PANCREATIC CANCER UK
POLICY BRIEFING

A cancer of unmet need: the pancreatic cancer research challenge

PANCREATIC
CANCER UK
Striving for Survival

INTRODUCTION

Pancreatic Cancer UK's Study for Survival, launched in 2011, marked the first ever comprehensive mapping of pancreatic cancer in the UK.

The study drew on the experiences and views of over 1000 people living and working with pancreatic cancer. It also considered the most current information available regarding rates of mortality and survival, referral to specialist pancreatic cancer centres and surgery. Finally, the Study presented the findings of a Pancreatic Cancer UK review of the international pancreatic cancer research landscape.

The Study for Survival highlighted the key challenges in the UK, which are:

- **Pancreatic cancer is the 5th most common cause of cancer death in the UK – yet receives only 1% of the total cancer research spend**
- **The disease has one of the lowest survival rates of almost every cancer with only about 4% of people diagnosed surviving five years or more**
- **UK survival rates lag behind many other European countries and at the time of the report were half of what they are in the US, Canada and Australia**
- **Survival rates, rates of referral to specialist centres and surgical rates vary widely across the UK**
- **The experience of pancreatic cancer patients in the NHS, is less satisfactory across a key number of areas, including access to information and pain management, than any other cancer patient group**

Following the Study for Survival, Pancreatic Cancer UK launched the Campaign for Hope - which sets out two ambitious goals:

- **To double five year pancreatic cancer survival rates within the next five years**
- **To change the NHS experience of pancreatic cancer patients from being one of the worst to one of the best**

Much needs to be done on every front to achieve these goals, from increasing our investment in research through to ensuring that pancreatic cancer patients are diagnosed early and have access to the highest quality care and treatment possible, including access to information, support and to Clinical Nurse Specialists. Since the launch of our Campaign for Hope, Pancreatic Cancer UK has been undertaking a programme of work to tackle all of these issues.

PANCREATIC CANCER RESEARCH POLICY BRIEFING

This brief is concerned specifically with the historical legacy of neglect surrounding pancreatic cancer research investment in the UK – a legacy which we believe is one of the key reasons that pancreatic cancer survival rates have hardly changed in 40 years.

Our briefing highlights an urgent need to redress this legacy and sets out the case for the development of a strategic approach: an approach that will ensure pancreatic cancer research - and the pancreatic cancer research community – develops at a steady and sustainable rate and that investment reaches the critical mass necessary to achieve change. This strategy also takes into account the need to move forward in a way that ensures that pancreatic cancer receives the research investment it needs whilst continuing to support high levels of research currently undertaken in other important areas of cancer need.

Most importantly, this brief is a call to action to all within the UK research community to give serious thought to how we can work together to change the pancreatic cancer landscape.

SCOPE

This briefing draws on the research spend of the membership of the National Cancer Research Institute (NCRI). It does not take into account the research spend of organisations that invest less than £1m annually in the UK including Pancreatic Cancer UK and Pancreatic Cancer Research Fund. While it is important to note that this is not an insignificant investment, the NCRI member spend accounts for the majority of cancer research investment undertaken in the UK and provides a sound representation of the overall research landscape.

WHY PANCREATIC CANCER RESEARCH IS IMPORTANT

Pancreatic cancer is a complex and hard to treat disease. Currently, there are no suitable markers or simple tests to support screening and early diagnosis of the disease.

Most patients, about 80%, are diagnosed when the disease is too advanced for surgery – the only curative treatment for pancreatic cancer. In addition, we still do not know enough about pancreatic cancer progression and resistance to therapy to understand why pancreatic cancer does not respond well to the cancer drugs that are available - or to support the development of new cancer drugs or treatment approaches. Unless we tackle these vital research challenges we stand no long-term hope of improving survival, or of ensuring that everyone diagnosed with pancreatic cancer has the chance to live as long and as good a life as possible.

At the same time, we also know that pancreatic cancer research currently undertaken in the UK is of the highest caliber and with the right kind of strategic support and investment has the potential to provide solutions to the many challenges presented by this disease.

RESEARCH INVESTMENT

As highlighted above, pancreatic cancer is the 5th most common cause of cancer death in the UK.

Approximately 8,500 people are newly diagnosed with pancreatic cancer each year with around 7,900 people dying from the disease annually. Whilst one-year survival rates for pancreatic cancer have more than doubled since the 1970s, the rate is still shockingly low with less than one in five (20%) surviving the disease for more than one year. Five year survival rates remain the lowest of the 21 most common cancers at just 3.6 % (2010) – up from a little less than 3% in the 1970's.

Despite these appalling figures pancreatic cancer still receives only 1% of the National Cancer Research Institute partners' (NCRI) total research spend. Although pancreatic cancer research funding has increased to just over £5m in 2011, by way of comparison, breast cancer research funding stands at nearly £42m with five year survival rates increasing from around 52% to 85% (2009). See appendix 1 for NCRI spend by disease site (percentage of total portfolio) and appendix 2 for NCRI spend by disease site.

The table below shows NCRI partner spending for pancreatic cancer as well as for the four most common cancers and Leukemia. The table also shows investment calculated by research spend per death per year. Although crude, cancer deaths do provide insight into the burden of a disease - and research spend per cancer death provides a benchmark to compare spend between cancers linked to the burden of the disease.

Table 1

Research spend by cancer site and by cancer deaths

Cancer site	NCRI partner research spend, 2010 (NCRI, Data package 2011)	Deaths, 2010	Research spend per death, 2010	1-year survival rates	5-year survival rates
Breast	42,027,686	11,633	£3,613	95.5%	85%
Leukemia*	32,545,100	4,504	£7,226	64%	44%
Colorectal*	22,147,448	16,013	£1,383	72.5%	50%
Prostate	16,629,771	10,721	£1,551	93.5%	81%
Lung *	11,847,728	34,859	£340	31.2%	9.0%
Pancreas*	4,368,188	7,901	£553	18%	3.6%

*averaged male and female survival

As the table shows there is a significant disparity between spend and burden as represented by the number of cancer deaths per year - with pancreatic (and lung) cancer research funding falling well short of that for other cancers.

The key message of this analysis is that, using mortality as a measure, the UK's cancer research investment does not reflect the burden of cancer disease. For pancreatic cancer, the cancer with the lowest five year survival rate of the 21 most common cancers, only £553 per death is spent annually on research. In breast cancer, which has the highest five year survival rate of all cancers, £3,613 per death is spent annually on research.

To provide some sense of scale, pancreatic cancer research would require nearly a 7-fold increase in investment to simply put it on par with breast cancer and a 13-fold increase to bring it in line with Leukemia research funding. In other words, if the UK spent the same amount on pancreatic cancer (per death) as we do on breast cancer the current level of research funding for pancreatic cancer would be £29,121,253 compared to £5m – its current rate.

Table 2

Pancreatic cancer research spend if on par with spend on other cancer sites

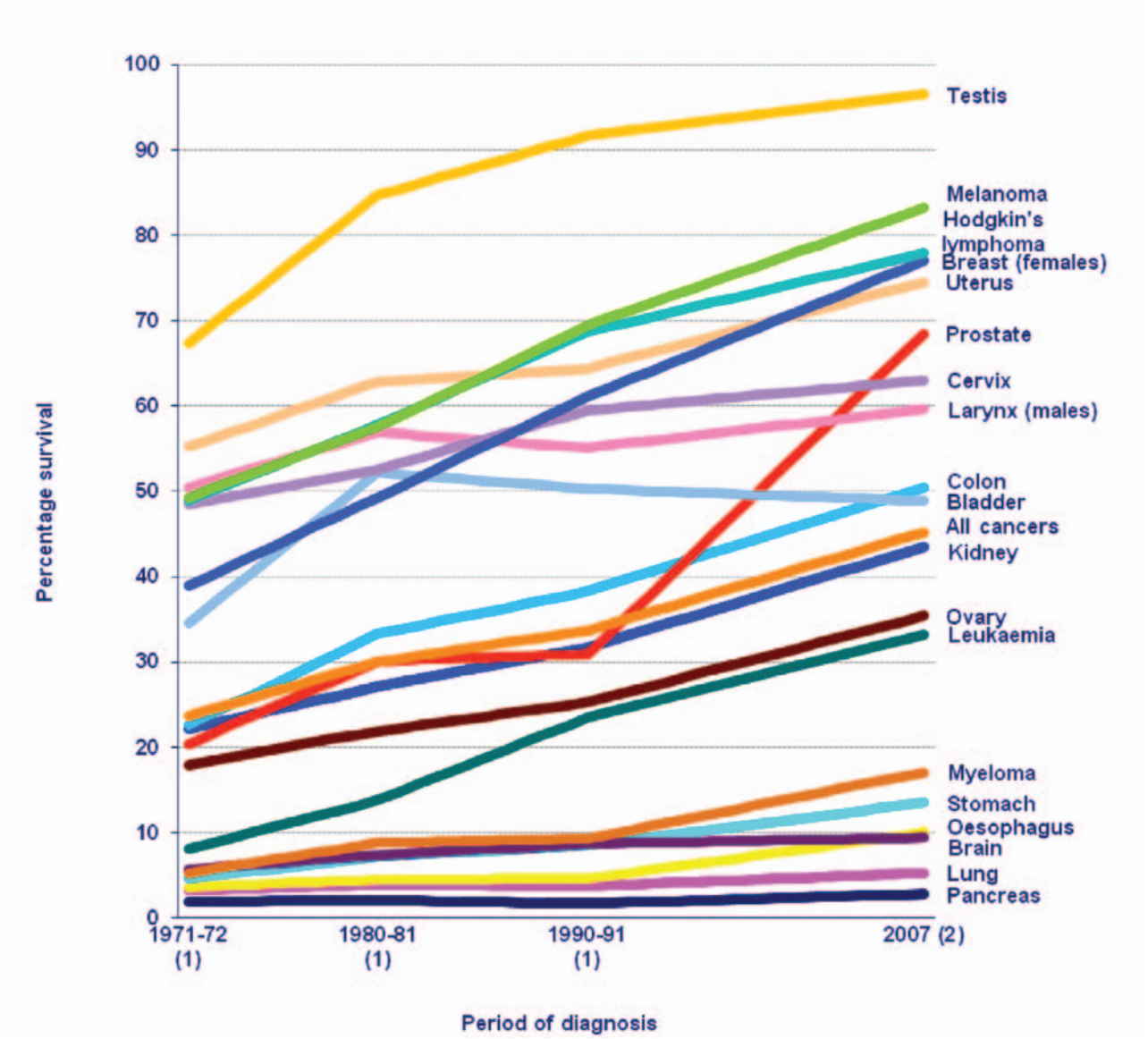
Site	Mortality	Pancreatic cancer research spend if on par with identified cancer sites
Breast	11,633	29,121,253
Prostate	10,721	12,255,556
Colorectal	16,013	10,927,808
Leukemia	4,504	57,091,216

We are not suggesting that funding be taken away from cancers that have achieved higher success. Indeed, it is our strong belief – as evidenced by survival trends set out below – that it is precisely because of high levels of investment in research that cancers, like breast cancer, are where they are today. Nor do we believe that by simply increasing investment in pancreatic cancer 7 or 13 fold overnight, it would change the landscape of the disease.

Ineed, survival rates need to be considered in the context of historical as well as current levels of research funding. Specifically, those cancers where significant progress has been achieved have also benefitted from a steady growth in research spend over a period of time. We believe that this kind of paced growth is necessary to create the conditions required to attract and nurture high quality researchers and, in turn, world class research outcomes.

Chart 1

Ten year relative survival (%) rates by cancer site (Source: Cancer Research UK)



In brief, achieving the kind of change we need will take time. We need to move forward in a way that is steady and sustainable and that supports the development of a pancreatic cancer research community of sufficient size and strength to make a real difference. We are confident that with the right strategy - a 3-10 year strategy that involves directing more resource to pancreatic cancer research - we can get to a position where research funding will naturally gravitate towards the cause.

CRITICAL MASS

In addition to steady and sustained growth, our analysis suggests that there is a minimum level of research investment required to reach the point where real progress can start to be made.

This would include putting in place a solid research infrastructure, for example, through the establishment of centres of research excellence, as well as accruing a critical mass of researchers generating competitive research proposals. A high level analysis of other cancers, like prostate and bowel, suggests that the point where funding started to grow more rapidly (an indication of a significant number of good researchers putting forward high quality, competitive research proposals) was around the 10m-12m mark. This is double the investment in research that pancreatic cancer currently receives from NCRI partners.

PANCREATIC CANCER RESEARCH SPEND TARGETS

It would be unrealistic to propose that we immediately bring pancreatic cancer research spend to a level that is proportionate to, for example, breast cancer.

However, to make a difference we do need to be ambitious and set our sights much higher than that we currently spend. We also need to ensure that the level of investment takes into account the need to create the critical mass outlined above.

A more realistic target – that is in keeping with our observations above about the minimum level of funding needed – would be to aim to bring pancreatic cancer roughly on par with the level of spend on prostate cancer and bowel cancer. On that basis, Pancreatic Cancer UK proposes that the UK should aim to increase it's spend on pancreatic cancer equating to a total spend of £10m by 2015. However, this must only be seen as the beginning and longer term targets in the order of £12m by 2017 and £25m by 2022 are required.

Year	Research investment target
2015	10m
2017	12m
2022	25m

RESEARCH STRATEGY

We cannot achieve these targets without significant collaborative effort and commitment from the research community, including researchers as well as funders and agencies like the NCRI. We need action to increase research efforts in this area coupled with funds being made available to support the establishment of a solid research infrastructure.

The pancreatic research community in the UK is a strong one – and notwithstanding the relatively limited investment, are already producing first class research outputs. We need to champion the community of researchers that are currently working in this area and provide incentives to attract more of the best and the brightest of scientific minds to this cause.

A major aim of the incentive is in creating a shared sense of urgency within the whole community about the importance of doing something positive for this cancer - supported by an explicit strategy to significantly increase research funding at a steady rate.

The core of this strategy is not about reducing existing levels of expenditure in other important cancer research areas – but rather prioritising future increases in funding on cancers of unmet need, like pancreatic cancer.

As an illustration, if the increase in spend on breast cancer research from 2002 to 2011 had been half, the total spend still would have increased from £18m to nearly £30m (compared to the actual spend achieved of £41m). If this funding had been directed towards pancreatic cancer, research spend would have increased from £1m to £12m.

Clearly there are other areas of unmet need, like lung cancer, that would benefit from the same strategic directing of resources. However, the illustration provides some sense of the impact of the legacy of neglect that we highlighted earlier in this policy briefing.

We also propose that an increase in funding in pancreatic cancer research will have a disproportionately positive impact on the field. In effect, we will get more bang for our buck. An additional £5m in pancreatic cancer research doubles the field, but would only mean increasing breast cancer activity by 12%. In other words, the return on smaller levels of investment for cancers like pancreatic would be much greater than it would be for cancers with much larger research spend baselines.

CALL TO ACTION

In order to tackle pancreatic cancer in the UK in a meaningful way – a way that will result in improved survival and a long and good life for all those affected by this disease we are calling for:

Increased UK investment in pancreatic cancer research from the current level of £5m to £10m by 2015 increasing to £12m by 2017 and £25m by 2022. Achieving these targets will require a significant change in the UK research culture. It will mean that resource is strategically directed to cancers of unmet need, like pancreatic cancer, with the specific objective of attracting and nurturing researchers and developing the research community. This is the only way that we will be able to create the critical mass within the UK that is required to ensure that we are generating world class, competitive research ideas – ideas that will attract further research spend.

A number of specific measures would go a long way to support this strategy. Including:

- **Encouraging cancer research centres, and researchers, to collaborate within the UK. This will help pancreatic cancer researchers benefit from the expertise of others working in other areas of cancer disease. A new approach is needed to support this kind of collaboration.**
- **Encouraging existing cancer research centres to provide greater focus on pancreatic cancer research – for example, by encouraging pancreatic cancer research activity. We know that for example, Cancer Research UK have given a great deal of thought about how they might ensure that their research centres do address cancers of unmet need.**
- **Making more funding available for the development of researchers (from PhD level upwards) to help increase the numbers of career pancreatic cancer researchers. To attract more people into the pancreatic cancer community we need to demonstrate – through a funding strategy - that there is a strong commitment to this disease and the opportunity for long and productive research careers.**
- **Creating new and different funding streams to support research into new areas of investigation or new data to support the development of fuller research proposals. For example, through the development of pilot grant schemes.**
- **Developing an approach to raising the profile of pancreatic cancer within the research community – one that is also designed to ensure that all researchers are aware of the funding opportunities that exist and that helps to attract new talent. We also believe that we need to formalise a UK pancreatic cancer research champion role. This role, which would involve the appointment of a leading cancer research figure to actively market and champion pancreatic cancer within the wider UK research community, could support more effective recruitment of researchers within this disease area.**

WHAT WE ARE DOING

For our part, Pancreatic Cancer UK is committed to supporting increased research activity. In the last few years we have been responsible for investment of over £1.2m into pancreatic cancer research.

As well as funding a range of high quality research projects in leading institutions across the UK, our Future Leaders Fund, run jointly with the Medical Research Council, provides pancreatic cancer research fellowships to enable the development of new talent.

This year we are also launching a new Innovation Research Fund which will see £½ million allocated in 2012-13. The Fund is intended to spur creative and cutting edge ideas and approaches in pancreatic cancer research, including those successful in other areas of cancer that have justifiable promise for the future.

APPENDIX 1
(source: NCRI data package 2011)

NCRI spend by disease site (percentage of total portfolio)										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adrenocortical Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
All Sites	16.7%	15.2%	15.6%	16.8%	16.4%	20.7%	19.1%	19.4%	21.4%	22.3%
Anal Cancer	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
Bladder Cancer	0.6%	0.7%	0.6%	0.7%	0.7%	0.6%	0.6%	0.5%	0.7%	0.6%
Bone Cancer	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Brain Tumour	0.3%	0.4%	0.4%	0.5%	0.6%	0.7%	0.8%	1.0%	0.8%	1.4%
Breast Cancer	7.2%	7.7%	6.8%	7.2%	7.3%	7.7%	8.0%	8.4%	8.3%	8.0%
Cervical Cancer	1.5%	1.4%	1.1%	1.1%	1.5%	1.2%	0.9%	1.0%	0.9%	0.7%
Colon and Rectal Cancer	4.7%	5.3%	4.7%	4.3%	6.0%	4.4%	4.8%	4.3%	4.4%	4.5%
Endometrial Cancer	0.2%	0.3%	0.1%	0.2%	0.4%	0.2%	0.4%	0.5%	0.5%	0.7%
Eye Cancer	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fundamental Research	43.1%	42.2%	46.8%	46.4%	43.1%	38.2%	40.6%	39.5%	36.2%	35.3%
Gallbladder Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Heart Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hodgkin's Disease	0.9%	0.7%	0.7%	0.6%	0.5%	0.5%	0.4%	0.5%	0.4%	0.6%
Kaposi's Sarcoma	0.4%	0.5%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%	0.2%	0.2%
Kidney Cancer	0.5%	0.5%	0.4%	0.3%	0.4%	0.6%	0.6%	0.6%	0.7%	0.8%
Laryngeal Cancer	0.1%	0.1%	0.2%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Leukaemia	7.1%	7.0%	6.4%	5.7%	6.5%	6.9%	6.3%	6.5%	6.5%	6.2%
Liver Cancer	0.7%	0.7%	0.7%	0.6%	0.4%	0.4%	0.5%	0.6%	0.6%	0.3%
Lung Cancer	1.4%	1.5%	1.6%	1.6%	1.6%	1.9%	1.9%	2.1%	2.3%	2.2%
Melanoma	1.1%	1.0%	0.8%	0.9%	0.8%	1.3%	1.2%	0.9%	1.0%	1.1%
Myeloma	0.6%	0.6%	0.4%	0.4%	0.7%	0.8%	0.8%	0.9%	0.9%	1.0%
Nasal Cavity and Paranasal Sinus Cancer	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nervous system	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%
Neuroblastoma	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.2%
Non-Hodgkin's Lymphoma	2.1%	2.2%	1.8%	1.6%	1.8%	1.9%	1.8%	1.7%	1.6%	1.4%
Oesophageal Cancer	0.5%	0.5%	0.6%	0.5%	0.6%	0.9%	0.8%	0.9%	1.1%	1.2%
Oral Cavity and Lip Cancer	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.3%
Ovarian Cancer	2.4%	2.9%	1.9%	2.3%	2.0%	1.9%	2.4%	2.1%	2.4%	2.6%
Pancreatic Cancer	0.5%	0.5%	0.3%	0.6%	0.5%	0.7%	0.8%	0.7%	0.9%	1.0%
Parathyroid Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Penile Cancer	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Pharyngeal Cancer	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Pituitary Tumour	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Primary CNS Lymphoma	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Prostate Cancer	3.4%	3.2%	3.3%	3.0%	3.0%	3.3%	3.0%	3.3%	3.3%	3.3%
Retinoblastoma	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Salivary Gland Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Sarcoma	0.2%	0.3%	0.4%	0.4%	0.6%	0.7%	0.4%	0.5%	0.6%	0.5%
Skin Cancer	1.3%	1.5%	1.2%	1.2%	1.1%	0.9%	0.8%	0.8%	0.9%	0.9%
Small Intestine Cancer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Stomach Cancer	0.6%	0.6%	0.5%	0.4%	0.3%	0.4%	0.4%	0.4%	0.5%	0.4%
Testicular Cancer	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Thyroid Cancer	0.1%	0.2%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Vaginal Cancer	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Vascular System	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Vulva Cancer	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Wilm's Tumour	0.1%	0.3%	0.3%	0.3%	0.3%	0.4%	0.2%	0.3%	0.3%	0.4%
Primary of Unknown Origin	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

APPENDIX 2

(source: NCRI data package 2011)

NCRI spend by disease site										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adrenocortical Cancer	64,607	64,607	51,472	127,311	143,463	101,849	35,395	17,066	246,563	246,563
All Sites	42,905,383	43,120,576	47,486,907	58,518,834	64,549,061	87,689,999	91,699,099	95,303,792	107,984,123	116,051,186
Anal Cancer	104,536	161,151	250,037	314,022	923,945	576,650	560,430	547,248	521,395	511,456
Bladder Cancer	1,436,199	1,887,313	1,674,945	2,356,298	2,696,379	2,679,984	2,691,782	2,617,104	3,524,027	2,917,277
Bone Cancer	140,107	250,059	270,721	316,564	707,249	641,128	759,974	789,079	764,591	752,761
Brain Tumour	739,835	1,229,747	1,225,625	1,715,178	2,222,918	3,042,095	3,967,975	4,798,252	4,206,541	7,149,955
Breast Cancer	18,433,721	21,858,608	20,702,177	24,967,641	28,718,954	32,632,763	38,462,325	41,275,289	42,027,686	41,632,373
Cervical Cancer	3,752,303	3,953,157	3,367,758	3,696,613	5,887,793	4,954,709	4,283,253	4,773,870	4,287,905	3,883,885
Colon and Rectal Cancer	12,215,108	14,996,630	14,298,728	15,042,615	23,382,527	18,720,891	22,896,057	20,939,979	22,147,448	23,435,013
Endometrial Cancer	587,157	987,708	207,196	557,564	1,468,037	938,324	1,982,929	2,254,412	2,600,732	3,699,689
Eye Cancer	123,849	281,503	247,959	165,275	186,946	49,964	53,004	60,352	57,312	-
Fundamental Research	110,894,553	119,922,399	142,439,464	161,649,081	169,411,748	161,851,807	195,041,541	193,996,383	182,364,385	184,307,430
Gallbladder Cancer	-	-	-	65,046	55,942	55,879	55,879	83,486	94,656	11,170
Heart Cancer	25,821	25,821	31,021	18,875	27,778	-	-	-	-	-
Hodgkin's Disease	2,202,543	2,040,647	2,068,319	2,221,493	1,965,524	2,230,660	1,860,607	2,343,103	2,182,898	2,933,882
Kaposi's Sarcoma	993,734	1,332,877	1,003,337	1,062,111	1,501,975	1,448,566	1,585,190	1,236,585	1,167,052	862,243
Kidney Cancer	1,239,325	1,436,283	1,147,070	1,153,333	1,531,089	2,432,199	2,752,580	2,865,698	3,433,812	3,981,528
Laryngeal Cancer	378,626	408,527	461,504	473,029	723,244	1,033,285	1,293,248	1,438,535	1,469,229	1,625,759
Leukaemia	18,176,992	19,852,096	19,377,352	19,734,283	25,602,745	29,070,329	30,429,197	32,027,367	32,545,100	32,403,522
Liver Cancer	1,772,858	2,013,201	2,074,035	1,917,868	1,561,636	1,789,730	2,441,996	2,807,988	2,839,325	1,755,136
Lung Cancer	3,529,713	4,306,848	4,924,627	5,711,054	6,106,927	7,851,500	9,010,221	10,236,705	11,847,782	11,585,758
Melanoma	2,879,838	2,862,577	2,522,544	2,991,933	2,986,212	5,451,779	5,565,238	4,259,669	4,933,515	5,561,505
Myeloma	1,514,580	1,639,960	1,339,070	1,404,312	2,897,404	3,322,875	3,787,536	4,439,689	4,568,972	4,986,864
Nasal Cavity and Paranasal Sinus Cancer	236,245	-	16,108	77,366	76,569	93,876	80,891	70,254	61,982	97,826
Nervous system	336,894	300,153	317,149	530,507	683,980	956,508	985,355	1,251,742	1,446,095	1,156,207
Neuroblastoma	217,496	376,803	510,236	704,432	903,996	944,394	1,026,307	1,264,820	1,407,091	1,037,713
Non-Hodgkin's Lymphoma	5,450,195	6,253,687	5,386,296	5,595,351	7,054,238	8,061,309	8,573,220	8,203,266	8,238,159	7,363,828
Oesophageal Cancer	1,194,572	1,501,345	1,698,645	1,638,225	2,525,397	3,827,870	3,679,160	4,520,223	5,431,750	6,468,554
Oral Cavity and Lip Cancer	652,850	987,412	1,061,894	1,011,095	1,022,707	1,074,461	1,220,278	1,809,787	1,775,764	1,563,237
Ovarian Cancer	6,113,814	8,321,359	5,695,138	7,984,757	7,705,552	8,231,991	11,302,607	10,420,815	12,169,672	13,298,944
Pancreatic Cancer	1,209,533	1,396,968	949,870	2,002,599	1,917,205	2,814,744	3,620,815	3,233,494	4,368,188	5,146,233
Parathyroid Cancer	5,440	55,495	50,055	50,055	1,284	17,330	95,330	100,444	94,854	81,976

cont'd

APPENDIX 2

(source: NCRI data package 2011)

NCRI spend by disease site										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Penile Cancer	-	-	-	13,912	308,629	318,416	173,950	197,036	176,030	340,633
Pharyngeal Cancer	1,001,830	1,316,779	1,506,609	1,438,604	1,523,889	1,811,713	2,026,377	2,049,997	2,062,923	2,178,295
Pituitary Tumour	356,128	243,798	113,177	25,314	47,492	64,558	204,772	204,772	187,706	209,549
Primary CNS Lymphoma	-	40,331	43,197	23,115	47,290	40,885	-	8,023	17,201	25,224
Prostate Cancer	8,757,951	9,106,026	10,127,882	10,487,187	11,676,047	13,808,271	14,424,847	16,117,694	16,629,771	17,046,461
Retinoblastoma	206,216	118,266	76,243	156,243	76,243	5,971	29,435	23,465	23,465	-
Salivary Gland Cancer	31,352	25,917	22,959	25,663	58,660	203,886	223,911	251,972	293,739	323,208
Sarcoma	597,151	718,143	1,272,597	1,563,045	2,376,875	2,822,428	2,062,251	2,675,413	2,803,737	2,512,064
Skin Cancer	3,470,429	4,239,958	3,513,311	4,076,998	4,277,431	3,631,375	4,015,552	3,987,112	4,485,297	4,581,616
Small Intestine Cancer	-	27,732	25,308	27,358	144,996	92,444	77,552	208,226	210,583	189,055
Stomach Cancer	1,522,207	1,793,865	1,526,028	1,358,205	1,193,520	1,734,569	1,713,465	1,890,283	2,487,957	2,277,094
Testicular Cancer	883,090	1,026,692	1,068,158	997,495	1,221,109	1,348,499	1,510,669	1,564,419	1,811,845	2,333,330
Thyroid Cancer	384,406	604,980	778,448	427,662	409,245	345,081	508,876	260,397	228,627	167,858
Vaginal Cancer	49,572	25,704	-	14,485	335,372	325,874	181,409	192,183	166,920	181,043
Vascular System	204,960	36,329	224,300	224,300	-	-	-	-	-	-
Vulva Cancer	259,291	297,712	297,712	365,487	455,935	503,832	347,673	385,466	356,009	535,956
Wilm's Tumour	241,532	825,682	923,810	1,040,537	1,358,380	1,634,808	1,154,630	1,307,316	1,435,821	1,979,545
Primary of Unknown Origin	-	-	-	-	-	48,844	48,844	48,844	72,189	23,345
Total	257,494,544	284,273,435	304,377,000	348,040,332	392,661,536	423,330,904	480,503,635	491,359,117	504,258,426	521,413,748
Total Site specific	103,694,608	121,230,460	114,450,629	127,872,417	158,700,728	173,789,099	193,762,995	202,058,942	213,909,918	221,055,132

[i] The National Cancer Research Institute is a UK wide partnership between the government, charities and industry which promotes co-operation between the 22 member organisations, for the benefit of patients, the public and the scientific community. NCRI members must demonstrate that they spend in excess of £1m on research annually in the UK.

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