

Analysis of the national cancer research portfolio 2002 – 2006



NCRI

National
Cancer
Research
Institute

£393m

– annualised spend on cancer research in 2006

£1.6bn

– total amount spent on cancer research by NCRI Partners 2002 – 2006

5616

– number of awards in the cancer research database 2002 – 2006

What is NCRI?

NCRI is a partnership between the government, charity and industry which promotes co-operation among the 21 member organisations for the benefit of patients, the public and the scientific community.

NCRI enables joint planning and coordination among its members. We focus on areas of common interest and on large undertakings where individual Partners would struggle to make progress alone.

Why do we collect data on research funding?

NCRI collects information on all the research funded by our Partners so we can analyse and understand the investment in cancer research at a national level. With this information the Partners can act individually or together to reduce gaps in the portfolio and/or respond to opportunities.

NCRI published its first strategic analysis in 2002 (http://www.ncri.org.uk/includes/Publications/reports/ncri_strategic_analysis_2002.pdf) and we have now collected data from five annual time points, covering four years of elapsed time, allowing us to see how spend on cancer research has changed over this period.

This leaflet contains some of the headline data from the five year analysis.

For the complete analysis and further details on how we collect, code and analyse the data please see our website www.ncri.org.uk.

How much have NCRI Partners spent on cancer research?

Total amount spent on cancer research 2002-2006	£1.6bn
Total number of awards in the database 2002-2006	5616
Total annualised spend as of 1 April 2006	£393m
Increase in annualised spend since 2002	£135m
% increase in annualised spend since 1 April 2002	52%

Between 2002 and 2006 NCRI Partners spent £1.6 billion on the direct costs of cancer research (excluding most infrastructure costs). As illustrated in Figure 1 commitment to cancer research has increased every year, even when the addition of new NCRI Partners and inflation are taken into account.

Our Partners submit approximately 1500 new awards to the database every year. Since 2002 the average length of an award has increased from 37 to 41 months and the average annualised spend per research award has increased from £130k to £147k.

Pattern of research funding

Awards are categorised using the Common Scientific Outline, which has seven major categories (see Figure 2 for details), each with several sub-categories. For more information on the Common Scientific Outline and on how the portfolio is coded, please visit our website at www.ncri.org.uk.

Figure 2 shows the percentage distribution in spend across the seven major CSO categories displayed as a kite diagram. In 2006, CSO1 "Biology" accounted for the largest share of the UK portfolio (42%), with CSO5 "Treatment" next at 22%.

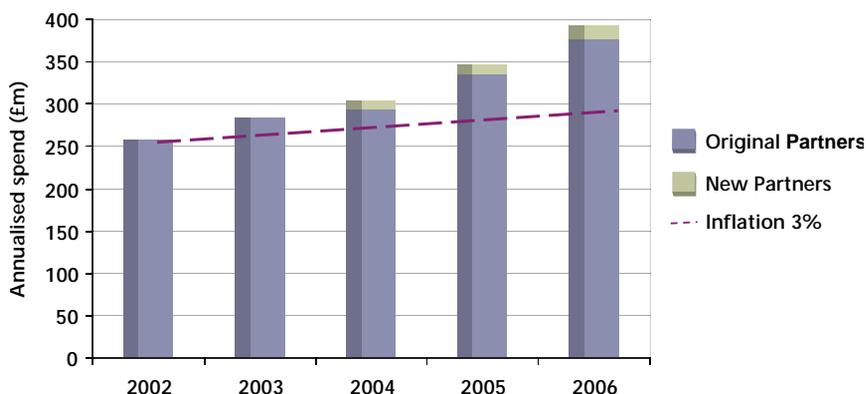


Figure 1 : Annualised spend on cancer research by NCRI Partners

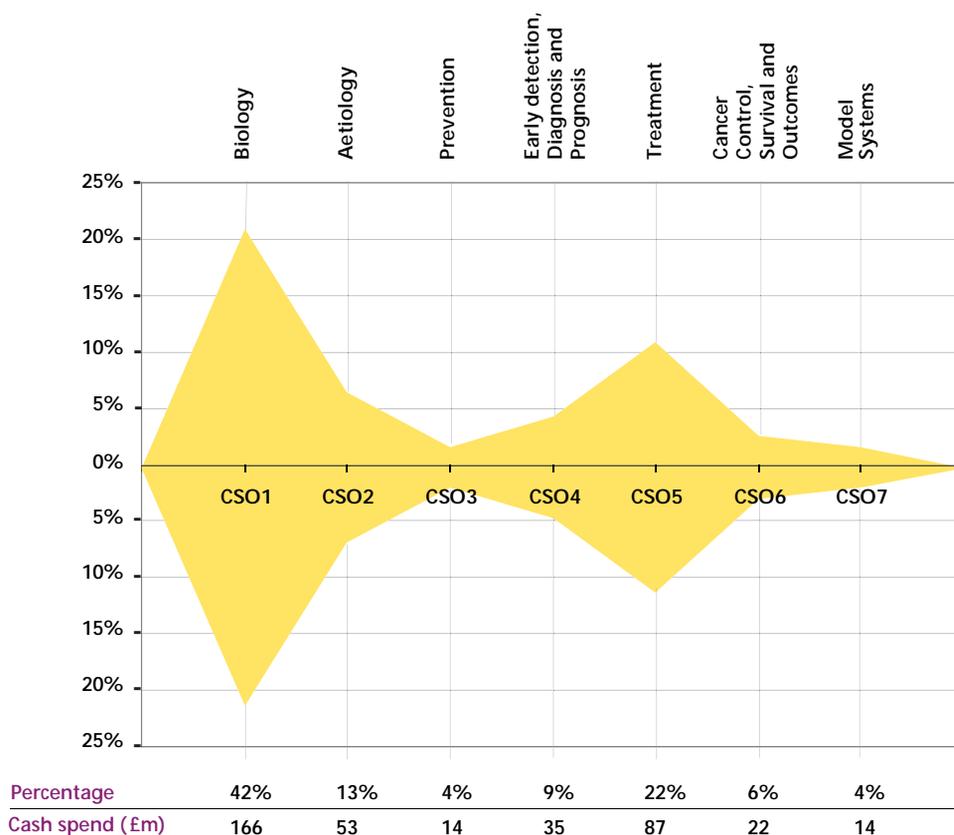


Figure 2 : Profile of 2006 NCRI Cancer Research Portfolio



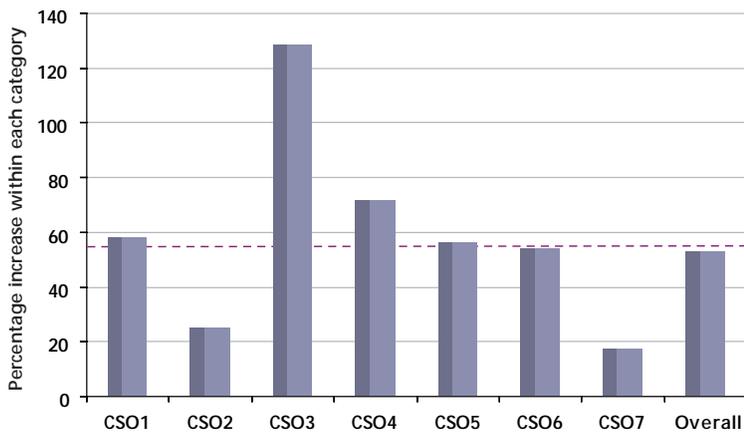


Figure 3 illustrates the percentage increase in spend within each CSO major category 2002 – 2006, with the dotted line indicating the average percentage increase in spend across all CSO categories.

Spend in all the major categories increased in cash terms over the period 2002 - 2006. The greatest percentage increase was in "Prevention" with a 128% increase (see Spotlight on Prevention Research below). This was offset by below average increases in "Aetiology" and "Scientific Model Systems".

"Biology" and "Treatment" remain the greatest strengths in the UK portfolio as shown in Figure 2. Figure 3 shows that these areas have continued to grow in proportion to the growth in the total portfolio.

Increase in cash spend (£m)

CSO Category	Increase in cash spend (£m)
CSO1	60.8
CSO2	10.5
CSO3	8.1
CSO4	14.8
CSO5	31.2
CSO6	7.7
CSO7	2.1
Overall	135.2

Figure 3 : Trends in the NCRI Portfolio over time

Data Spotlight: Prevention Research

Having discovered that "Prevention" made up only 2% of the portfolio in 2002, NCRI Partners joined forces with other funders to form the National Prevention Research Initiative (NPRI) www.npri.org.uk. Up to 2008, the NPRI has awarded £12m of funding to 40 projects. These studies explore a range of approaches to promote positive health behaviours. A further £12m has been raised for a third call for proposals in 2008.

Between 2002 and 2006 the total spend on prevention research increased from £6m to £14m making up almost 4% of the total portfolio in 2006.

Only a portion of this increase is attributable NPRI, suggesting that the revealing of the relatively low investment in prevention research may itself have influenced the scientific community and individual funding Partners.

Figure 4, shows the breakdown in sub-categories of CSO3. A large portion of the increase over time has gone into understanding the role of nutrition in the prevention of disease (CSO3.2), possibly reflecting the increasing interest in the effect of diet and obesity on health.



Figure 4 : Changes in prevention research

Data spotlight: Cancer Biology

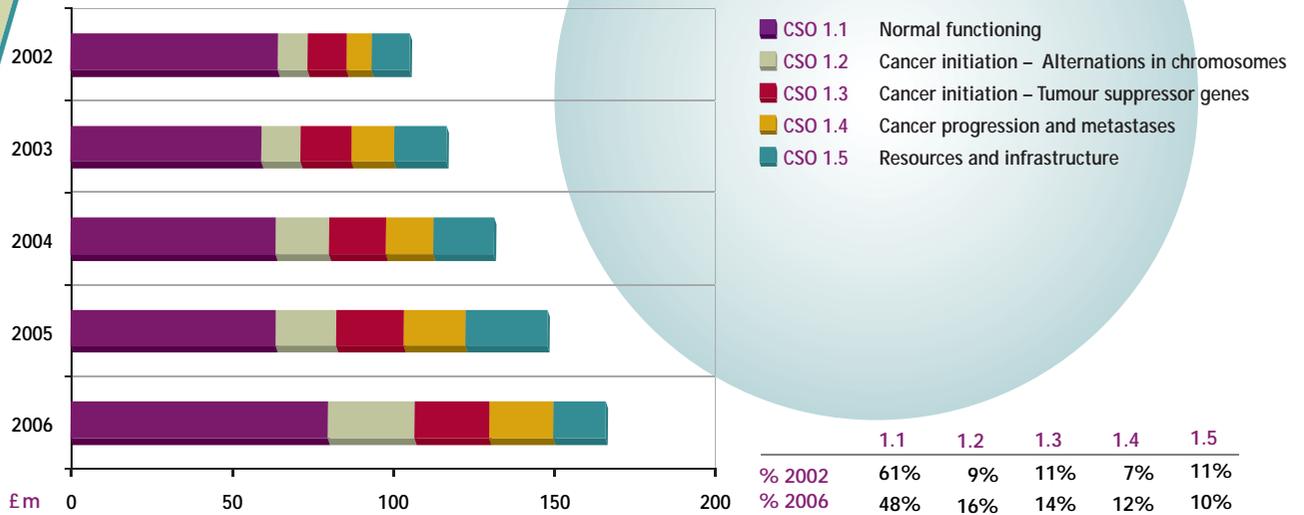


Figure 5 : Changes in spend within CS01 "Cancer Biology"

As shown in Figure 5, in 2002 61% of basic biology funding went towards understanding the normal functioning of cells and tissues (CSO 1.1). By 2006, this had fallen to 48%. Whilst the cash spend on CSO 1.1 has been

maintained, the additional investment in basic biology is going into the biological mechanisms of cancer initiation and progression.

Funding for each cancer site

The percentage of the portfolio dedicated to site-specific research has not changed significantly since 2002, staying at approximately 40% every year. Bearing in mind that the portfolio as a whole has increased by more than half, the cash spend on most individual tumour sites has also increased (data not shown). However the extent of the cash increase has varied, leading to changes in the overall proportion for many tumour sites as shown in Figure 6.

In 2006 the combined spend on the five most common cancers (lung, breast, leukaemia, colon and rectal and prostate) made up 60% of the site specific portfolio, about the same proportion as 2002.

The largest proportionate increase in investment was in colon and rectal cancer which grew from 12% of the site-specific portfolio to 15% (for further details on this increase see Spotlight on colon and rectal cancer).

The largest percentage increase was in sarcoma research which increased by almost 300%, rising from £0.6m in 2002 to £2.4m in 2006. The number of sarcoma awards also trebled.

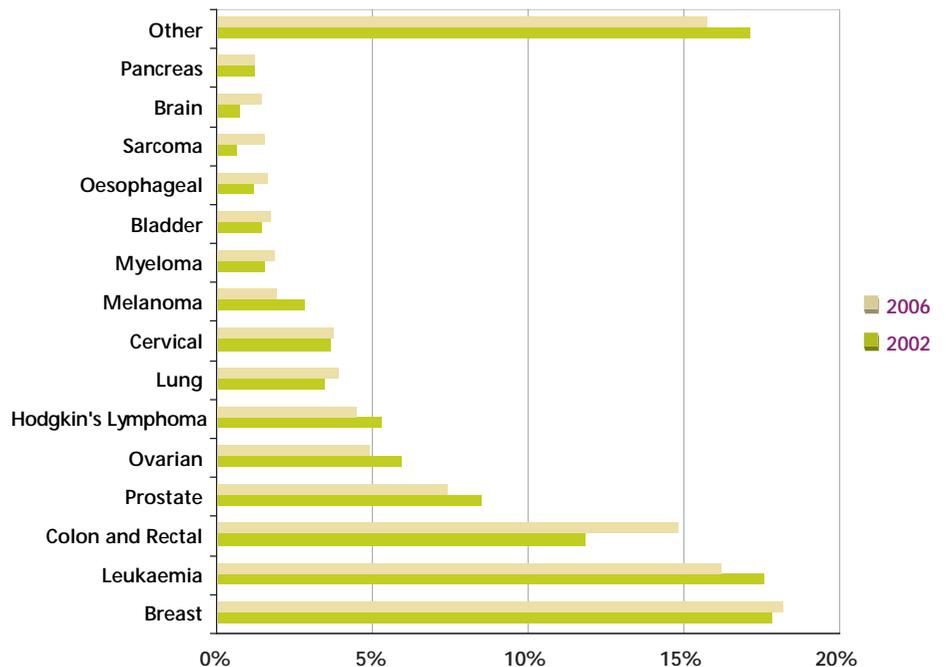


Figure 6 : Most common cancer sites by percentage annualised site-specific spend 2006 and 2002

“ NCRI’s strategic reviews have been instrumental in generating an overview of the current funding of individual cancers. This has enabled NCRI to identify the gaps in cancer research funding and to work collaboratively to plug these gaps. ”

- Extract from NCRI Partner Survey 2007, independently conducted by Opinion Leader Research

Data spotlight:
Colon and Rectal Cancer

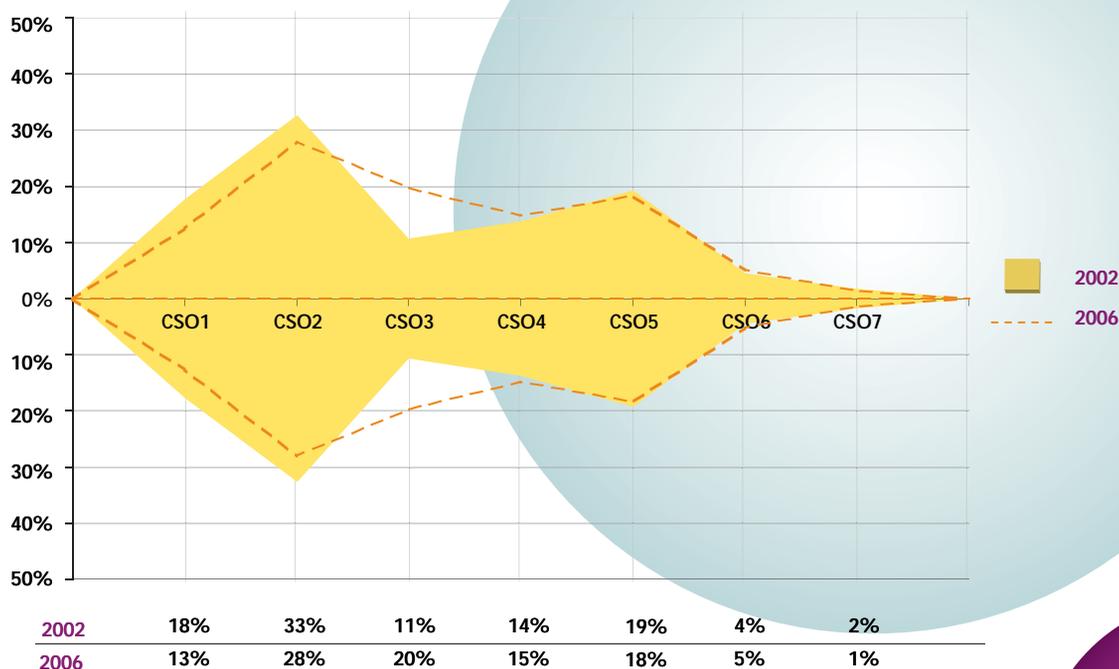


Figure 7 : Changes in the pattern of colon and rectal cancer research funded

Whilst the percentage spend on most disease sites has stayed relatively stable since 2002 (see Figure 6) the cash spend on colon and rectal cancer has almost doubled from £12m to £23m.

The type of colon and rectal research funded has also changed noticeably, with a much higher investment in research into the prevention of colon and rectal cancer as illustrated in Figure 7.

This complements the picture in prevention research (see Spotlight on Prevention Research).

How does the UK compare with other countries?

NCRI is a member of the International Cancer Research Partnership (ICRP) together with cancer research funders in the USA and Canada, all of whom use the Common Scientific Outline to code their research.

An on-line searchable database is available at www.cancerportfolio.org. A comparative analysis across the three countries is in preparation, and in the meantime information published by individual funders can be found by following the links on the front page of the ICRP website, www.cancerportfolio.org.



Percentage spend versus percentage mortality

Cancers differ by incidence and mortality and it can be illuminating to consider the spend by disease site in this context. When the percentage mortality due to a certain

disease site is subtracted from the percentage research spend on that cancer site, variations in relative spend are revealed (Figure 8).

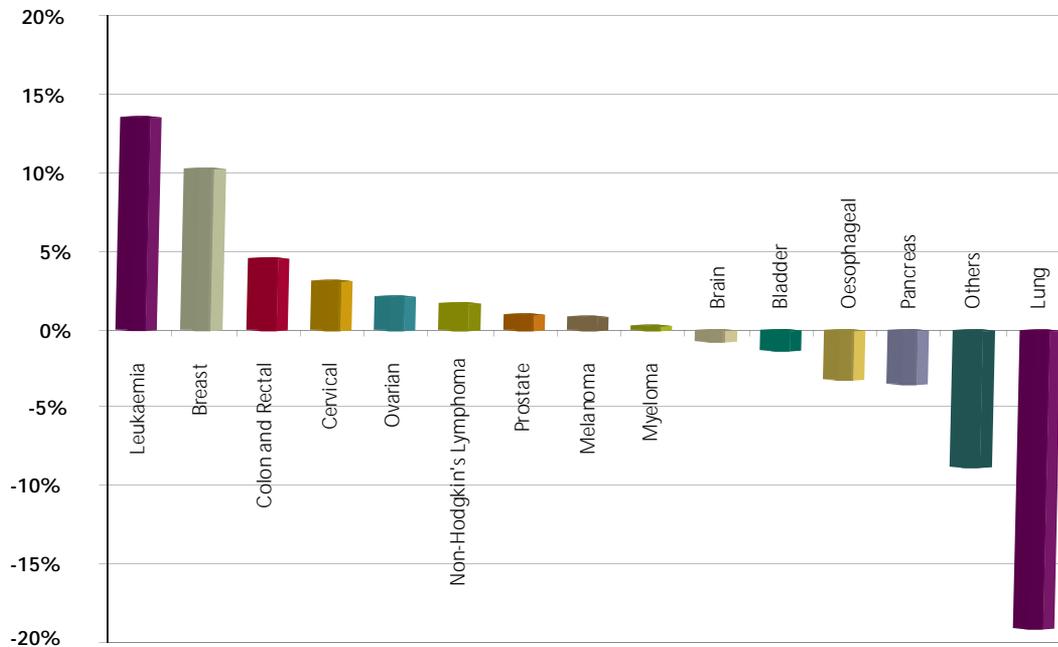


Figure 8 : Percentage spend (2006) by disease site relative to percentage of total cancer mortality (2005) due to that disease

Some of the cancers with the lowest five year survival rates (pancreas, oesophageal, lung, all <10% five year survival) have the lowest relative research spend by

NCRI partners. Conversely, leukaemia and breast cancer have higher survival rates, to some extent reflecting past research successes.

Spotlight on Lung Cancer

The 2002 portfolio analysis revealed that the spend on lung cancer research was very low compared to both incidence and mortality. In response to this, NCRI Partners established a group to examine the reasons for this and to devise solutions to increase the quality and quantity of lung cancer research in the UK.

A number of priority areas for action were identified and are being pursued. £2.25m has been allocated

for supportive and palliative care research in lung cancer. A pilot study for lung cancer screening using spiral CT is to be funded, other work in the area of early diagnosis and detection is being planned, and resource has been identified to support the collection of tissue specimens. NCRI will continue to promote high quality research in lung cancer wherever it can.



To find out more about what we do, go to our website at www.ncri.org.uk or read our Strategic Plan.

More about
NCRI