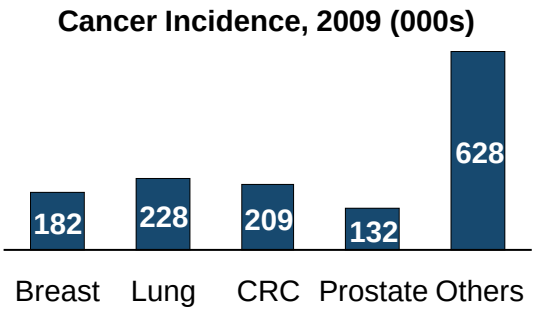
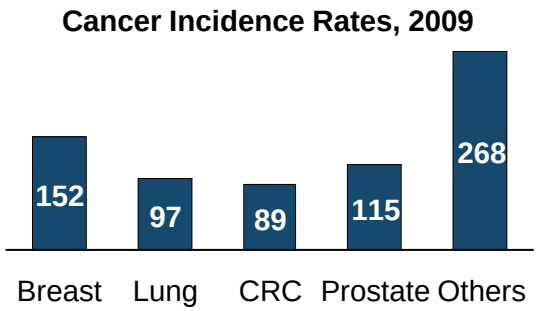
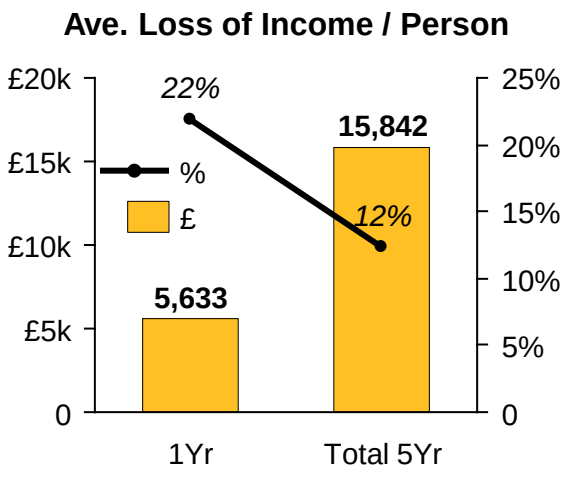
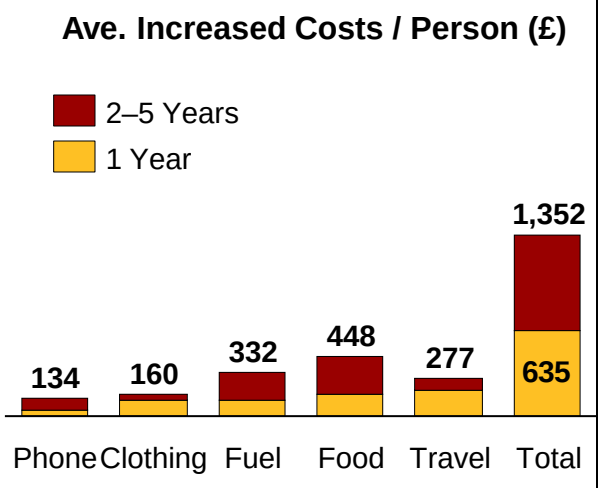




Financial Impact

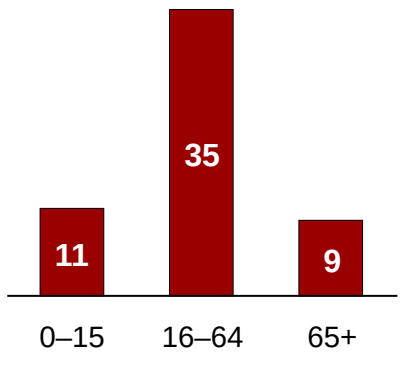




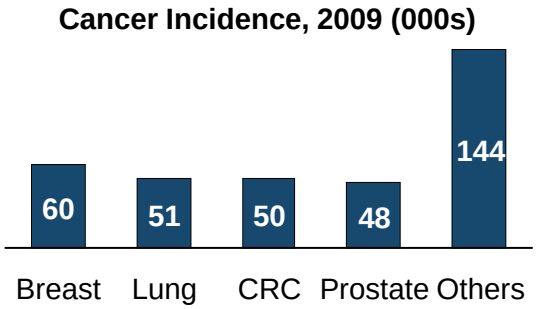
Merthyr Tydfil — Summary

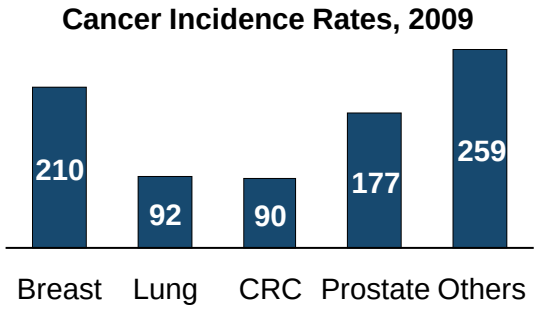
Demographics

	Merthyr Tydfil	Welsh Average	LA Ranking
GDHI per Capita	£12,510	£13,484	11/12
GVA per Capita	£11,996	£15,222	10/12
Average Earnings	£482	£506	15/22
Employment	40%	43%	19/22
WIMD Ranking			20/22



Cancer Incidence





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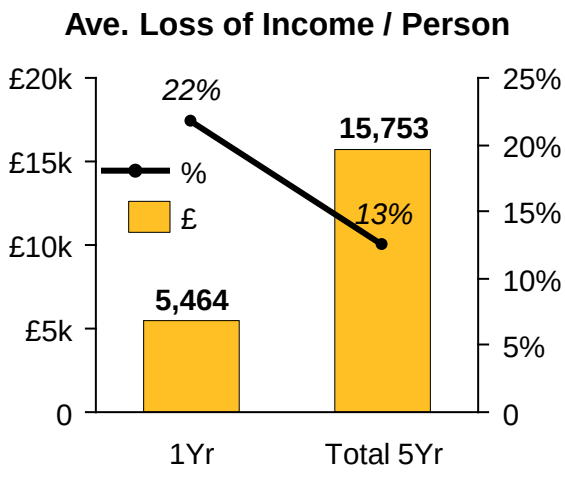
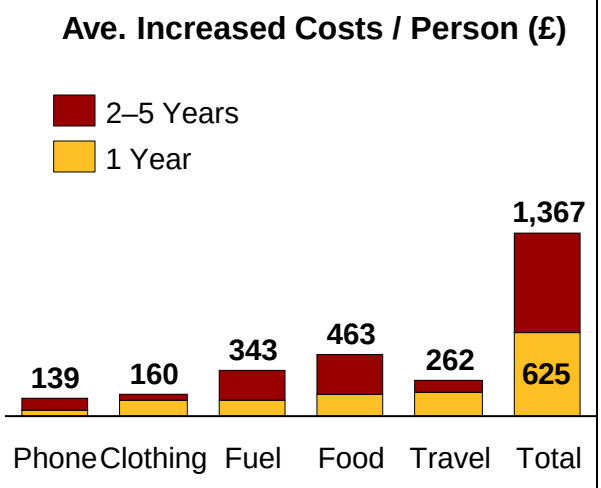
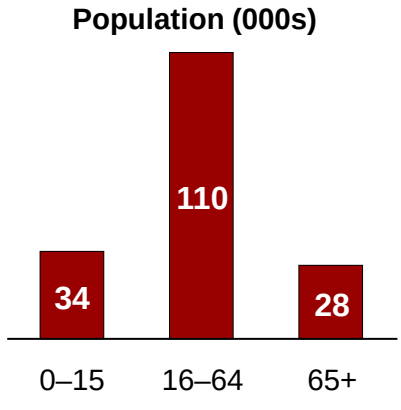




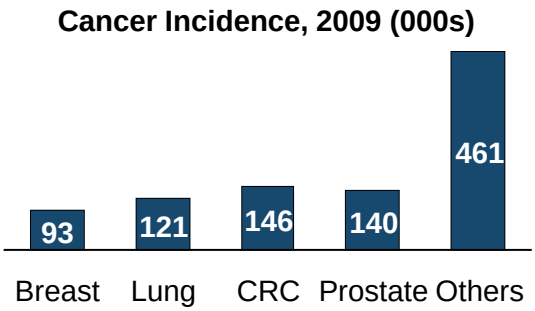
Caerphilly — Summary

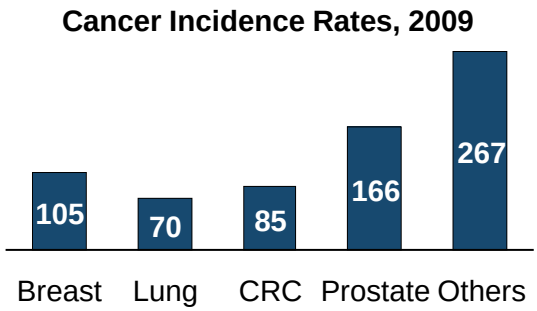
Demographics

	Caerphilly	Welsh Average	LA Ranking
GDHI per Capita	£12,495	£13,484	12/12
GVA per Capita	£11,400	£15,222	11/12
Average Earnings	£500	£506	11/22
Employment	41%	43%	17/22
WIMD Ranking			14/22

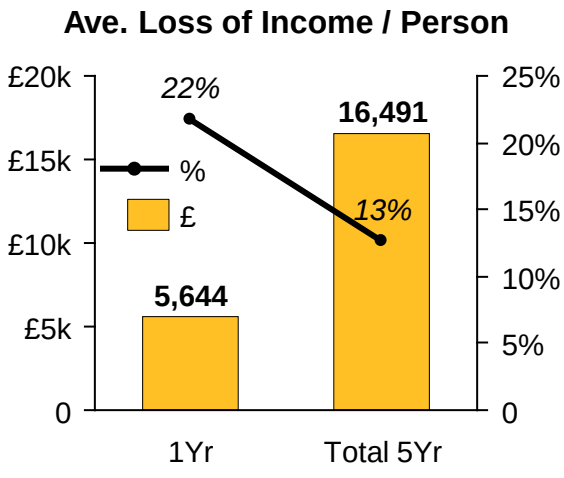


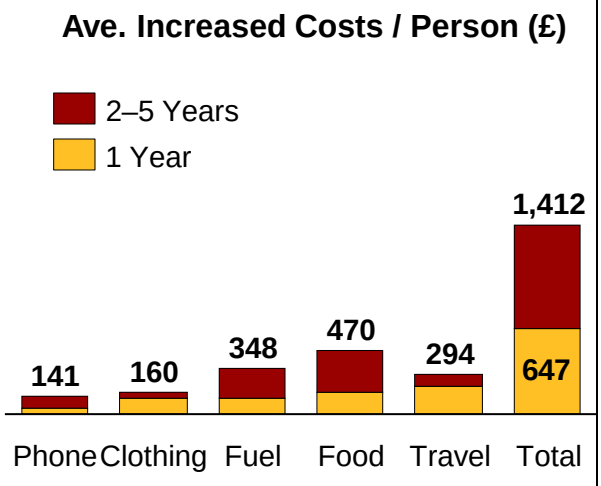
Cancer Incidence





Financial Impact

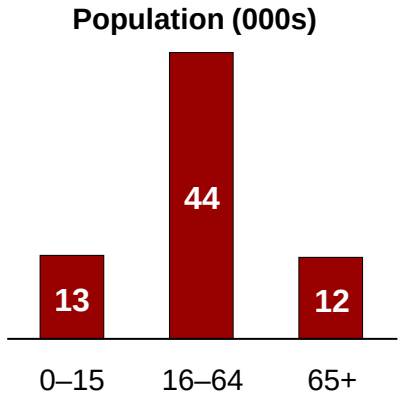




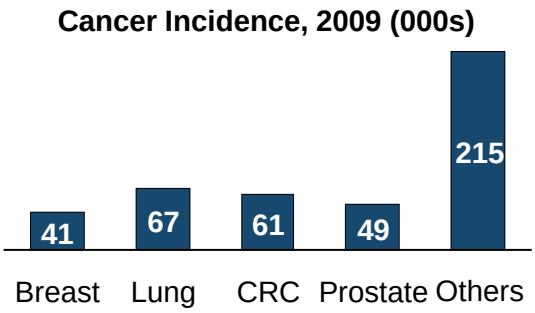
Blaenau Gwent — Summary

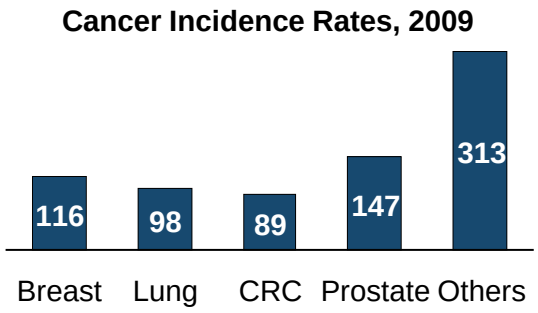
Demographics

	Blaenau Gwent	Welsh Average	LA Ranking
GDHI per Capita	£12,495	£13,484	12/12
GVA per Capita	£11,400	£15,222	11/12
Average Earnings	£444	£506	19/22
Employment	37%	43%	22/22
WIMD Ranking			21/22



Cancer Incidence





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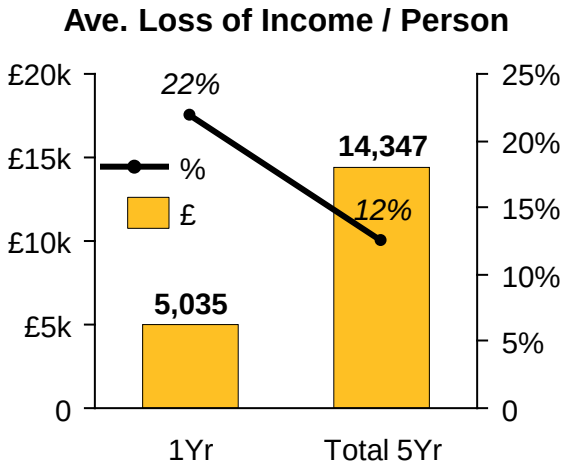
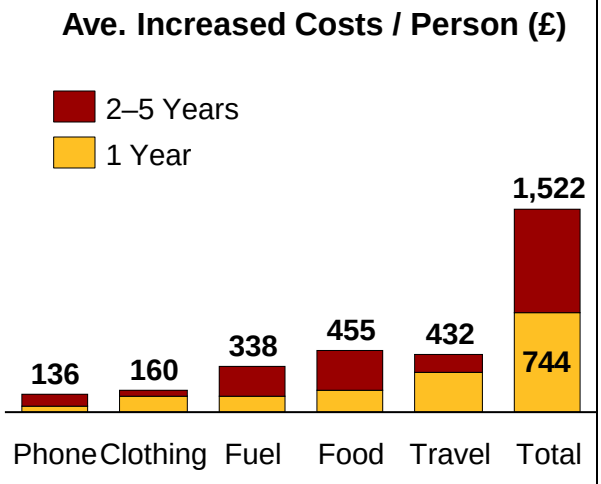


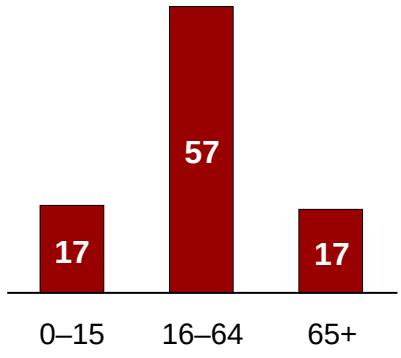


Torfaen — Summary

Demographics

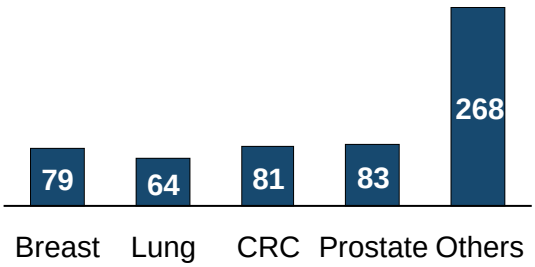
	Torfaen	Welsh Average	LA Ranking
GDHI per Capita	£12,495	£13,484	12/12
GVA per Capita	£11,400	£15,222	11/12
Average Earnings	£510	£506	8/22
Employment	39%	43%	21/22
WIMD Ranking			10/22

Population (000s)

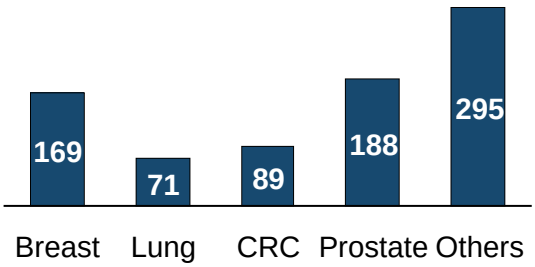


Cancer Incidence

Cancer Incidence, 2009 (000s)

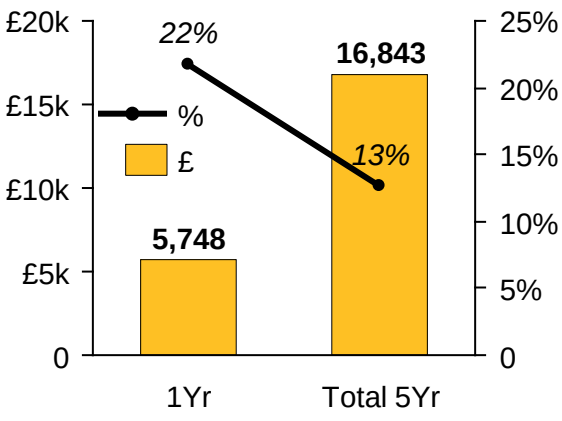


Cancer Incidence Rates, 2009

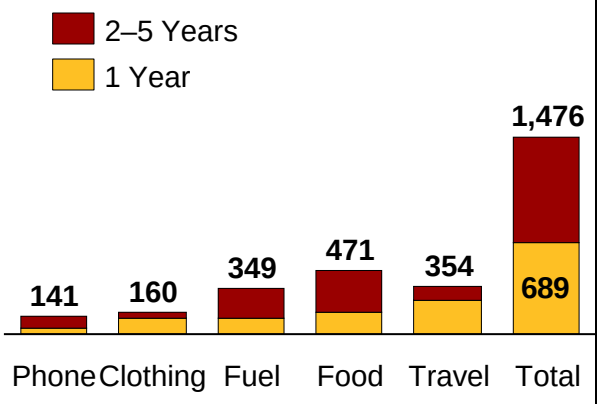


Financial Impact

Ave. Loss of Income / Person



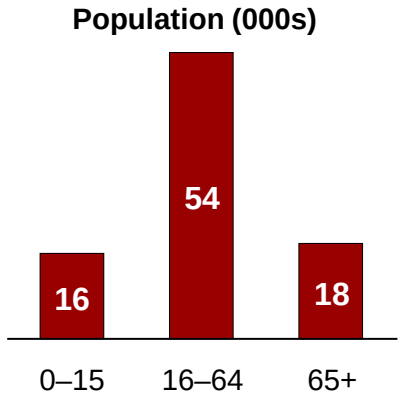
Ave. Increased Costs / Person (£)



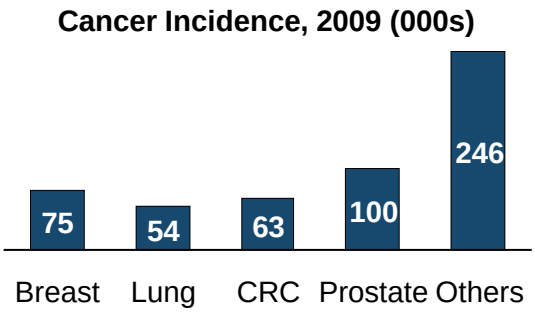
Monmouthshire — Summary

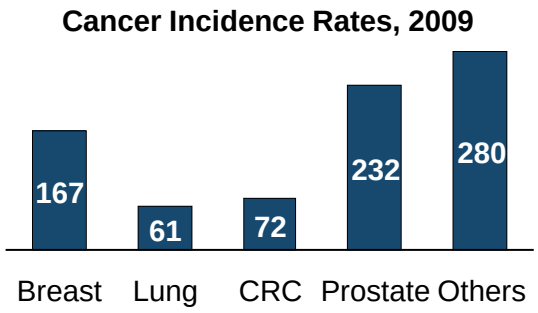
Demographics

	Monmouth-shire	Welsh Average	LA Ranking
GDHI per Capita	£14,887	£13,484	1/12
GVA per Capita	£19,504	£15,222	2/12
Average Earnings	£473	£506	17/22
Employment	45%	43%	4/22
WIMD Ranking			1/22

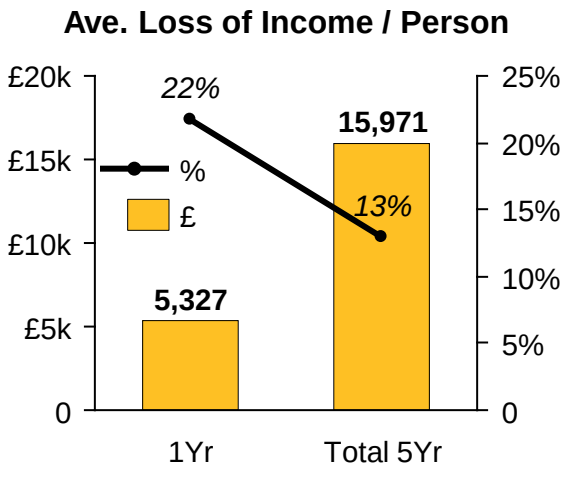


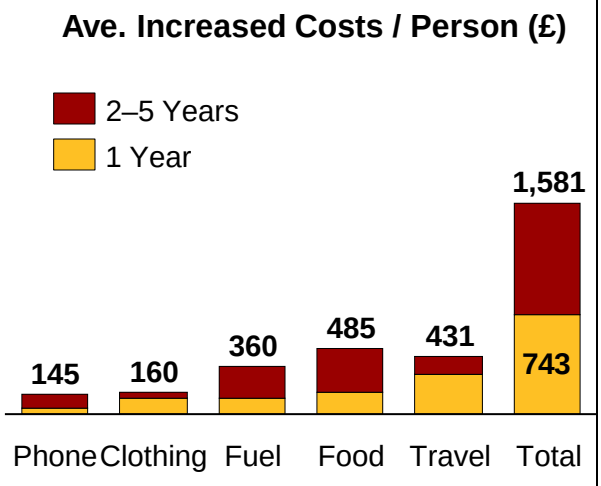
Cancer Incidence





Financial Impact

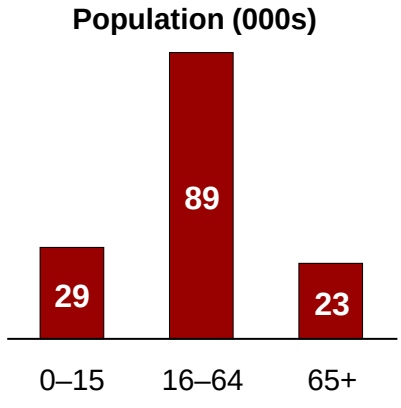




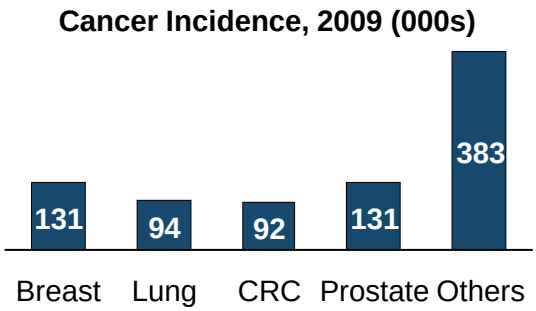
Newport — Summary

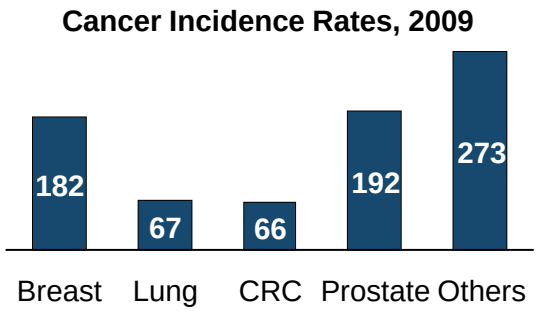
Demographics

	Newport	Welsh Average	LA Ranking
GDHI per Capita	£14,887	£13,484	1/12
GVA per Capita	£19,504	£15,222	2/12
Average Earnings	£510	£506	9/22
Employment	42%	43%	15/22
WIMD Ranking			19/22

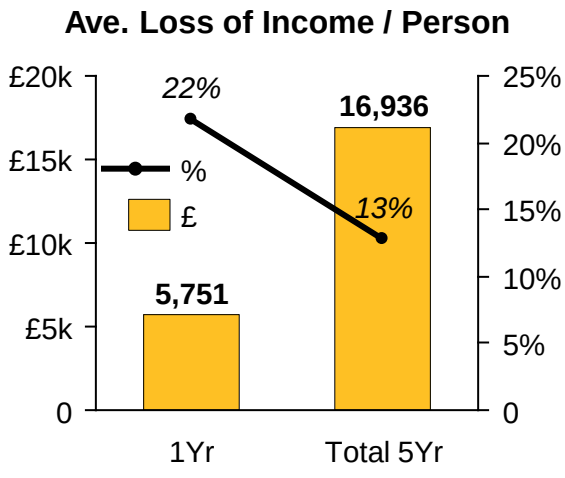


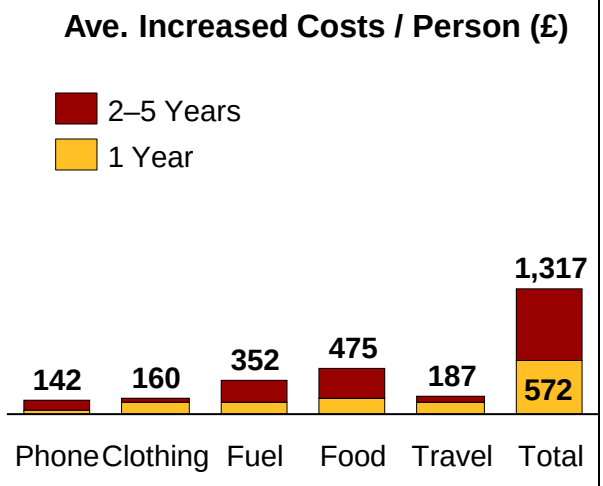
Cancer Incidence





Financial Impact





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- *Cost of Skin Cancer in England*, Steve Morris, Laura Vallejo-Torres, Jonas Kinge, University College London, 2010
- *The Financial Impact of a Cancer Diagnosis*, Linda Sharp and Aileen Timmons, 2010
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- *Trends in Incidence, 1985-2009*, *Welsh Cancer Intelligence and Surveillance Unit*
- StatsWales
- Office for National Statistics
- Macmillan Grants Statistics

Appendix 2 – Analysis Steps Detail

Analysis Steps – Cancer Incidence

The basis of the model was 2009 cancer incidence data for Wales, sourced from the Welsh Cancer Intelligence and Surveillance Unit. The data was cut across the sub-populations. Individual assumptions for financial impact were made for the following cancer types as they have the highest incidence in Wales:

- Female Breast Cancer (ICD10 Code C50)
- Prostate Cancer (ICD10 C61)
- Colorectal Cancer (ICD10 C18-C20)
- Lung Cancer (ICD10 C33-C34)

The following “other” cancers were not individually modelled, although treatment duration and hospital visit inputs were made at a cancer-specific level and weighted according to relative incidence:

- Gynaecological Cancers (ICD10 C53 and C56)
- Non-Hodgkin Lymphoma (ICD10 C82-C85)
- Malignant Melanoma (ICD10 C43)
- Bladder Cancer (ICD10 C67)
- Head and Neck Cancers (ICD10 C00-C14, C30-C32)
- Urinary Tract Cancer, excluding Bladder (ICD10 C44-C66, C68)
- Leukaemias (ICD10 C91-C95)
- Pancreatic Cancer (ICD10 C25)
- Oesophageal Cancer (ICD10 C15)
- Stomach Cancer (ICD10
- Corpus Uteri Cancer (ICD10 C54)
- Brain and Central Nervous System Cancers (ICD10 C70-C72)

All other cancer types were modelled as one.

Analysis Steps – Financial Baseline

A financial baseline was established to understand the financial impact of cancer relative to the likely financial position of those with cancer at diagnosis, for each sub-population. Those in employment, unemployed and retired were investigated to allow vulnerable sub-populations to be identified. It also allowed loss of income to be modeled based on the likely earnings of patients prior to diagnosis.

Data Points

- Population in employment:
  - *Employees, self-employed, people on government supported training and employment programmes, unpaid family workers*
  - *2009 figures*
- Total population by sub-population:
  - *2009 mid-year population estimate*
- Percentage of total population in employment:
  - *Calculated by dividing population in employment by sub-population*
- Average earnings per employed person by sub-population:
  - *Full-time average gross weekly earnings for non self-employed, employed population*
  - *2009 figures*

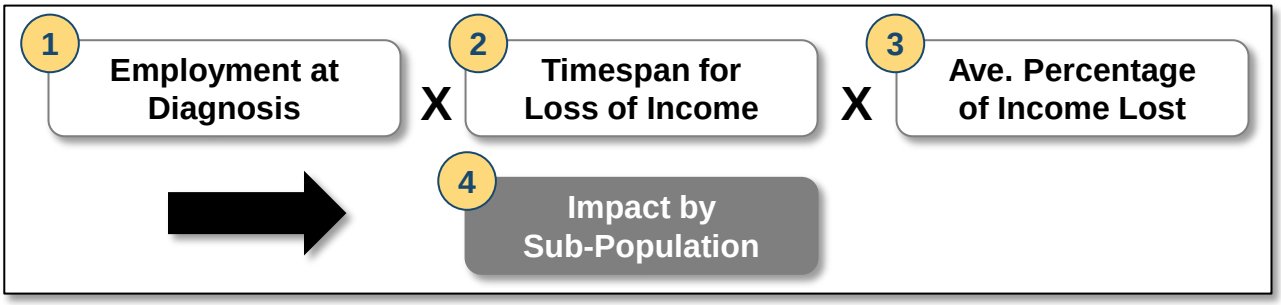
Source

- StatsWales data was used for all the above data points

Analysis Steps – Loss of Income (1/2)

Loss of income was calculated for each person living with cancer who was in employment at diagnosis using the following steps:

Figure 39: Loss of Income Calculation Steps



1. Estimate how many of those living with cancer were in employment at diagnosis:
   - *Applying average employment status rates by sub-population (e.g. Welsh males) would over-estimate employment due the large number of over 65, retired people with a cancer diagnosis*
   - *Incidence by sub-population and employment status at diagnosis is not available*
   - *Age is the most defining influencer on the employment status of those with cancer (due to the concentration amongst the over 65 group)*
   - *There are two key pieces of data known by age cohort: incidence and % in employment*
   - *By assuming that the age split of people with cancer in each sub-population is consistent, it is possible to model the proportion of those with cancer that were employed at diagnosis:*
     - *Sum of (Incidence x % employed) for each age bracket*
     - *Divide by total incidence = weighted average % of cancer patients in employment at diagnosis*
     - *Weighted average % in employment x incidence for each sub-population = % of cancer patients in employment at diagnosis for each sub-population*

Analysis Steps – Loss of Income (2/2)

2. Estimate the length of time over which people with a cancer diagnosis lose income:
   - *Survey data, validated by experts, was used to assign each cancer a High, Medium or Low rating (see page 106 for detailed categorisation)*
   - *"Other" cancers were aggregated together to produce an average weighed by cancer incidence*
3. Estimate the average percentage of income lost by cancer type:
   - *Survey data identifies those that were in employment at diagnosis and – by cancer type - who:*
     - *stopped work altogether*
     - *changed working status*
     - *did not change status*
   - *Assumptions on the percentage of income lost for each of these possibilities were then applied, allowing a weighted average loss of income by cancer type to be estimated.*
4. The average loss of income and timescale were then applied to each employed person by sub-population and cancer type, taking into account their financial starting position, to calculate loss of income

Sources

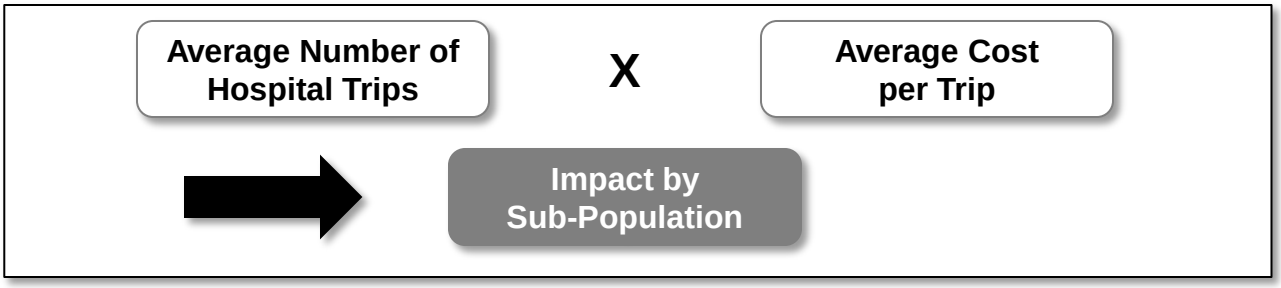
- *RSDI 2006 Better Deal Research*
- *YouGov 2010 CPPA Super Survey*
- *YouGov 2011 Media Survey*

Analysis Steps – Travel Costs (1/2)

Increased Costs

A cancer diagnosis will require patients to attend multiple hospital visits. Each one of these may result in a cost for the individual. The project analysed these potential costs using the following 4 steps (high-level logic outlined in Figure 40):

Figure 40: Travel Costs Calculation Steps



1. Estimate the average number of hospital trips made by a patient over the course of their cancer journey:
   - *Survey data and clinical opinion were used to assign each cancer a High, Medium or Low rating (see page 107 for detailed categorisation)*
   - *"Other" cancers were aggregated together to produce an average weighed by cancer incidence*
2. Estimate the percentage of patients incurring costs across five methods of transport:
   - *Those with no travel costs*
   - *Those using public transport*
   - *Those using cars*
   - *Those using cars and paying for parking*
   - *Those using taxis*

Survey data was used to estimate the percentage of patients in each group and assumptions were applied to estimate costs (see pages 110-114).

Analysis Steps – Travel Costs (2/2)

3. Estimate the average distance from a Cancer Centre by Welsh Local Authority to apply to assumptions that vary by journey distance:
   - *Establish the Cancer Centres visited by Local Authority*
   - *Calculate the distance from the centre of the largest town to each Centre, for each Local Authority*
   - *Take the average distance across the Cancer Centres, by Local Authority*
4. Travel costs were then calculated by Local Authority and aggregated to an all Wales level:
   - *Percentage of total cancer incidence by sub-population was then applied to produce costs by sub-population, assuming a constant split across Local Authorities*

Sources

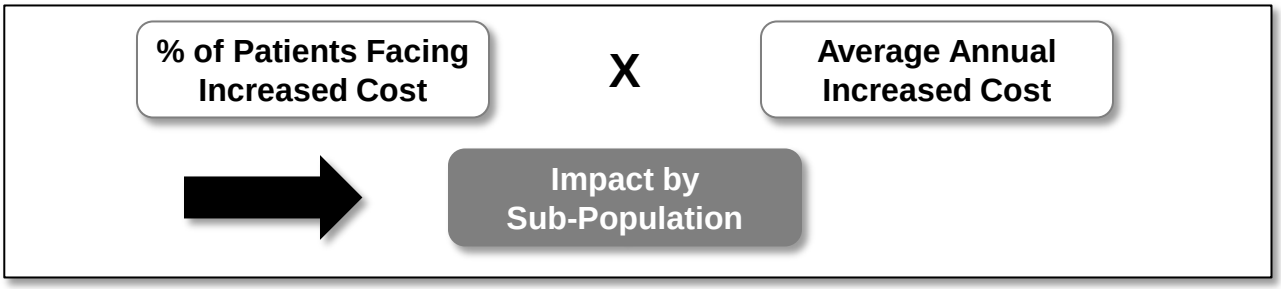
- *YouGov 2010 CPPA Super Survey*
- Macmillan input
- StatsWales

Analysis Steps – Bill Expenditure

Increased Costs

Household bills are also known to increase after cancer diagnosis, and were modeled using the approach outlined in Figure 41 (see pages 115-116 for detailed assumptions):

Figure 41: Approach to Modeling Increased Bills



- Household fuel bills (electricity, gas, other)
  - *Patents are likely to spend more time at home as they convalesce, and are often more susceptible to the cold*
- Phone bills
  - *Patients are likely to spend extra time on the phone making arrangements for treatment and informing others of their progress*
- Food bills
  - *Patients often change their diet and spend more money on supplements*

Household bills were assumed to increase for the same length of time by cancer type as loss of income.

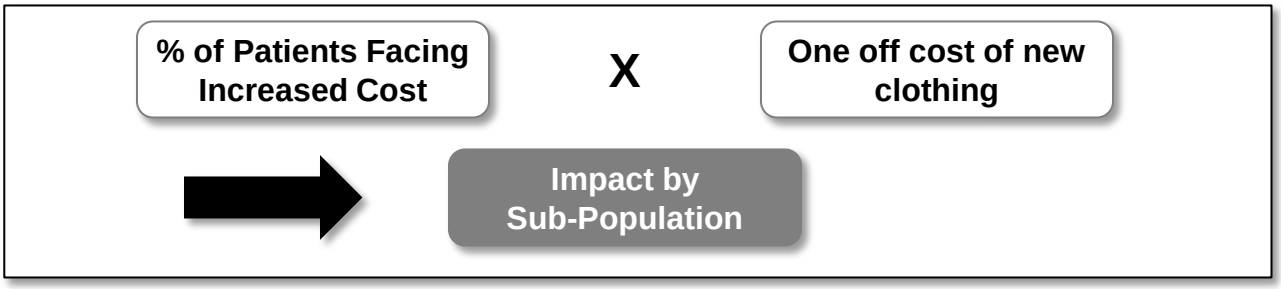
Sources

- *Macmillan 2008 Super Survey*
- *ONS 2010 Family Spending Survey*
- *The Financial Impact of a Cancer Diagnosis*, Linda Sharp and Aileen Timmons
- Macmillan Grants Data
- Expert Input

Analysis Steps – Clothing Costs

Many cancer patients experience significant weight-loss as a result of their treatment, and as a result need to purchase new clothes. This was modeled as illustrated in Figure 42:

Figure 42: Approach to Modeling Increased Bills



The majority of this cost was assumed to be incurred in the first year post-diagnosis, with some cost spread over subsequent years.

Sources

- *The Financial Impact of a Cancer Diagnosis*, Linda Sharp and Aileen Timmons
- Macmillan Grants Data
- Expert Input

Analysis Steps – Personal Implications

Personal Implications

The financial impact of cancer was thought likely to have significant personal implications for people living with cancer and their carers. The following impacts were analysed:

- Impact on patients' finances
  - *E.g., how many people with a cancer diagnosis had to use their savings*
- Impact on expenditure
  - *E.g., how many people with a cancer diagnosis had to cut back down on luxuries*
- Impact on patients' mental health and on their relatives and carers
  - *E.g., how people with a cancer diagnosis found that their relationships were put under strain as a result of increased financial pressures*

Implications were investigated at both an all-Wales level and a split between working age and retired people living with cancer.

Sources

- *YouGov 2011 Media Survey*
- *Cancer Carers in the UK*

Analysis Steps – Financial Support

Financial Support

Financial support is available to people with a cancer diagnosis and can help to mitigate the financial impact of cancer. However, uptake of such support could be increased. Hence, data was gathered on awareness and access to financial support and benefits amongst people with a cancer diagnosis:

- Access to advice on financial support and benefits
- Uptake of financial support and benefits
- Possible reasons for lack of uptake

Financial support was investigated at both an all-Wales level and a split between working age and retired people living with cancer.

Sources

- *YouGov 2011 Media Survey*
- *RSDI 2006 Better Deal Research*

Appendix 3 – Detailed Assumptions

Input Assumptions

Timespan Assumptions

Each cancer was assigned a High, Medium or Low rating for average length of time a patient's income would be affected for, affecting timespan of loss of income and certain costs:

Table 1: Timespan of Impact by Cancer Type

High 4.7 Years **Medium** 2.8 Years **Low** 1.8 Years

Cancer Type	Rating
Breast	Medium
Prostate	High
Colorectal	Medium
Lung	Low
Malignant Melanoma	Medium
Bladder	Medium
Gynaecological	Medium
Non-Hodgkin Lymphoma	Medium
Head & Neck	Medium
Urinary Tract ex. Bladder	High
Leukaemias	Low
Pancreas	Medium
Oesophagus	Medium

Sources

- *RSDI 2006 Better Deal Research*
- Validated by experts

Input Assumptions

Hospital Visit Assumptions

Each cancer was also assigned a rating for the average number of hospital visits required over the course of a cancer journey to inform travel cost assumptions:

Table 2: Number of Hospital Visits by Cancer Type

High 68 Visits **Medium** 53 Visits **Low** 27 Visits

Cancer Type	Rating
Breast	High
Prostate	Low
Colorectal	Medium
Lung	Medium
Malignant Melanoma	Medium
Bladder	Medium
Gynaecological	Low
Non-Hodgkin Lymphoma	Medium
Head & Neck	Medium
Urinary Tract ex. Bladder	Low
Leukaemias	High
Pancreas	Medium
Oesophagus	Medium

Sources

- *RSDI 2006 Better Deal Research*
- Validated by experts

Input Assumptions

Loss of Income Assumptions (1/2)

To calculate loss of income, people living with cancer who were employed at diagnosis were first grouped according to their change in working status after diagnosis:
(Source: *YouGov 2010 CPPA Super Survey*)

Table 3: Change in Working Status After Diagnosis

	Breast	Lung	C'rectal	Prostate	Others
% gave up work	12.0%	20.0%	12.5%	14.8%	13.2%
% changed working status	32.0%	28.0%	26.5%	26.2%	28.8%
% no change	56.0%	52.0%	61.0%	59.0%	58.0%

The percentage of those in work at diagnosis, stopping work and subsequently claiming benefits is taken as **55.4%** for all cancers.
(Source: *YouGov 2011 Media Survey*)

Benefits are assumed to be **20%** of the average income in Wales.

For those not claiming benefits, the **27.5%** of workers employed by the public sector in Wales (Source: *StatsWales*) are assumed to receive sick pay in line with NHS benefits (75% of income in the first year). Those in the private sector are assumed to lose all their income.

Input Assumptions

Loss of Income Assumptions (2/2)

These different scenarios were then combined to produce an average loss of income per cancer type in the first year post diagnosis:

Table 4: Average Year 1Loss of Income by Cancer Type

	Breast	Lung	C'rectal	Prostate	Others
% loss of income	21.6%	26.4%	19.9%	21.6%	21.3%

And in subsequent years, as follows:

Table 5: Average Year 2+ Loss of Income by Cancer Type

	Breast	Lung	C'rectal	Prostate	Others
% loss of income	22.7%	28.3%	21.1%	23.0%	22.5%

These figures are applied to the number of people living with cancer who were in employment at diagnosis, by sub-population. They are then increased according to the timespan of impact by cancer type.

Input Assumptions

Travel Cost Assumptions (1/5)

Patients were split according to the method of transport they used to travel to hospitals. Assumptions were then applied for the costs per method :

Table 6: Patients with no Transport Costs

	Percentage	Source
% that walk	1.0%	*YouGov 2010 CPPA Super Survey*
% taking hospital transport	4.0%	

Table 7: Patients Using Public Transport

	Percentage	Source
% taking public transport	6.0%	*YouGov 2010 CPPA Super Survey*
Round trip cost (£)	1.00	Assumption

Table 8: Patients Using Taxis

	Percentage	Source
% using taxis	2.0%	*YouGov 2010 CPPA Super Survey*
Cost (£/mile)	1.00	Assumption

Input Assumptions

Travel Cost Assumptions (2/5)

Table 9: Patients Using Cars

	Percentage	Source
% using cars	83.0%	*YouGov 2010 CPPA Super Survey*
Cost (£/minute)	0.11	*www.theaa.com*
% paying for parking	48.0%	*YouGov 2010 CPPA Super Survey*
% not paying for parking	52.0%	
Cost of parking (£/visit)	1.00	*Welsh Hospital Trusts Data*

Input Assumptions

Travel Cost Assumptions (3/5)

The average round trip journey time to each relevant Cancer Centre by Welsh local authority was then estimated:

- Each LA was assigned a set of Cancer Centres which local cancer patients were likely to visit
- Distance from the centre of the largest town by LA to each relevant Cancer centre was calculated:
  - *Location of Local Council Headquarters was taken as a proxy*
  - *Where the distance was less than 5 miles, the weighted average distance from a hospital by postcode in the Local Authority was taken*
- The average journey time across the relevant Cancer Centres was then calculated and used to inform travel cost assumptions

Details of the assumptions can be found in Tables 10.1 and 10.2 overleaf

Input Assumptions

Travel Cost Assumptions (4/5)

Table 10.1: Relevant Cancer Centres and Average Journey Time by Local Authority (1/2)

LA	Relevant Cancer Centres	Average Round Trip (minutes)
Isle of Anglesey	Ysbyty Gwynedd, Glan Clwyd	103.2
Gwynedd	Ysbyty Gwynedd, Glan Clwyd	93.0
Conwy	Ysbyty Gwynedd, Glan Clwyd, Wrexham Maelor	120.7
Denbighshire	Wrexham Maelor, Glan Clwyd	67.2
Flintshire	Wrexham Maelor, Glan Clwyd	65.4
Wrexham	Wrexham Maelor, Glan Clwyd	81.8
Powys	Hereford County, Cheltenham General, Glan Clwyd, Bronglais, Velindre	273.0
Ceredigion	Bronglais, Singleton	153.8
Pembrokeshire	Withybush, Singleton	133.1
Carmarthenshire	Glangwili, Singleton	65.7
Swansea	Singleton, Morriston	17.9

(Continued)

Input Assumptions

Travel Cost Assumptions (5/5)

Table 10.2: Relevant Cancer Centres and Average Journey Time by Local Authority (2/2)

LA	Relevant Cancer Centres	Average Round Trip (minutes)
Neath Port Talbot	Singleton	14.6
Bridgend	Princess of Wales, Singleton, Velindre	62.4
The Vale of Glamorgan	Velindre, Llandough, University Hospital Wales	36.0
Cardiff	Velindre Hospital, University Hospital Wales	11.2
Rhondda Cynon Taf	Royal Glamorgan, Velindre	49.2
Merthyr Tydfil	Prince Charles, Velindre	46.6
Caerphilly	Velindre, Royal Gwent, Prince Charles	54.7
Blaenau Gwent	Prince Charles, Velindre, Royal Gwent	81.2
Torfaen	Royal Gwent, Velindre	65.8
Monmouthshire	Royal Gwent, Velindre, Hereford County	82.8
Newport	Royal Gwent, Velindre	32.7

Sources

- Macmillan Input
- maps.google.co.uk
- StatsWales

Input Assumptions

Increased Bills Assumptions (1/2)

The percentage of patients facing each increased bill, as well as estimates for the annual cost to those facing increases, were recorded to allow increases in bill expenditure to be modeled:

Table 11: Fuel Bill Assumptions

	Percentage	Source
% facing higher bills	44.0%	*YouGov 2010 CPPA Super Survey*
Average annual household fuel bill	1060.80	*2010 Family Spending Survey, ONS*
% increase for those with higher bills	25%	*Expert Input*
Increase (£/year)	265.20	*Calculation*

Table 12: Phone Bill Assumptions

	Percentage	Source
% facing higher bills	42.0%	*The Financial Impact of a Cancer Diagnosis*
Average annual household phone bills (mobile & landline)	561.60	*2010 Family Spending Survey, ONS*
% increase for those with higher bills	20%	*Expert Input*
Increase (£/year)	112.32	*Calculation*

Input Assumptions

Increased Bills Assumptions (2/2)

Table 13: Food Bill Assumptions

	Percentage	Source
% facing higher bills	29.0%	*The Financial Impact of a Cancer Diagnosis*
Average annual household expenditure on food	2714.40	*2010 Family Spending Survey, ONS*
% increase for those with higher bills	20%	*Expert Input*
Increase (£/year)	542.88	*Calculation*

These costs were assumed to be incurred for the same timespan by cancer type as loss of income (see page 106 for categorisation).

Input Assumptions

Clothing Costs Assumptions

The majority of clothing costs were assumed to be incurred in the first year post diagnosis:

Table 14: Clothing Cost Assumptions

	Percentage	Source
% that experienced weight change	50%	*Expert Input*
% of these buying new clothes	80.0%	*The Financial Impact of a Cancer Diagnosis*
Cost of new clothes in first year (£)	300.00	*Expert Input*
Total cost of new clothes in subsequent years (£)	100.00	*Expert Input*