



Funding medicines for cancer





### THE FACTS

- More than one in three people in England will get cancer, and one in four will die of it.
- It is estimated that approximately 2% of the UK population, or 1.2 million people, have been diagnosed with cancer, many of whom will be receiving important medicines to prolong their lives and treat their symptoms. By far the biggest group of these is the estimated 172,000 women who have had a diagnosis of breast cancer.
- Around a quarter of a million people are diagnosed with cancer in England each year, a trend which is rising by 1.4% a year, mainly due to the ageing population, increased screening and earlier diagnosis.
- The UK has lower five-year survival rates for most cancers than comparable European countries. Fortunately, the incidence and mortality rates in the UK are significantly lower than the overall EU rate, with the UK male incidence rating ranking 19th in the EU and male mortality rates at 17th position. For UK women, the incidence rate is 7th in the EU and mortality is in 3rd place.



## A CALL FOR ACTION

- At 2006 rates, additional investment of £403m a year would be necessary for the UK to achieve the existing average per capita expenditure on cancer medicines in 11 comparable European countries.
- The global spend on cancer medicines is forecast to grow by 8.5% compound annual growth rate between 2005 and 2012 and to maintain the UK's present per capita usage relative to Europe (i.e. at 63% of European average) would require additional annual investment of £364m by 2012.
- However, to match the European average per capita usage of cancer medicines by 2012 would require an additional cumulative investment in the UK between 2007 and 2012 of approximately £3bn, to an annual total of £1.67bn per annum by 2012.

The UK government has pledged that, by 2010, the death rate from cancer in people aged under 75 will be cut by one-fifth, and that UK cancer care will be among the best in Europe. However, recent figures show that there is much room for improvement, both in terms of both cancer survival rates and spending on innovative new medicines to treat the disease, which kills more than 128,000 people in England alone each year.

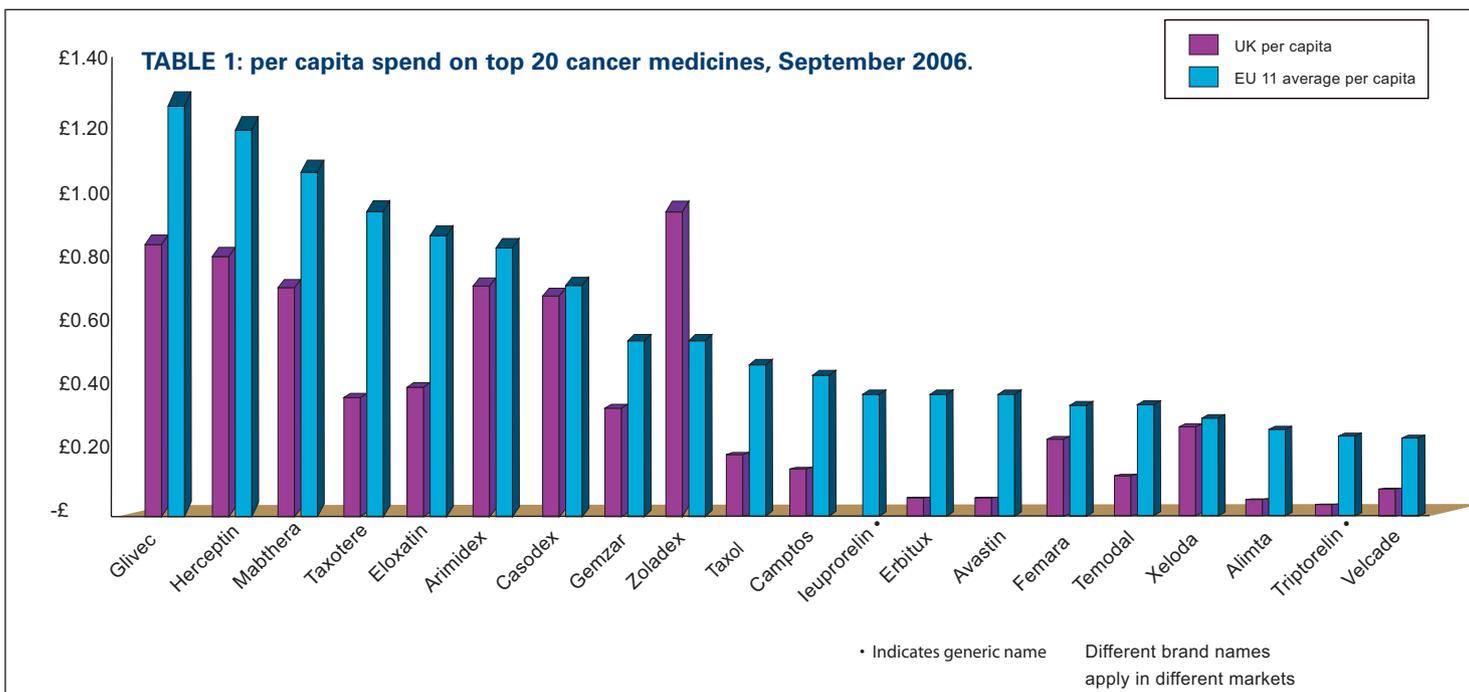
### Spending on cancer medicines

- UK per capita spending on cancer medicine currently stands at just 60% of the European average, putting the nation behind 10 other countries in Europe; (referred to in this document as the EU11: Austria, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, and UK).

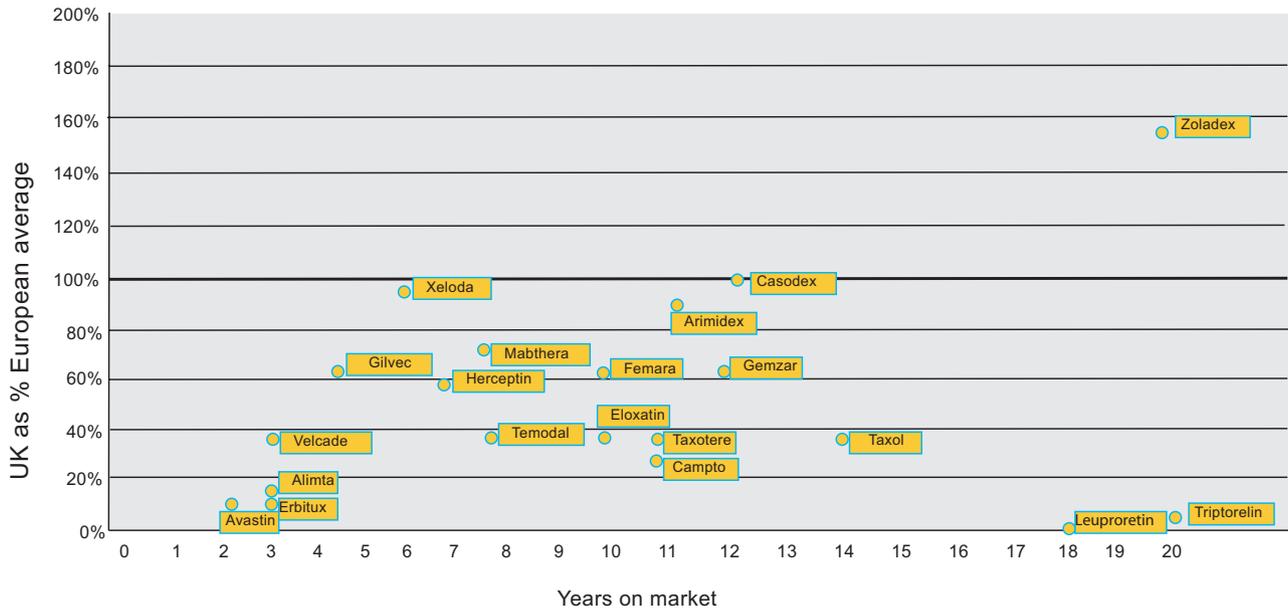
- Our use of the most innovative treatments is poor. Five years after being made available for prescribing, major cancer medicines are still being prescribed in the UK at under two-thirds the rate of other comparable nations (1).
- For 19 of the 20 top-selling cancer medicines, UK usage per capita is below the European average, while for nine of the medicines, it is the lowest of all. This includes many that have received approval from the National Institute for Health and Clinical Excellence, (NICE) (Tables 1&2). NICE provides recommendations for treatment and there is a statutory requirement for the NHS to implement the guidance within three months.

### Surviving cancer

- Survival of UK patients with common tumours - such as those of the lung, breast, stomach, bowel and



**TABLE 2: UK per capita spend on cancer medicines is low compared to Europe**

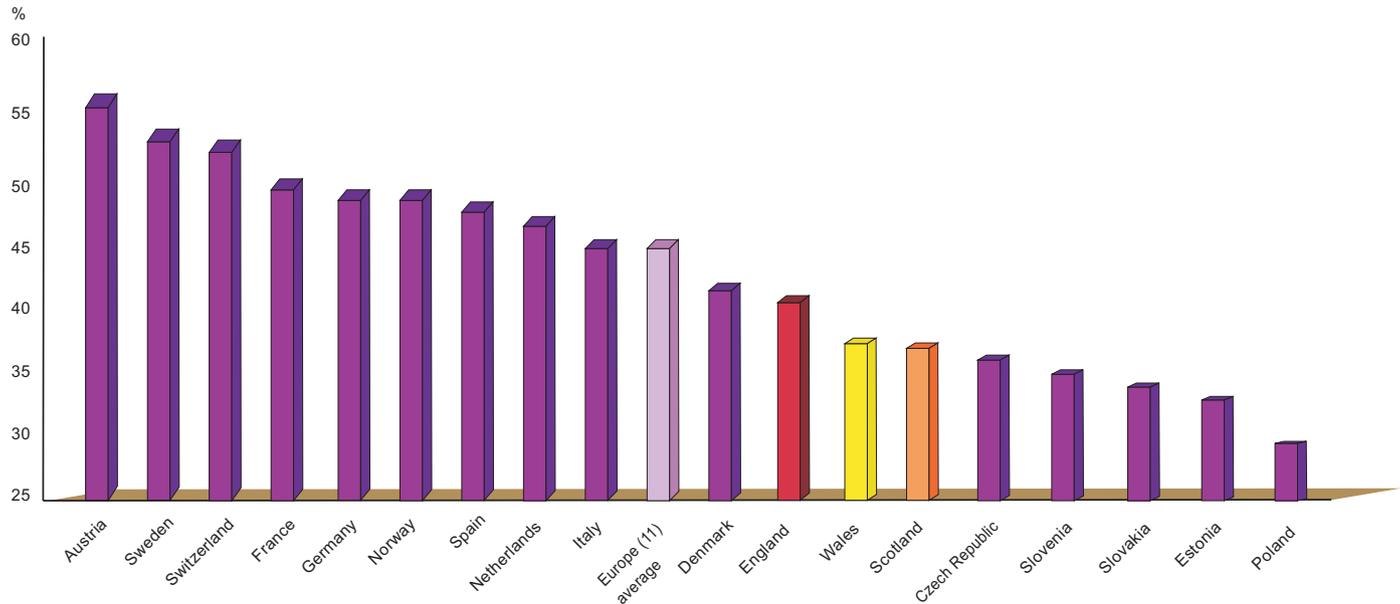


prostate - is generally poor, often little better than eastern European nations, according to Eurocare-3, a major project which reported in 2003 on survival rates for adult cancer patients in 22 European countries.(2) (Table 3). The study found that survival for patients with all forms of the disease is generally highest in Sweden, the Netherlands, France and Switzerland, but, among western European countries, survival rates for nine major cancers are below the European average in England, Scotland and Wales. Survival from bowel (colorectal) cancer is lower than the European average in the UK plus five eastern European countries (Czech Republic, Estonia, Poland, Slovakia and Slovenia), and Denmark, the study adds.

- Concerns about the UK's inferior quality of cancer care and patient survival, compared with our European

neighbours are not new. They were raised by the Chief Medical Officers of England and Wales back in 1995. Although there have been significant improvements in UK cancer survival rates over the past 30 years, the UK remains near the bottom of the European league table for surviving cancer. In May 2007, Cancer Research UK reported that, in England and Wales, a patient with cancer now has an average 46.2% chance of being alive 10 years after diagnosis, compared with just 23.6% thirty years ago, while five-year survival has now gone up to 49.4% from 28% in the period (3). Professor Michael Coleman at the London School of Hygiene and Tropical Medicine, who calculated the figures, said "almost two-thirds of women newly diagnosed with breast cancer can now expect to survive for at least 20 years, while five-year survival

TABLE 3: Overall cancer five-year survival.



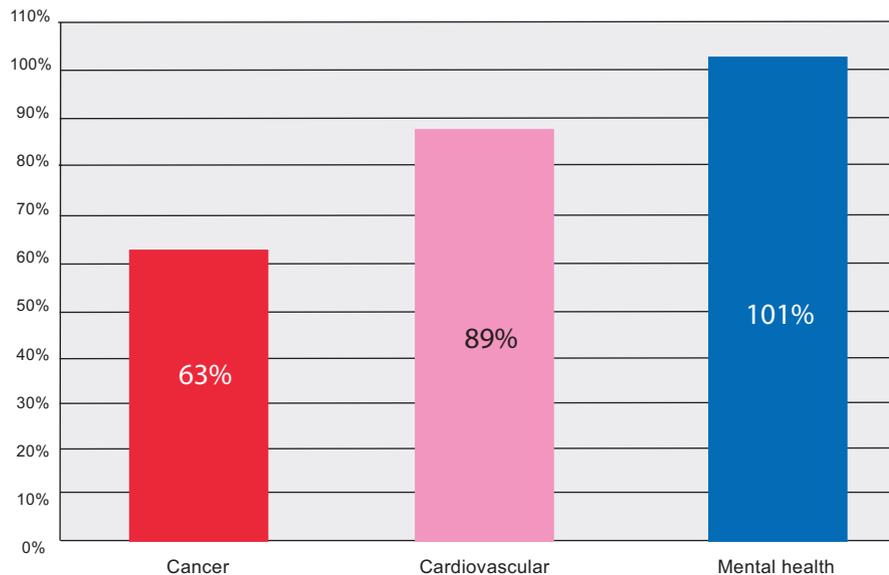
for bowel cancer patients has risen from 40% to almost 46% over the last decade.”

- However, a recent major new investigation into global access to cancer medicines reported that the UK remains bottom in a league table of five EU countries in terms of five-year survival. (Table 3)
- Researchers at the Karolinska Institute found that 52% of cancer patients in France, Spain, Germany and Italy were treated with cancer medicines launched after 1985, but just 40% of patients in the UK had access to these newer treatments. The UK's uptake of innovative cancer medicines is “low and slow,” and on a par with levels in the Czech Republic, Poland, New Zealand and South Africa, significantly behind the leaders in use of new cancer therapies - Austria, France, Switzerland and the USA, they said. (4)

The Karolinska researchers also discovered that, for governments, the cost of cancer in terms of disease burden is far greater than the cost of treating the disease - the total for cancer in all 25 countries averages just 5% of their total healthcare expenditures. In-patient hospital care accounts for up to 94% of direct costs for cancer care, while less than 10% of the total is spent on medicines, and the cost of cancer therapies ranges from £5-£11 per citizen across Europe.

In the UK, cancer medicines account for just 5.3% of the nation's total medicines spend, the lowest percentage of the 11 European comparator countries. Moreover, it is estimated that the UK spent just £76 per capita on cancer care in 2004-5 (5), compared with around £134 estimated for Sweden in 2004 and £99 in the Netherlands.

**TABLE 4: UK per capita expenditure on medicine therapy as % EU11 average - September 2006.**



- Cancer treatment appears to be the Cinderella of the NHS. While UK data shows that uptake of medicines in other government priority areas, such as cardiovascular disease and mental health, are much closer to, or even above, the European average within five years on being available for prescription - this is not the case for cancer. While the UK's spending on cancer medicines stands at just 63% of the European average, our expenditure on cardiovascular disease treatments is 89% of the average, while for medicines for the treatment of mental health, it is 101%. (Table 4)

### NICE and PCTs are failing us, say patients

The Karolinska report is also highly critical of the effects that NICE has had on UK patients' access to new medicines. "It was the explicit objective at the establishment of NICE

to avoid any significant delays in bringing innovations to market in the UK. There is yet no evidence that this objective is met," the authors conclude.

They found particularly low uptakes in the UK for two bowel cancer therapies - Merck Serono's Erbitux and Roche's Avastin, which NICE has decided should not be prescribed on the NHS in England and Wales because, it says, "neither of these medicines represents a good use of NHS resources." However, the study points that almost 50% of the improvement in two-year survival rates observed at 50 oncology centres in the USA during 1992-2000 was attributable to the use of newer bowel cancer medicines. The Karolinska study singles out bowel cancer as an example of where the UK is "way behind everybody else." A leading patient group advocate has told Members of Parliament; "Patients with this cancer have suffered inordinately as a result of negative NICE guidance, most

## People with bowel cancer “have suffered inordinately as a result of negative NICE guidance, most recently with regard to Avastin and Erbitux,” Parliament hears

recently with regard to Avastin and Erbitux,” Ian Beaumont of Bowel Cancer UK told a House of Commons Health Select Committee meeting on 28 June 2007, held as part of Parliament's ongoing enquiry into NICE.

“It is interesting that the development of bowel cancer treatments has occurred at the same time as NICE, which is why we have been in a very difficult position, where treatments readily available in Europe and America in a private setting are more often than not denied to patients in the UK,” Mr Beaumont told the MPs. “NICE, the NHS and the Department of Health knew way before the medicines got to the NICE process what was coming down the track. We wrote to PCTs in 2003 and said that these important drugs were coming and we believed they should make provision for them in their budgets...it is now payback time, and it is our patients who are suffering as a result of other people's bad financial management,” he added.

Mr Beaumont also attacked “NICE's assumption that if it approves a medicine, clinicians will be giving them to patients like Smarties. If a patient does not benefit from a drug, the cost will be much less than NICE has evaluated, because clinicians will stop prescribing them at a much

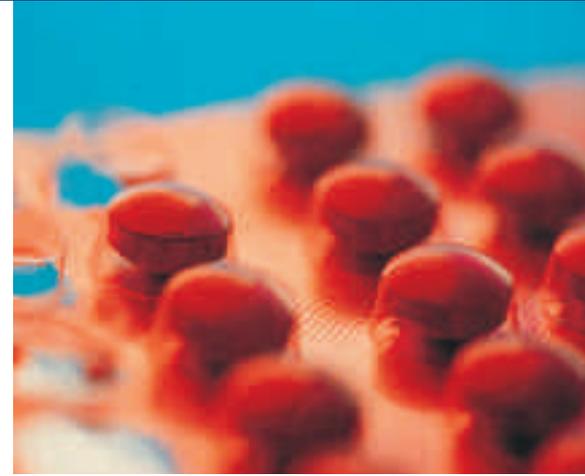
earlier stage,” he said, adding: “NICE needs to bring itself up to date in the way it evaluates these treatments,” and warned that its decisions could be based on outdated evidence.

### Patients demand new treatments

NICE has recently rejected a number of ground breaking treatments. This has produced widespread public concern, to the extent that, in some cases, patients are seeking the help of the courts to get the treatments they need.

Even where NICE has approved a treatment, it may often be only for use in selected patients only, thereby excluding a number of suitable patients for whom the medicine was intended.

The most high-profile case so far has been that of Roche's revolutionary breast cancer treatment Herceptin, which has been available in continental Europe since 2000 but, until August 2006, was approved in the UK for the treatment of late stage metastatic disease only. Large-scale international clinical trials began to reveal what medical researchers describe as the medicine's “simply stunning” success in



combating HER-2 positive early breast cancer - a particularly aggressive and hard-to-treat form of the disease.

Subsequently, more and more UK patients with early stage breast cancer began pressuring their PCTs to provide them with Herceptin, even though it was at that time still unlicensed for prescribing. Some backed their demands with the threat of court action. Then, in an extraordinary move, Secretary of State for Health Patricia Hewitt announced in October 2005 that all women who could benefit from Herceptin would be given the opportunity to receive it and that, as soon as the treatment was authorised for the early stage indication in the UK, it would be fast-tracked through NICE.

“I want the licence for Herceptin to be granted as quickly as possible, without compromising people's safety, and to be available within weeks of the licence being given,” said Ms Hewitt, adding: “this represents a major step forward in our fight against cancer.”

However, the Health Secretary's unprecedented interventions were greeted with alarm by a number of PCTs, who claimed the guidance meant that no Trust would

now be able to refuse to provide Herceptin under any circumstances.

### NICE blight

The Karolinska report is also clear about the effects of “NICE blight” - the period during which NHS organisations deny patients access to approved new medicines until NICE has decided whether or not they should be available on the NHS. This process “leads to further delay for cancer patients getting access to new innovative drug therapies, and this is clearly demonstrated by the comparison of the UK with other countries studied in this report,” say Drs Wilking and Jönsson.

In September 2006, England's National Cancer Director, Professor Mike Richards, reported that the uptake of NICE-approved cancer medicines rose by an average of 47% between July-December 2003 and January-June 2005, and that variations between cancer networks' usage of all the medicines surveyed had narrowed. Nevertheless, postcode prescribing remains, with uptake of the Institute's guidance varying considerably around the country.

## “Cancer Reform Strategy will take account of advances in new technology and medicines” Professor M. Richards

### Cancer Reform Strategy - Government's opportunity to put things right

The latter part of 2007 will see two major opportunities for the government to make major changes in funding policies which could help give UK cancer patients the same access to the most innovative treatments as are available in most western European nations.

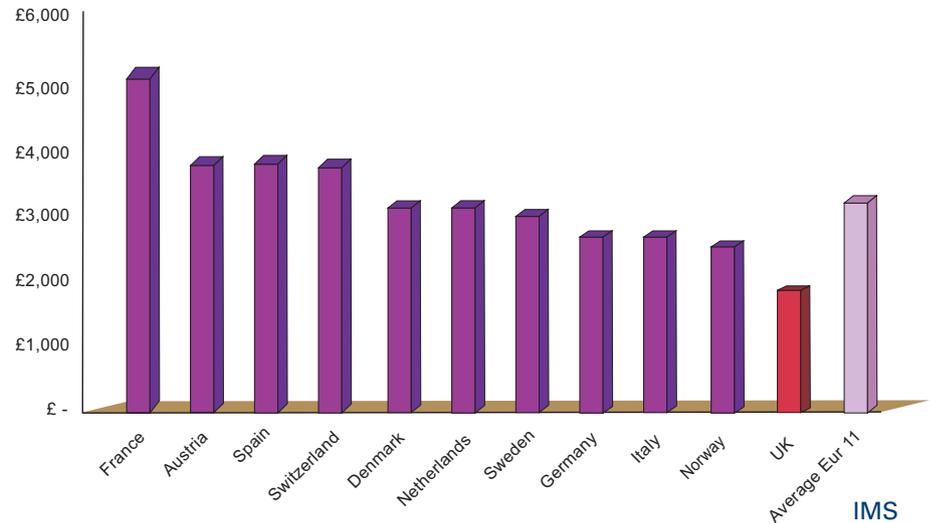
- The first is the new Cancer Reform Strategy for England, which Professor Richards intended to publish by the end of 2007. It will, he says, take account of new opportunities and challenges related to cancer - such as rising incidence and people living longer with the disease, as well as advances in new technology and medicines - and changes in the NHS since the 2000 Cancer Plan, such as shifting services from hospital to the community.

The Reform Strategy represents the latest stage in a process begun by the 1995 joint report of the Chief Medical Officers of England and Wales (the Calman-Hine report), which was highly critical of the quality of cancer care at the time and called for speedy reforms to bring the mortality and survival rates in England and Wales into line with those other European countries. The Government responded first with its 1999 White Paper - Saving Lives: our healthier nation - which pledged to reduce the death rate from cancer in people under 75 by at least a fifth, saving 100,000 lives by 2010.

- Then came the 2000 NHS Cancer Plan, the first comprehensive strategy to tackle the disease ever issued by a UK government. Its overall goal was that, over a 10-year period, UK cancer care should become among the best in Europe.

**TABLE 5: Cancer medicine expenditure per incident cancer case.**

Sept 2005 - 2006



IMS

However, reports on the Plan's progress, published a few years later by the National Audit Office (NAO) and others, found continuing variations across the country in care and access to treatments. They criticised its lack of forecasting and the fact that its focus was mostly on helping newly-diagnosed patients, with little reference to the economic impact of the fast-growing numbers of patients who survive their disease for five years or more because of vastly improved treatment (7).

In March 2005, NAO head Sir John Bourn reported to Parliament that, four years into the Plan, the 34 Cancer Networks which it established across England had achieved important improvements, with planning for the introduction of new medicines being a particular success. However, he added, they did not always have sufficient resources. This has led to the pharmaceutical industry providing unprecedented support for C-PORT,

a chemotherapy capacity planning resource tool developed by the Pharmaceutical Oncology Initiative Partnership, a collaborative project with the Department of Health, and the Cancer Services Improvement Programme. C-Port will enable Cancer Networks to achieve maximum use of existing resources and enable them to plan for additional resources to treat patients.

In January 2006, the House of Commons Committee of Public Accounts agreed with Sir John Bourn that the Cancer Plan needed updating and revising. It should include "a more comprehensive set of targets" to 2010, and "reflect the estimate of the future burden of cancer currently being developed," said the MPs. Nevertheless, the Cancer Plan has produced significant improvements, Professor Richards reported in "10 Years On"; his May 2007 analysis of progress to date. For example,



## New medicine treatments “making a major impact on patient outcomes,” says National Cancer Director

cancer mortality in people aged under 75 has fallen nearly 16% in the last seven years, and there has been a 49% increase in the number of cancer specialists, plus £520 million in central funding investment in new diagnostic equipment since April 2000. Also:

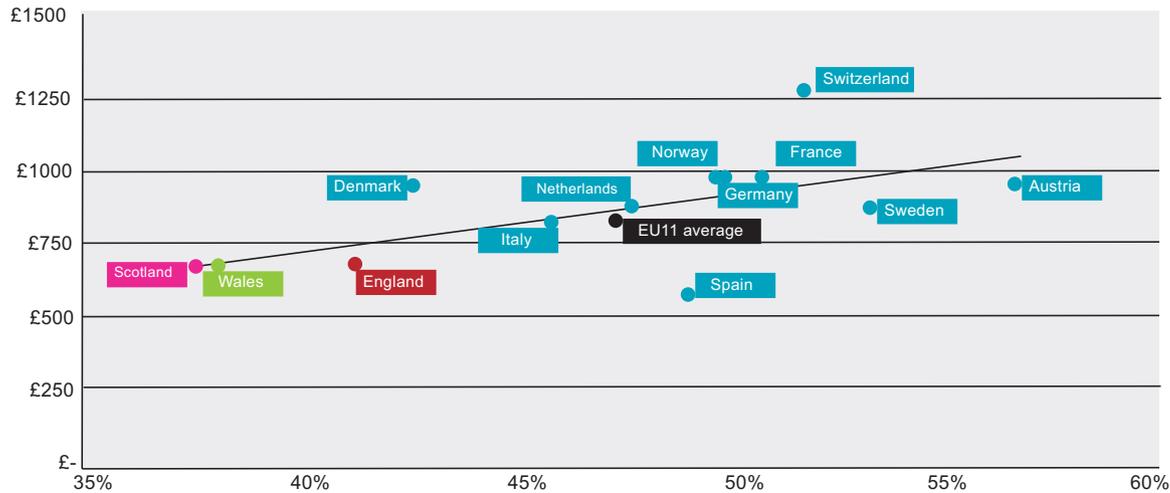
- over 99% of people with suspected cancer are now seen by a specialist within two weeks of being urgently referred by their GP;
- over 99% of patients with cancer are receiving their first treatment within one month of diagnosis; and
- over 96% of patients with cancer are receiving their first treatment within two months of being urgently referred by their GP (8).

Professor Richards also points out that the use of chemotherapy for cancer has increased markedly each year for the past 10 years, in part because of existing medicines being used in a wider range of cancers and partly due to the introduction of novel treatments which target specific abnormalities in particular cancers. These include Novartis' Glivec for chronic myeloid leukaemia and, from Roche, the lymphoma treatment Mabthera and Herceptin for breast cancer, which are now all being used routinely, and, he says: “each of these drugs is making a major impact on patient outcomes.”

## UK medicines spending increases, but still far below the rest of Europe

In August 2005, the Department of Health reported that cumulative investment in cancer services over the three years to 2001/04 totalled £639 million, set against a target of £570 million, with the main areas for investment being chemotherapy treatments and extra staff. Within this, new investment in cancer medicines increased by around £60 million a year (9). Just over two-thirds of the amount spent on cancer medicines was for treatments which had been appraised by NICE, it estimated.

Nevertheless, data show that the UK's spending on innovative cancer therapies is still far behind the rest of Western Europe. Prescribing in the UK of oncology medicines including hormonal agents increased from £364.2 million in 2002 to £694 million in 2006, up 90%, but comparable sales growth over the period in the 11-European country average was 107%. Moreover, from mid-2004 to mid-2006, when UK spending on cancer care was growing apace, the nation's share of the 11 European countries' total spending on chemotherapy agents fell 15.1%, and by September 2006, UK per capita spending on oncology medicines stood at £10.13, compared to £16.01 for Europe as a whole (6).

**TABLE 6: Five year survival vs average annual healthcare expenditure**

Source adapted from OECD/Eurocare 3

“The time is right to revisit the NHS Cancer Plan 2000,” concluded experts from the King’s Fund last year. “It is possible that the new generation of cancer drugs now emerging will make the experience of cancer patients more like the experience of those with other chronic diseases. A growing proportion of people will still be alive tens of years after their initial diagnosis, living in remission with controlled metastatic disease,” they added (7).

## Comprehensive Spending Review

The second major opportunity to get things right for cancer patients is the Government’s Comprehensive Spending Review (CSR), which sets government

departmental spending plans and priorities for the years 2008-9, 2009-10 and 2010-11. Documents produced by the Treasury for the CSR (10) put 2007-8’s spending on the NHS at nearly 90% higher in real terms than in 1997-98, and UK health spending as a proportion of Gross Domestic Product (GDP) rising from 6.8% to over 9%, in line with European averages.

“Increased resources for the NHS have helped save over 160,000 lives from 1996 to 2004, as a result of reductions to mortality rates from cancer and circulatory diseases among people aged under 75,” the Treasury adds.

It forecasts that the UK population will reach 64 million by 2017, with 1.9 million more people aged 65-84 and 0.5 million more aged over 85 than in 2004. “Crucial to

## More and more people will live long lives as cancer survivors, experts say

understanding the policy implications of the increase in the number of elderly people (and especially over 85s) is the proportion of additional years of life that are spent in good health," it says.

"Over the decade ahead, ongoing medical progress will change what it is possible for health care to achieve, with new medical interventions continuing to help prolong healthy life, as well as how treatment is carried out," the Treasury goes on. But, it acknowledges that pressures on healthcare spending will be driven by factors such as rising citizen expectations."

Medical advance has tended to focus on pushing forward frontiers - opening new areas of treatment, earlier and

better diagnosis, and lowering of treatment thresholds - and hence increasing the number of people being treated, and the overall impact of all this is cost-driving, it adds. But experts warn that the nation has no option but to invest in these advances, if patients in the UK are to be offered the same quality of care and those in Europe have come to expect. In his report on the future of the NHS over the next two decades, Sir Derek Wanless emphasises: "the UK must expect to devote a significantly larger share of its national income to health care over the next two years, in order to reverse the significant cumulative underinvestment over the past decades, to catch up with the standards of care seen in other countries and to deliver a wide-ranging, high-quality service for the public and individual patients." (11)

## Concern growing as UK falls even further behind Europe

The UK is falling further behind Europe in terms of spending on cancer treatment

- Prescribing of oncology medicines increased by an average of 107% in Europe between 2002 and 2006, but by only 90% in the UK. The gap widens. And new research published in July 2007 concludes unequivocally: "if cancer patients obtain new therapies faster, they will have longer and more productive lives. (12)"
- But there are now very real fears that many UK patients will be denied the chance to benefit from these advances, and that, despite the Government's

pledge, by 2010 the UK's already poor cancer care and survival rates will have slipped even further behind our European neighbours.

- Relative spending on new cancer therapies is actually falling. During 2002-6, the UK's market share of these advanced treatments was just 4.1% - compared to a Europe-wide average of 18% - a massive drop from 1997-2001, when the UK's share was 21.7% against a European average of 30.1%. (6)
- From 2007, the NHS's annual budget growth, which has averaged 7% since 1999, is expected to decline in real terms to less than 4% or even considerably less, which is very bad news for the UK's growing numbers of people diagnosed with cancer. In addition, the Secretary of State for Health



has made it clear that funding for cancer services will not be increased under the Cancer Reform Strategy.

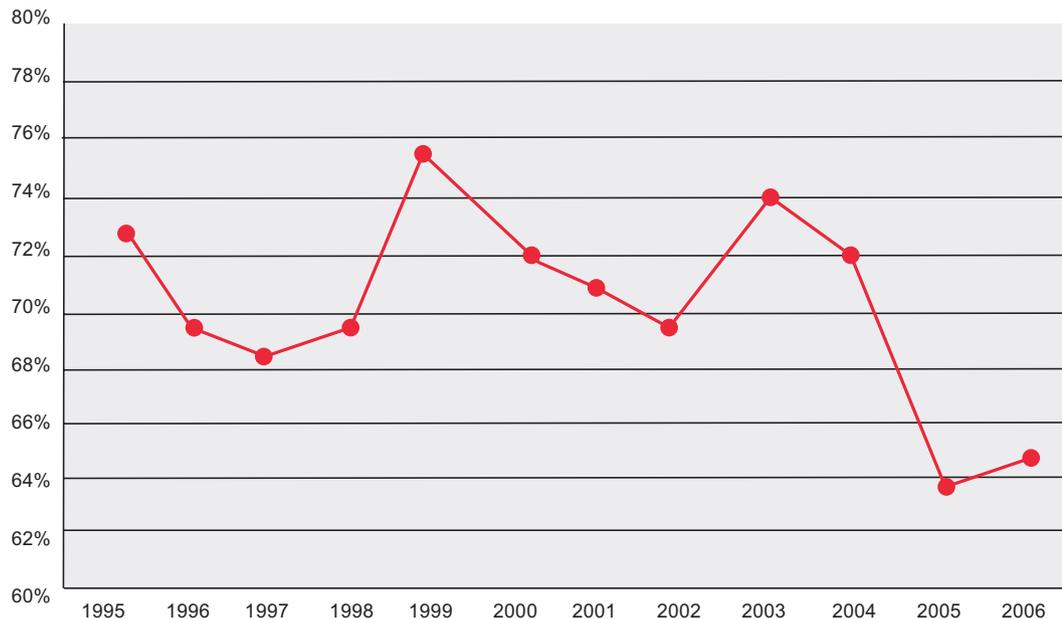
- The UK must close this gap and take advantage of new medicines now in development. As Professor Richards to the House of Commons Select Enquiry into NICE in May 2003: “In terms of cancer, we are at a very exciting time, where there are a lot of new drugs in development - if you look at the combined pipeline of all the pharmaceutical industry, over half of all the drugs that are coming through are related to cancer.”

“Demographic trends will increase the incidence of cancer in coming decades and better treatments will increase the number of survivors.

The inevitable effect is that more people will live with cancer in remission and this is bound to increase the demand for resources for cancer”

- King's Fund

**TABLE 8: UK per capita expenditure on cancer medicines as % EU average 1995-2006**



## Funding for the future

The funding of medicines for cancer needs to increase significantly if the UK is to close the gap on the rest of Europe. The question is, by how much? Different scenarios can be identified. Even if UK funding for cancer medicines increases by the general rate of inflation (3.4%) for each year between 2008 and 2012, the UK will remain below Europe: UK per capita spend will reduce relative to the EU average from 63% in 2006 to 55% in 2012. Raising funding simply by the rate of inflation is not enough.

If UK funding for cancer medicines is increased in order to match the European rate by 2012, it will require an annual increase of around 15% between 2007 and 2012. In this scenario, spending on cancer medicines would need to increase from just under £700m in 2006 to around £1.67bn in 2012, an increase of approaching £1 billion.

Funding cancer medicines is an important issue with patients and public. With the Cancer Reform Strategy and the Comprehensive Spending Review awaiting publication, now is the time to address the UK's poor funding of cancer medicines. A major MORI opinion poll commissioned by

**TABLE 9: Per capita cancer drug expenditures as a % of the European average; 1995-99 and 2006**

	Mean 1995 - 99	2006
Austria	124.3%	123.1%
Denmark	55.8%	104.4%
France	125.6%	159.4%
Germany	107.6%	90.6%
Italy	83.7%	85.5%
Netherlands	80.7%	96.7%
Norway	85.0%	75.8%
Spain	124.6%	99.7%
Sweden	103.2%	96.9%
Switzerland	93.7%	115.4%
UK	71.4%	64.7%
<b>EU 11</b>	<b>100.0%</b>	<b>100.0%</b>

Cancerbackup in 2006 found a passionate belief among British people that cancer is the top national health priority - far exceeding heart disease - and that everyone, whoever they are and wherever they live, should have equal access to care. (13) "Cancer patients will not accept that a standard of care available in one European country is not available in other countries," warn the Karolinska report authors, and many are prepared to fight for the treatments which they need, but are being denied to them.

And the courts are sympathetic to their plight; in July 2007, a court was told that a PCT's decision not to give bowel cancer sufferer Victoria Otley the innovative medicine Avastin was a denial of her human rights. The court found the Trust's decision to be "flawed and irrational", and ordered it to pay for her treatment. This landmark decision is expected to bring many more such cases to court in the near future.



### Key points

- Spending on cancer medicines in the UK is low compared to other EU countries.
- The gap between the UK and the rest of Europe is widening.
- New medicines are being approved for prescription, but uptake in the UK is low and is well below that in other European countries.
- Spending on cancer medicines in 2012 needs to be £1 billion higher than in 2007 in order to match the European rate.
- The 2007 Cancer Reform Strategy and the 2007 Comprehensive Spending Review will hopefully point the way ahead, but the UK needs to find ways of funding the availability of modern life-enhancing medicines for the benefit of cancer patients.



In 2006, pharmaceutical companies operating in the UK had 170 compounds in development for the treatment of cancer, more than for any other therapeutic category, and it was reported recently that, overall, the industry has a total of 647 new compounds in the pipeline for the treatment of cancer, including blood and solid tumours (1)

- (1):** Association of the British Pharmaceutical Industry data.
- (2):** EUROCARE-3,- Study of survival of cancer patients in Europe, *Annals of Oncology*: Vol 14, 2003, supplement 5.
- (3):** Cancer Research UK data.
- (4):** A global comparison regarding patient access to cancer medicines. Bengt Jönsson and Nils Wilking, Stockholm School of Economics and Karolinska Institute, Stockholm, Sweden, 2007.
- (5):** Local Variations in NHS Spending Priorities, King's Fund, August 2006.
- (6):** IMS MIDAS data.
- (7):** Future Trends and Challenges for Cancer Services in England., King's Fund, commissioned by Cancer Research UK, 2006.
- (8):** Getting It Right for People with Cancer: clinical case for change. Prof Mike Richards, National Cancer Director, May 2007.
- (9):** Investment in Cancer 2001/02 - 2003/04., Department of Health, August 2005.
- (10):** Analyses for Comprehensive Spending Review 2007. The Treasury, 2006.
- (11):** Securing our Future Health: Taking a Long-Term View, Sir Derek Wanless, April 2002.
- (12):** The Effect of Chemotherapy on Cancer Survival, 1991-2003. Dr Frank Lichtenberg of Columbia University and the National Bureau of Economic Research with the Center for Medicine in the Public Interest, USA, July 2007.
- (13):** Ipsos MORI public opinion poll conducted for Cancerbackup, September 2006.

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