



UNITED KINGDOM  
LUNG CANCER COALITION

## Reviewing the Lung Cancer Plan:

*Are we emerging from the shadow of lung cancer?*

UK Lung Cancer Coalition, November 2009

## Introduction from Dame Gill Oliver, UK Lung Cancer Coalition Chair



In 2007 we launched our 12 point Lung Cancer Plan – the first of its kind in the UK. The Plan set ambitious and challenging targets to help double lung cancer survival and eradicate the huge national inequalities that exist in lung cancer care. It highlighted the areas where the biggest gains could be made and its target was to raise standards of care across the NHS to match those of the best centres across the world. Since then we have been campaigning for the implementation of the Plan.

Our motivation is improving the outlook for the 38,000 lung cancer patients diagnosed each year in the UK<sup>1</sup>. The disease claims around 34,500 lives annually<sup>2</sup> – that's someone every 15 minutes – more than the death toll from breast cancer, prostate cancer, bladder cancer and leukaemia combined. Lung cancer cases still account for one in seven of all cancer diagnoses each year in the UK<sup>3</sup>. Half of all lung cancer patients die within six months of diagnosis, only one in four patients live to one year, and fewer than one in ten are still alive five years after diagnosis<sup>4</sup>.

Two years on from the launch of our Plan, we have revisited our 12 calls for action. We asked our clinical advisers, all of whom work on the frontline of cancer services, to assess the progress made to date and to help us map out where the priorities lie for the future.

Steps have certainly been taken in the right direction. The publication of our Plan was shortly followed by the NHS Cancer Reform Strategy, the biggest review of cancer services since 2000. This included a £270m investment pledge by

Government to build a world-class cancer service in England as well as commitments to speed up the diagnosis and treatment of cancer, reduce inequalities, and improve the experience of people living with and beyond the disease. The UK Lung Cancer Coalition (UKLCC) was one of the groups involved in developing the Strategy and continues to work closely with the NHS to deliver the recommendations.

The UKLCC was a supporter of the concerted campaign to make our public places and workplaces smoke-free. Already the benefits are being felt by all and, in time, reductions in smoking prevalence will result in a fall in smoking-related diseases. One year survival rates for lung cancer are showing modest improvements<sup>5</sup>, largely driven by the increasing use of chemotherapy and increases in surgery and radiotherapy capacity. Welcome investment in new clinical trials and research will increase our understanding of lung cancer and eventually lead to more effective treatments. And we are optimistic that the establishment of the National Cancer Intelligence Network, a central source for data sharing and the expert analysis of the regional variations in clinical outcomes, will strengthen commissioning, drive up the quality of cancer services and bring about improved patient outcomes.

Despite these significant improvements, much more still needs to be done. Our review shows that lung cancer patients in the UK still face an unacceptable postcode lottery. According to the latest National Lung Cancer Audit:<sup>6</sup>

- Only 51% of lung cancer patients receive any kind of active treatment. In some Trusts fewer than 10% of patients receive active treatment, compared to 70% in others
- Only 10% of patients have surgery – still the best hope of a cure. In some Trusts fewer than 5% of patients have surgery, compared to 25% in others
- Not all patients have access to a specialist nurse – a vital source of information and support for patients and their families

The UK also has poorer lung cancer survival rates compared to other areas in Europe. The average five year survival rate in the four nations is 8.95% [England (8.6%), Scotland (8.0%), N Ireland

(10.2%) and Wales (9.0%) compared to 13% in Sweden.<sup>7</sup>

We have to act now. Cancer Research UK has undertaken research projecting lung cancer incidence up to 2024.<sup>8</sup> Although incidence rates will continue to fall by more than one-third, overall the number of new cases diagnosed annually will be slightly higher than today because of the expected increases in the number of older people in the UK. Faced with this vision, the need to move forward in lung cancer prevention, early diagnosis, treatment and supportive care is clear and urgent.

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**“Our review shows that lung cancer patients in the UK still face an unacceptable postcode lottery”**

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Whatever the cause of their disease, all lung cancer patients deserve the best standards of care and support. Sadly, not many lung cancer patients are well enough to speak out about their disease in any public forum and to demand improvements in cancer services. It's one of the reasons why the UKLCC came together: to campaign for policy change on behalf of lung cancer patients and their families and to give them a voice.

If this review were a school report on lung cancer services we would be saying ‘could do better.’ A good start has been made but there's much more to do. Working together, we believe we can achieve our vision: to double one year lung cancer survival by 2015 and five year survival by 2020. If the standards of care from the best UK centres were applied across the country as many as 3,000 lives could be saved each year. It's a prize well worth winning.

**Dame Gill Oliver**  
Chair, UK Lung Cancer Coalition  
November 2009

## Progress on the Lung Cancer Plan's calls for action

The UKLCC Lung Cancer Plan, which was published in 2007, highlighted twelve areas where the biggest gains could be made and set a target for each area outlining how standards need to be developed.

In 2009 our clinical partners – cancer experts working at the frontline of the NHS – rated the performance of NHS lung cancer services

against the calls made in our 2007 Lung Cancer Plan. In each area the progress made was rated as either good, limited or poor. Assessment of the progress made is listed in the summary table below and in more detail on the following pages.

In the light of this impact assessment the UKLCC is issuing a new set of calls for action. These are the priorities which we believe would make the

most difference in improving service delivery and the care of lung cancer patients, towards our overall objective of doubling survival. All are achievable; all are important. The UKLCC is keen to work in partnership with the UK Governments, Health Departments, NHS, and all interested stakeholders to achieve them.

Area	Progress	2010 call for action
Prevention	Good	The UK Governments should commit to funding and implementing comprehensive national tobacco strategies with clear goals and challenging medium and long term targets, including a review of smoking cessation services to ensure they are fit for purpose and meeting users' needs.
Screening	Good	The Government should monitor and support the National Institute for Health Research's feasibility study, enabling a swift decision to be made on the viability of a lung cancer screening programme
Awareness:	Good	National and local initiatives should be put in place to raise awareness of the signs and symptoms of lung cancer among the general public and healthcare professionals, and to improve knowledge of the treatment options for lung cancer in order to address the fatalism and stigma still associated with the disease.
Primary care	Limited	Incentives should be included in the Quality and Outcomes Framework to encourage GPs to refer at-risk patients for a chest x-ray, particularly patients newly diagnosed or with developing COPD symptoms.
Information and support	Limited	Government must ensure that lung cancer patients are offered high quality information at key points in their cancer journey, tailored to their individual needs and supported by face-to-face contact with a healthcare professional. All lung cancer patients should have access to a specialist lung cancer nurse, and receive regular holistic needs assessments and updated care plans at key points in their cancer journey, including at diagnosis, end of treatment, and end of life.
Diagnosis and staging	Poor	Investment should be made in radiology to assist more accurate diagnosis and staging. Every Trust should be achieving proven diagnosis rates of at least 75%.
Treatment	Poor	Every hospital trust should examine its levels of active treatment and strive to bring them closer to the 70% achieved in some parts of the country. Relevant clinical guidance should be updated to reflect new therapeutic and technological options, and tools developed to support commissioners in commissioning effective lung cancer services
End of life care	Limited	The UK Governments must implement 24/7 coordinated community nursing across the country, as quickly and efficiently as possible, in line with the End of Life Care Strategy in England.
Managing care	Poor	Every lung cancer patient's case should be considered by a fully representative MDT comprising specialists, with a prime interest in lung cancer, from all the relevant disciplines.
Workforce capacity	Poor	Shortages in the lung cancer workforce must be addressed, and every Trust and Cancer Network should review workforce capacity as a matter of urgency, to ensure parity with services for patients with breast cancer.
Research	Limited	The UK Governments should invest in, and provide a supportive environment for, lung cancer research to include funding into early detection and diagnosis, basic research, treatment and clinical trials. All patients should be offered the opportunity to participate in trials if eligible.
Data collection	Good	Compliance with national comparative audits should be a core part of Quality Accounts and every Trust should be striving to complete and submit datasets for all lung cancer patients.

## Area by area – our impact assessment and new targets for action

### Prevention

**The issue:** Smoking remains the single biggest preventable cause of cancer and causes nine in ten lung cancer cases.<sup>9</sup> The number of smokers in the UK has halved over the last 50 years<sup>10</sup>, and consequently there has been a significant decrease in the number of lung cancer deaths. However, efforts to reduce smoking prevalence through a range of tobacco control measures remain critical to reducing the future burden of lung cancer. In 2007 we called on the UK Governments to commit to funding and implementing comprehensive national tobacco strategies.

**Progress:** Over the past decade, the prevalence of smoking in England declined from 28% in 1998 to 21% in 2007.<sup>11</sup> The Department of Health has met the Public Service Agreement objective of reducing adult smoking rates to 21% or less by 2010.<sup>12</sup> Ambitious new targets now need to be set for 2015.

Much of the decline can be attributed to comprehensive anti-tobacco strategies. The UKLCC strongly advocated legislation to make public and work places smoke-free. Already the benefits are evident. Research suggests that 400,000 additional smokers have taken the opportunity to stop smoking because of the smoke-free law.<sup>13</sup> The Cancer Reform Strategy maintained the Government's commitment to reduce smoking prevalence in England and Wales through a range of tobacco control initiatives. These included: action on smuggling and illegal trade; education and communications campaigns; and funding for local services. We welcome these and other initiatives but urge the UK Governments not to be complacent. In particular, we are concerned by the upturn in new smokers, especially women.<sup>14</sup> Clear goals and challenging targets for both the long and medium term are needed if we are to continue to make good progress in the future.

**Progress report:** Good – The Cancer Reform Strategy committed to driving down smoking rates through a range of tobacco control initiatives including action on smuggling and illegal trade; education and communications campaigns; and funding for local services. A new tobacco control strategy is expected from the Department of

Health, in which we hope to see extended tobacco control measures.

**Areas for action:** Continuing efforts must be made to prevent and reduce the harm caused by smoking. Rates are declining at less than 0.4% per annum in the UK<sup>15</sup>, but we believe that steeper declines are achievable amongst the 9.4 million adult smokers in the UK<sup>16</sup>. To support smokers who want to quit, every PCT should ensure that it is commissioning high quality smoking cessation services in line with NICE's public health guidance (PH10)<sup>17</sup>. However, we believe that more ambitious measures for success in quitting should be set than the current 4-week target. More effort is also needed to reduce smoking rates among young people and those from lower socioeconomic groups.

A new tobacco control strategy is expected from the Department of Health, in which we hope to see extended tobacco control measures. We support proposals within the Health Bill 2009 to ban tobacco displays in shops. However we urge the Government to ban the sale of cigarettes in vending machines, a major source of access for young smokers. Research from the British Heart Foundation has identified that as many as one in five young smokers aged 11 to 15 have used these machines to acquire cigarettes – some 23,000 children.<sup>18</sup> Urgent action is needed to cut off this point of access, as well as renewed health promotion in schools to educate children about the dangers of smoking.

Full independent regulation of the advertising, marketing and promotion of all tobacco products is also critical. Cigarettes need to be less affordable, appealing and available, and cessation products need to be more available, attractive and affordable. Research shows that high prices due to taxation are the single most effective intervention to prevent smoking.<sup>19</sup> On average, a price increase of 10% on a packet of cigarettes reduces consumption by about 4% in developed countries.<sup>20</sup> We would welcome a move from the Chancellor to increase VAT on cigarettes at the next Budget. This should be ring-fenced for lung cancer research, implementation of long term anti-smoking initiatives and expanded access to Nicotine Replacement Therapy.

The UKLCC remains committed to raising awareness of the impact of lung cancer on non-smokers. A little known fact is that the number of lung cancer deaths in never-smokers is higher than the number of people who die from many other cancers, including cervical, kidney, liver, womb and bone. Further research is needed into why these lung cancers occur, and UKLCC members are at the forefront of this.

**2010 call for action: We call on the governments of the UK to commit to funding and implementing comprehensive national tobacco strategies with clear goals and challenging medium and long term targets, including a review of smoking cessation services to ensure they are fit for purpose and meeting users' needs.**

## Case Study: Yvonne Matthews



Ex-smoker, Yvonne Matthews was diagnosed with lung cancer in 2005. Yvonne, who had a family history of lung cancer, went on to receive successful surgery. She is now working again and living life as fully as possible. Despite her illness, she has witnessed members of her own family continue to smoke.

Yvonne says: "I am living proof that there is a positive story behind lung cancer if you catch it early

enough. However, I still don't think there's enough help for smokers. I started smoking over 40 years ago as a young nurse when everyone smoked and we didn't know the dangers. I know I tried everything before I actually kicked the habit and I do sympathise with people who try to stop. While there has been great headway, I'd like to see smoking prevention campaigns in this country go even further."

### Screening

**The issues:** The single most important prognostic factor for a good result for lung cancer is early presentation. Unfortunately late presentation is the norm, and this is particularly the case in the UK.<sup>21</sup> In other common cancers (breast, bowel, prostate) screening has been a key factor in improving outcomes. To date there have been no screening trials for lung cancer using new or modern investigations. We have therefore urged the Government to invest in this approach.

**Progress:** To date the main efforts have been to assess computed tomography (CT) as a means to identify lung cancer early, especially in high risk individuals, e.g. those who smoke heavily, or are ex smokers and with COPD. There are international trials in progress assessing this approach and which have recruited their subjects and are due to report within two years. It is vital that, if this approach is shown to improve the chances of cure from lung cancer, the UK is ready to implement this technique in large numbers. A pilot study is therefore the next step and we have strongly supported this initiative.

However there are other methods which appear to hold promise for early detection, in particular, identifying compounds known as VOCs (volatile organic compounds) in the expired breath of lung cancer sufferers. Another study is examining the sputum of high risk individuals with COPD to look for cellular changes that may indicate the presence of cancer. Those patients found to have abnormalities in their sputum will have further investigations; either a CT scan or autofluorescence fiberoptic bronchoscopy which uses blue and white light to examine the lining of the airways.

**Progress report:** Good - Since 2007 the feasibility study for a study of CT scanning as a screening tool has been completed and a decision

about proceeding to a pilot study is awaited. It is planned that any pilot research will be linked with parallel studies in Europe.

**Areas for action:** We must be ready to act should CT be proven effective, but also support all screening research looking at novel methods. It will take time to generate robust evidence which is also cost effective and which targets the vulnerable group in the population especially at risk of contracting this disease.

**2010 call for action: We urge the Government to support the National Institute for Health Research in ensuring that the NIHR HTA commissioned feasibility study runs without delay and reports back as expected in 2010, enabling a swift decision to be made on the viability of a lung cancer screening programme.**

### Awareness

**The issues:** Increasing the public's awareness of the signs and symptoms of lung cancer is the first step towards encouraging early presentation, swift referral, and diagnosis at a stage when treatment is most likely to be effective. While everyone should be aware of the signs and symptoms of lung cancer, some groups are known to be at increased risk, for example long-term smokers and patients with COPD. Targeted education and high-quality information provision is especially important for these people. Addressing the reasons for patients' delaying seeing their GP is also important. Some patients delay because they think that they simply have a 'smoker's cough' or feel a sense of guilt because of their smoking. Others may suspect that they have something more serious but not want to hear bad news.

Symptom awareness initiatives should also be targeted at healthcare professionals in primary and community care. Patients may seek advice from a number of sources before seeing their GP so a range of healthcare professionals, including pharmacists and nurses, have roles in encouraging symptomatic patients to present to their GP. Among some healthcare professionals, a sense of pessimism about the poor lung cancer prognosis and a perception that there is little that can be done may act as barriers to onward referral to secondary care. Campaigns to address this pessimism and promote the advances made in lung cancer are needed.

**Progress:** Some steps have been taken, nationally and locally to improve symptom awareness.

The Cancer Reform Strategy included a commitment to establish a National Awareness and Early Diagnosis Initiative, to coordinate a programme of activity to support local interventions to increase cancer symptom awareness and encourage

earlier presentation. UKLCC member charities are leading this important initiative.

Researchers funded by Cancer Research UK have developed a tool to measure public awareness of the risk factors and symptoms of cancer. The Cancer Awareness Measure (CAM) tool has been used to undertake the first national survey of awareness and a lung cancer module is currently in development.<sup>22</sup> We know that publicity about the dangers of smoking is resonating with the public.<sup>23,24</sup> Awareness campaigns such as Lung Cancer Awareness Month, supported by UKLCC and our partners, have also contributed to an increased awareness around the signs and symptoms of lung cancer.

**Progress report:** Good - Since 2007 a cancer awareness measurement tool has been developed as part of the Government's National Awareness and Early Diagnosis Initiative (NAEDI), though further work needs to be done to validate its usespecifically for lung cancer. Some local pilot projects are beginning in England to assess public and primary care awareness of the early symptoms of lung cancer.

**Areas for action:** The UKLCC strongly believes that continued efforts must be made in improving awareness and understanding of lung cancer, and to mitigating the historic nihilism and stigma associated with the disease. We would also

welcome a drive to increase awareness of, and access to, clinical trials for lung cancer. Clinical trials are the only reliable way to find out if a different surgical intervention, type of chemotherapy or radiotherapy is better than the current available options. Many patients may not be aware that they are eligible to take part in clinical trials and more should be done to signpost them to sources of information.

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**2010 call for action: National and local initiatives should be put in place to raise awareness of the signs and symptoms of lung cancer among the general public and healthcare professionals, and to improve knowledge of the treatment options for lung cancer in order to address the fatalism and stigma still associated with the disease.**

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## Case Study: Rea Cobb



Non-smoker, Rea Cobb, was diagnosed with a rare form of lung cancer in March 2009 - at just 26 years old. Rea, who was fit and healthy and had no family history of the disease, started coughing up blood while undertaking some building work on her new house. After an initial diagnosis of burst blood vessels in her throat, Rea went back to her GP when symptoms re-appeared. Her persistency resulted in her being fast tracked through the NHS and receiving life saving surgery to remove the tumour from the upper lobe of her right lung. She received the all-clear just five weeks after her operation and is now back in full-time work and pursuing her career.

Rea, who was a social smoker while at university and boosted her student loan by working in smoky bars and clubs, says: *"What I want people to take from my experience is that this can potentially happen to anyone. This isn't just a stereotypical 40-a-day smokers' disease that many people think it is. Everyone needs to look at their lifestyle and be aware of the symptoms - young or old, male or female. If you feel something is wrong, go and see your doctor as early as you can. It could save your life."*

## Primary care

**The issues:** Despite lung cancer being the most common cancer, most doctors may only see one or two cases a year, compared to many coughs and other respiratory problems. Therefore it is vital that GP symptom awareness is strengthened to ensure that GPs recognise lung cancer at the earliest opportunity. This will prevent delays in patient presentation being further compounded by delays in onward referral. Our 2007 Plan called for research into risk stratification and patterns of presentation to aid development of tools to support GPs.

**Progress:** We welcome the Cancer Reform Strategy commitment to ensure that primary care is fully engaged in early cancer diagnosis and awareness-raising, and that patients are empowered to be active partners in their own care. For this to be as effective as possible General Practice must fully link to other primary care services such as pharmacy and walk-in centres, ensuring efficient pathways through primary to secondary care. We support the Government commitment that all patients will be seen by a specialist with two weeks.

UKLCC members keenly await the findings of the Diagnostic Advisory Group and the results of an audit into diagnosis of cancer in primary care. We anticipate that this will provide a valuable understanding of where lung cancer delays may occur and provide new insights into the primary care diagnosis process.

**Progress report:** Limited – Since 2007 the Government's NAEDI programme is beginning to examine the issue of GP access to diagnostic tests for cancer and lung cancer is among the priority areas. There is an urgent need to use the currently available evidence on the risk stratification of patients to develop decision support tools to help GPs refer patients as early as possible.

**Areas for action:** The Quality and Outcomes Framework (QOF) incentivises GPs to provide better clinical care for a range of conditions. Currently there are a small number of QOF points allocated for collecting information on the number of cancer patients registered with a GP practice, but no indicators which specifically relate to lung cancer. We believe that inclusion of QOF indicators for referral for chest x-ray would encourage action to diagnose lung cancer earlier among groups with a particularly elevated risk. These groups might include newly diagnosed COPD patients and those with developing symptoms. We call on NICE and the QOF Advisory Committee to consider potential new indicators in this area.

The UKLCC supports initiatives to modernise software used in general practice computer systems. We believe that there would be value in exploring whether triggers can be built into the systems to alert GPs to high-risk patients and remind them of referral options so that symptomatic patients can be investigated accordingly. Any updated software platform could also be used to speed the communication of test results back between primary and secondary care, enabling GPs and practice nurses to give appropriate support both pre- and post-diagnosis.

## 2010 call for action: Incentives should be included in the Quality and Outcomes Framework to encourage GPs to refer at-risk patients for a chest x-ray, particularly patients newly diagnosed or with developing COPD symptoms.

## Information and support

**The issues:** A cancer diagnosis can be a shattering experience for any patient. For most lung cancer patients, the diagnosis is likely to come with a poor prognosis and the recognition that they may have relatively little time left to live. It is therefore essential that lung patients are provided with information and support from the first investigations, and that communication around diagnosis, treatment, clinical trials and palliative care take place in a particularly sensitive way.

Every lung cancer patient should feel informed about their disease and the support available, and empowered to make decisions about their treatment options in partnership with health professionals. The lung cancer specialist nurse is a vital and consistent source of information and support, but patient support groups, information centres and charities also all have important roles to play.

Information and support provided must include non-clinical aspects of care, to support the emotional, practical and financial needs of lung cancer patients throughout their cancer journey. The time after treatment, when a patient leaves hospital, is particularly difficult, and a time when many patients say they feel 'abandoned' by the health service. Currently people living with cancer

only receive very limited advice, information and support to manage the multitude of needs they will encounter either during, immediately after treatment or in the following 2 – 5 year period. Offering proper holistic support can make a huge difference to a lung cancer patient's life.

**Progress:** As part of the work of the Cancer Reform Strategy, progress has been made in England towards providing high quality information to lung cancer patients throughout their cancer journey. In our 2007 Plan we supported the development of specially tailored 'information prescriptions' to be given to patients at diagnosis and updated through their care pathway. The National Cancer Action Team is now developing a national cancer patient information pathway in England. In addition, the NCAT is working in partnership with Cancer Research UK and Macmillan Cancer Support, to support the delivery of information prescriptions and to signpost cancer patients to other sources of information and support. These are currently being piloted in a number of cancers, including lung cancer, and national roll out is timetabled for 2010. We also welcome the recognition in both Scottish and Welsh cancer strategies of the importance of providing high quality patient information at key points in the care pathway.

Progress has been made on supporting patients during and particularly after treatment. This work has been taken forward by the National Cancer Survivorship Initiative in England since its launch last year. They have begun to develop and test a model for post-treatment care and support, including post-treatment assessment and care planning, supported self-management, and supporting patients with active and advanced disease. We hope that the development and implementation of these initiatives will see better and more holistic support offered to lung cancer patients.

Despite the widespread support for cancer specialist nurses and recognition of their importance to improving patients' access to information and experience of care, there are still insufficient numbers to meet the needs of lung cancer patients and their families. At least one in ten lung cancer patients does not have any access to a specialist lung cancer nurse.<sup>25</sup> On average there is just one lung cancer nurse in England for every 127 people diagnosed with lung cancer, compared to 82 people for every breast cancer nurse.<sup>26</sup> In an increasingly strained financial climate, it is imperative that lung cancer specialist nurses roles are protected and expanded.

**Progress report:** Limited - every lung cancer patient should be offered high quality information at key points in their cancer journey, tailored to their individual needs and supported by face-to-face contact with a healthcare professional. This information should be evidence-based, balanced, culturally sensitive and available in appropriate formats. All patients with lung cancer should have holistic needs assessments and care plans at key points in their cancer journey, and have access to a specialist lung cancer nurse.

**Areas for action:** The information pathways and prescriptions are still in development and will require further work and time to become embedded in routine practice. We keenly await national roll-out, since we believe they will greatly contribute to patients' sense of empowerment and improve their experience of care. We urge the National Cancer Action Team to prioritise action on implementation and promotion of information prescriptions and pathways in cancer services in the NHS. There also needs to be greater promotion of the information prescription plans across all areas of cancer delivery to prevent unnecessary duplication of content products.

We also call on the government to commit to safeguard the roles of cancer specialist nurses and to make adequate investment to ensure that every lung cancer patient has access to a lung cancer specialist nurse.

The practical, emotional and financial needs of lung cancer patients must be better supported through the care pathway. As we push for better survival rates for lung cancer, we would want to see people with lung cancer properly assisted to cope with the effects their cancer and/or treatment has. Assessments of patients' emotional, practical and financial needs should be made at the point of diagnosis and at key points in their cancer journey, and care plans should be put in place that ensure holistic support is provided.

**2010 call for action:** We call on all UK governments to ensure that lung cancer patients are offered high quality information at key points in their cancer journey, tailored to their individual needs and supported by face-to-face

contact with a healthcare professional. This should be evidence-based, balanced, culturally sensitive and available in appropriate formats. All patients with lung cancer should have access to a specialist lung cancer nurse, and receive regular holistic needs assessments and updated care plans at key points in their cancer journey, including at diagnosis, end of treatment, and end of life.

### Diagnosis and staging

**The issues:** Following early reporting of symptoms and speedy referral, rapid access to diagnostic technology is essential if early diagnosis is to be achieved. Accurate staging, to assess the aggressiveness and spread of the disease, is central to determining the overall prognosis and appropriate (ideally active) treatment.

In the 2007 Plan, the UKLCC called for all patients in whom lung cancer is suspected to be referred directly to a highly specialised rapid access clinic which should be part of a multi-disciplinary team (MDT) with timely access to the appropriate diagnostic and staging tools.

**Progress:** The Cancer Reform Strategy identified improving access to diagnostics as the "single most important priority in primary care to improve the early diagnosis of cancer." Real progress has been made in terms of diagnostic waiting times for all patients, particularly through the implementation of the two-week pathway for those with 'red-light' symptoms.

The UKLCC's clinical partners are particularly encouraged by the improved outcomes seen in patients operated on for early stage disease and believes more could be done to detect patients with early stage disease using the simple tool of chest x-ray much more freely in high risk patients.

**Progress report:** Poor - most patients suspected of having lung cancer are reviewed by a specialist team in a rapid access clinic but there is still a minority who are not recognised until the very late stages of their disease. Within these terms there

is very variable access to the best radiology, diagnostic and staging tools and pathology. There is still a third of patients in whom the diagnosis is not confirmed with a tissue biopsy and this proportion varies from almost a half to under a fifth of patients.

**Areas for action:** Faster and wider access to radiology services for initial diagnosis is needed. The UKLCC supports walk-in access to chest X-rays and believes that commissioners must be encouraged to speed up access to all forms of diagnostic testing. Not all units have local and timely access to PET-CT scanners which enable highly accurate staging and identification of patients suitable for radical treatment and lung resection versus radiotherapy, chemotherapy or palliation.

Provision should also be made to make other newer and proven diagnostic and staging techniques (e.g. ultrasound of neck lymph nodes, non-surgical mediastinal node sampling, thoracoscopy) more widely available. Performance, interpretation and reporting of results could be significantly improved. There should be 100% reporting of chest x-ray results, with rapid referral to a specialist MDT for any x-ray which suggests lung cancer. This requires highly skilled professionals, but the UK has too few specialist thoracic radiologists.

More should also be done to improve the reporting of proven diagnoses of lung cancer. According to the National Lung Cancer Audit, histological confirmation is only provided in 68% of lung cancer patients. In some Trusts rates are as low as 20%, whereas others achieve up to 85%. Every Trust should strive to achieve the rates secured by the best performing trusts in the country; the UKLCC believes that every Trust should be able to achieve a proven diagnosis rate, through histological confirmation of lung cancer, of at least 75%.

**2010 call for action:** The UKLCC believes that all patients should have rapid access to the best available diagnostic and staging investigations. Investment should be made in radiology to assist more accurate staging. Every Trust should be achieving proven diagnosis rates of at least 75%.

## Treatment

**The issues:** In order to achieve our ambitious lung cancer “survival challenge” the numbers of patients receiving active treatment for their disease needs to be radically increased and this has been shown to be achievable in the UK.<sup>27</sup> We recognise that there will always be a small number of patients who are too ill when they are diagnosed for active treatment to be an option. However, according to the National Lung Cancer Audit (NLCA) currently only 51% of lung cancer patients receive any kind of active treatment. In some Trusts fewer than 10% of patients receive active treatment, compared to 70% in others. This seven-fold variation in access is unacceptable and must be tackled as a matter of urgency.

**Progress:** We are deeply concerned at the low levels of access to active treatment identified in the NLCA. In addition, a recent study has shown that there is a worrying socio-economic dynamic at play; patients living in the most deprived areas are least likely to receive active treatment and thoracic surgery for non-small cell lung cancer.<sup>28</sup>

Surgery is the main curative treatment for lung cancer and the optimum treatment for early stage patients provided they are medically fit.<sup>29</sup> Five year survival rates for early stage patients having surgical resection are over 60%, and can even be as high as 80% for very early cancers.<sup>30</sup> Despite this, the NLCA reveals that only 10% of patients have surgery, varying from only 5% of patients receiving surgery in some Trusts to 25% in others.

Many patients could benefit from keyhole surgery to treat lung cancer. Initial studies suggest that this is having a positive impact on survival rates: of those that undergo keyhole surgery 70% are living three years after the operation, compared to 64% for open surgery.<sup>31</sup> Such surgery also leads to much less post-operative pain and shorter stays in hospital. Keyhole surgery for lung cancer is available in a minority of UK surgical centres.

It is also important that patients receive their treatment in a timely manner. An audit of waiting times in lung cancer patients showed that 20% of patients were progressive to the point where they were unsuitable for curative treatment while on a waiting list.<sup>32</sup>

Around 25% of patients receive chemotherapy, and 22% receive radiotherapy. For small cell lung cancer (SCLC) chemotherapy is usually suggested over surgery, yet only 62% of SCLC patients received chemotherapy. As before, these averages mask large variations between Trusts.

**Progress report:** Poor - There is evidence of a slow but steady increase in treatment rates. However, less than 60% of all patients in the UK receive any kind of active anti-cancer treatment at present, a figure well below most other western countries.

**Areas for action:** This postcode lottery of access to treatment is unacceptable. The overall level of active treatment is too low and the variations between Trusts are too wide. More must be done to understand why people diagnosed with lung cancer in deprived areas are less likely to receive treatment, and ensure that Trusts are learning from those where innovative and aggressive cancer management is bringing about better patient outcomes. It should be possible for every Trust to achieve levels of active treatment nearer to the 70% reached in the best performing ones. The NLCA’s analysis of practice around the country should be used along with current evidence to update guidelines for best practice.

All patients with lung cancer who are fit enough should be offered active treatment. Also, greater efforts should be made to improve patient’s fitness for surgery if possible, rather than simply dismissing them. For instance, improving the pulmonary function of even a few borderline patients could have a big effect of resection rates and overall outcomes. We also believe that more patients should be offered and entered into clinical trials. This, in turn, will benefit future patients as better therapies are developed.

The rapid developments in new lung cancer treatments must not be ignored. We call for accelerated UK adoption of innovative and proven therapies and technology in order to improve lung cancer survival. In addition, the Improving Outcomes Guidance (IOG) and NICE Clinical Guideline for lung cancer should be revised to include many more service delivery and patient-centred measures. Commissioners should be provided with a toolkit, including NLCA data on local performance and key questions to ask of their cancer services, to assist them in commissioning a high standard of care for lung cancer patients.

**2010 call for action: Every hospital trust should examine its levels of active treatment and strive to bring them closer to the 70% achieved in some parts**

**of the country. Relevant clinical guidance should be updated to reflect new therapeutic and technological options, and tools developed to support commissioners in commissioning effective lung cancer services.**

## End of life care

**The issues:** Sadly, around half of lung cancer patients will die within six months of diagnosis, and the vast majority will die within five years. On average 95 lung cancer patients die every day. Opening up conversations around end of life care can be difficult for patients, carers and healthcare professionals. However, failing to discuss the implications of their prognosis with patients can seriously affect quality of life for patients and their families, as well as hampering the NHS’s ability to plan services. Ensuring that all lung cancer patients have access to the information and support services they need as they near the end of their life is critical.

**Progress:** Encouragingly, the Cancer Reform Strategy made a commitment to the full implementation of NICE guidance on supportive and palliative care for adults with cancer. We await the reports back from Cancer Networks regarding compliance with this. We welcomed publication of the NHS End of Life Care Strategy in July 2008, which aims to improve the quality of care for people approaching the end of their life. Following this, a number of pilots and initiatives have been developed examining advance care planning and preferred place of care. We believe this is a real opportunity to improve patients’ experience of care.

**Progress report:** Limited - we welcome the NHS End of Life Care Strategy in July 2008, and the subsequent pilots and initiatives that have been developed examining advance care planning and preferred place of care. We keenly await the reports back from Cancer Networks regarding compliance with NICE guidance on supportive and palliative care for adults with cancer.

**Areas for action:** A recent study demonstrated that high quality end of life care is a more efficient and effective use of resources than delivering a poor service<sup>33</sup>. Many patients would choose to die at home, but not everyone is able to do so because of a lack of provision of community nursing

services. In the light of the projected increase in lung cancer due to the ageing population, it is vital that commissioners and service providers do not overlook or disinvest in this important area. There should be clear monitoring of the investment and progress in implementation of the End of Life Care Strategy.

The UKLCC continue to advocate the provision of a clinical nurse specialist for every lung cancer patient to ensure that information about palliative care is provided and discussed with patients and their families, in a sensitive, timely and appropriate way. Investment should be made in more and better training in relation to care for the dying, and such training should be embedded as a core competence for all health and social care disciplines with a role in end of life care.

One of the key challenges facing healthcare professionals is determining when a patient is reaching the end-of-life phase. We recommend that the 'surprise question' should be universally applied. Instead of asking themselves 'Is this patient going to die?' healthcare professionals should ask 'Would you be surprised if the patient died within the next 6-12 months?'. This will help ensure that end of life conversations are appropriate and timely. Financial and legal advice and support is also important, so that patients can make decisions about their care options and provision for loved ones.

Underpinning the broad palliative and end of life care strategy needs to be the flexibility to respond to different cancer patients' varying needs. For lung patients dyspnoea can be a particular challenge. Dyspnoea is a distressing awareness of the process of breathing - either the frequency or the effort involved. Effective and careful management of this condition is central to reducing distress for lung patients near the end of life.

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**2010 call for action: The UK Governments must implement 24/7 coordinated community nursing across the country, as quickly and efficiently as possible, in line with the End of Life Care Strategy in England.**

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## Managing the care pathway

**The issues:** NICE recommend that all lung cancer patients are treated within a multi-disciplinary team (MDT). A prerequisite for this is that the full range of expertise is present to enable effective assessment and decision-making. However there is considerable variation in the quality, scope and effectiveness of lung cancer MDTs. Some problems identified, such as the timing, chairing and audibility of meetings, should be easy to resolve. Others are more challenging, such as securing attendance from all the disciplines required at every meeting - and ideally more than one representative to allow for a healthy clinical debate.

**Progress report: Poor - Virtually all patients are now discussed in an MDT. However, the Cancer Peer Review programme has illustrated that some teams lack core members. Even those with a good list of core members may have poor attendance, meaning that it is a lottery as to what range of specialists are available to consider any one patient's case.**

**Progress:** Some progress has been made in this area over the last two years, but the Cancer Reform Strategy noted that more needed to be done to ensure their effective working. We welcome the work of the National Cancer Action Team to develop a new peer review process based on self assessment and external reviews against national agreed quality measures. This is a useful step towards benchmarking the quality of MDTs and disseminating best practice. We would also welcome the establishment of initiatives to develop cancer MDTs further and to ensure that all teams have access to the high level of technical expertise to provide services resulting in the best outcomes for patients.

A first step towards effective MDT working is having a named core membership. Peer review data<sup>34</sup> indicates that only 64% of lung teams have this in place. In terms of meeting attendance, only 39% of lung teams had all core disciplines represented at half of their MDT meetings, compared to 83% of gynaecology, 79% of urology and 77% of breast cancer MDTs. Given the importance of this forum for making decisions about fitness for active treatment, this is simply not good enough. This is not indicative of a lack of interest by members of lung MDTs; rather it is an

indictment of capacity issues in lung cancer services. Clinicians, especially surgeons, are spread too thinly and therefore MDTs may not benefit from attendance of clinicians with a true thoracic interest. This means that patients who may be fit for surgery being turned down.

These worrying trends must be addressed. We are pleased that the first annual report of the *Cancer Reform Strategy* highlighted this as a priority. We hope that the launch of the Cancer Commissioning Toolkit will enable commissioners and providers to identify and remedy workforce gaps.

**Areas for action:** The MDT meeting is a pivotal point in the care pathway of all lung cancer patients. It is imperative that the MDT meeting is well-structured, well-resourced and well-supported. The quality of MDTs can and must improve: they should be better attended, more focussed and better run. This may well mean a reduction in the number of MDTs, so we support better use of technology to enable those who are remote from centres of excellence to take part in MDT meetings via video or tele-conferencing.

Templates for MDT training programmes already exist in the areas of prostate and bowel cancer, and the UKLCC believes these could be usefully applied in lung cancer.

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**2010 call for action: Every lung cancer patient's case should be considered by a fully representative MDT comprising specialists, with a prime interest in lung cancer, from all the relevant disciplines.**

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## Case study: Jamie Purvis



Jamie Purvis was diagnosed with lung cancer in 2008. Within a week of receiving a chest X-ray which revealed a shadow on his lung, Jamie underwent a quick succession of NHS tests and scans. During surgery they discovered that they could not remove the tumour as it had fused to his heart. However, Jamie remained optimistic and his oncologist assured him he would get the best treatment. Jamie went on to receive intensive chemotherapy and radical radiotherapy. He has

recently embarked on his second cycle of treatment.

Jamie says: "I have been cared for by a specialist multidisciplinary cancer team. My treatment, and everyone who cares for me, from the surgeon to the nurses, are amazing. I hear that in many parts of the country people don't always have access to the specialist team that I have. I want to campaign to ensure that other people around the UK have equal access to high quality lung cancer services."

### Capacity and workforce

**The issues:** In lung cancer, although the efforts to reduce smoking prevalence will eventually cause a reduction in cases, many thousands of people will be diagnosed with the disease in the years to come. Demands on cancer services are likely to increase in the face of squeezed NHS finances and current shortages in key disciplines.

**Progress:** Following its national assessment, the National Peer Review Team was particularly concerned by capacity issues in the area of lung cancer: "Lung teams continued to lag behind those for breast and colorectal cancer, with over 70 lung teams being identified as experiencing problems of workload and capacity. Workforce shortages previously noted in oncology, pathology, imaging, consultants in specialist palliative care and amongst clinical nurse specialists (CNSs) continued in 2004-2007, as did the paucity of thoracic surgeons."

Over the last two years the UKLCC has campaigned to defend the role of lung cancer specialist nurses. Commitments in the *Cancer Reform Strategy* were encouraging<sup>35</sup>. However, latest estimates suggest that there are just over 200 specialist lung cancer nurses across the country, supporting a patient population of 38,000 diagnoses a year. This is woefully inadequate to meet the needs of the patient population. On average, there is one lung cancer nurse in England for every 132 patients with lung cancer, compared to 82 breast cancer patients per breast cancer nurse.<sup>36</sup> In the current economic climate we must ensure that specialist nurses are not a target for cuts.

The UKLCC is similarly concerned about the paucity of specialist thoracic surgeons, which we believe contribute to the failure of MDTs to have stable surgical representation at meetings and the significant variations in local resection rates. The shortages mean that around 60% of thoracic surgery is carried out by cardiothoracic surgeons who work across two specialties, and may be more risk-averse – particularly regarding older patients' fitness for surgery. Encouraging more surgeons to specialise in thoracic and lung cancer surgery will be critical in tackling this.

**Progress report:** Poor - There have been significant steps in recent years to increase manpower in the key speciality areas necessary to provide high quality cancer services. However in lung cancer there remains a significant shortage of specialist thoracic surgeons and oncologists with a major interest in lung cancer. There are also issues of access to specialist nurses, pathologists and radiologists

**Areas for action:** The UKLCC continues to call for investment in the lung cancer workforce. Every Trust and Cancer Network should review workforce capacity as a matter of urgency, and put measures in place to ensure they have capacity to deliver appropriate treatment, information and support for lung cancer patients, as advocated in the Cancer Reform Strategy and Improving Outcomes Guidance.

In order to address the immediate shortages in surgery, thought should be given to whether different configurations of lung cancer surgical services would help maximise capacity. The

UKLCC is, together with the Royal College of Surgeons and Society of Cardiothoracic Surgeons, exploring whether a model of large specialist thoracic centres supported by smaller cardiothoracic units would improve access to surgery and make better use of resource.

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**2010 call for action:**  
**Shortages in the lung cancer workforce must be addressed, and every Trust and Cancer Network should review workforce capacity as a matter of urgency, to ensure parity with services for patients with breast cancer.**

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## Case study: Donald Sutherland



When Donald Sutherland was diagnosed with lung cancer, doctors gave him just three months to live. Fourteen years later Donald, an insurance broker from Cardiff, is still very much alive and campaigning to get more specialist nurses to help people like himself. Currently, there is an average of one lung cancer nurse for every 132 people diagnosed with the condition, compared to 82 people per every breast cancer nurse.

Donald says: “As well as a positive attitude, part of the reason I have done so well is because of the nurses’ help. They were always at the end of the phone to answer questions and were extremely helpful in loads of ways; they made things really personal, treated me like a patient rather than a number, and administered all my chemotherapy which is the difficult treatment. I’d like to see all lung cancer patients have access to the quality lung cancer nursing care that I had.”

### Research

**The issues:** Lung cancer receives less research funding than other cancers, relative to both incidence and mortality. In 2005, only 3.9% of research funding targeted at a specific tumour type was spent on lung cancer, despite the fact that the disease causes more than one in five cancer deaths.<sup>37</sup> It has been suggested that this may be associated with the culture of nihilism around lung cancer, and that it has a reputation for being difficult to study or secure funding for.

Our 2007 Plan called on the UK governments to fund more research into the early detection and diagnosis of lung cancer. It also called on the lung cancer research community to generate further high quality research proposals for research and clinical trials into the prevention, detection and treatment of the disease.

**Progress:** Investment in research will result in long-term benefits rather than an immediate quick fix. Over the last two years new treatments have become available and there is a growing range of clinical trials. This is a testament to the benefits of lung cancer research.

The National Cancer Research Institute has established a Working Party to help raise the profile of lung cancer research and UKLCC members and partners are closely involved in this. We will continue to support the case of raising the profile of lung cancer research – its needs, value and potential for impact. We are delighted that £2.25 million has been pledged by NCRI partners and these funds will focus on supportive and palliative care.<sup>38</sup>

**Progress report:** Limited - although in recent years there has been funding for a modest number of new clinical trials and other research programmes in lung cancer, spending on this disease remains very low compared to the burden of disease. Because of a long history of underfunding of lung cancer research, there is a significant lack of the highest quality infrastructure to be competitive in the search for research funding.

**Areas for action:** UKLCC partners are already at the forefront of lung cancer research and fund a large proportion of the UK’s investment in the area. The UKLCC strongly believes that the site specific research spend on lung cancer should be increased, with investment in opportunities for screening and improving early diagnosis and a focus on how we can reduce the risks of lung cancer in high-risk populations. There needs to be deliberate efforts to increase the expert infrastructure to enable high quality research to be undertaken and successful in the UK. This should include a greater number of, and greater access for patients to, clinical trials. Another area in need of attention is improving quality of life for lung cancer patients and how we can address morbidities arising as a result of lung cancer treatment.

However, in order to generate better, high quality research, we need to revitalise the lung cancer research community. Historically there has been a sense of defeatism in lung cancer research, but steps are being taken to dispel this and attract a new generation of inspired and inspiring researchers into the area. Making strides in lung

cancer research will depend on having the finest research minds focussed on investigating every angle, from prevention and detection to discovery of new targets for treatments.

If we are to achieve our ambitious “survival targets” then we need a sustained effort from research funders and the research community. Sadly the prognosis for so many lung cancer patients can be bleak. However, we maintain that this research will go some way towards changing this and transforming the face of lung cancer care.

**2010 call for action: UK Governments should invest in lung cancer research, to include funding into early detection and diagnosis, basic research, treatment and clinical trials. UK Governments should promote a supportive environment for research including clinical trials. All patients should be offered the opportunity to participate in trials if eligible.**

## Data collection

**The issues:** Understanding what is happening in clinical practice and how this is affecting patient outcomes depends on having first-class data collection. Participation in national comparative audits such as the National Lung Cancer Audit (NLCA) is integral to improving the standard of treatment and care across the country, and to achieving better patient outcomes. It provides comparative data about the incidence, nature and treatment of lung cancer, with the aim of improving patient care and outcomes.

The UKLCC has, for a number of years, been campaigning to increase acute hospital trust participation in the NLCA. We believe that they should be held to account if they fail to submit their data.

**Progress:** Our clinical partners agreed that data collection was an area in which good progress has been made. We were encouraged to see participation rates in the NLCA are improving year on year, and hospital participation has increased from 44% in 2005 to 75% in 2007. The data collected is providing valuable insights into regional and national performance and will, in time, provide the basis for much of what patients will need to know about their local services. It is vital that this audit process is maintained in the long term.

Indeed the Cancer Reform Strategy highlighted the importance of the NLCA and stated that “better information on cancer services and outcomes will enhance patient choice, drive up service quality and underpin stronger commissioning.” To quote the National Cancer Director, Professor Mike Richards: *“If you are in the business of treating cancer, you are in the business of collecting cancer data.”*

**Progress report:** Good - the National Lung Cancer Audit has, for the first time, provided us with quality data about the standards of care and outcomes for patients across the UK. This process must be allowed to continue to monitor any efforts that are put in to improve standards further and to support the commissioning of world class lung cancer services.

**Areas for action:** Almost all trusts are now submitting some data to the NLCA. However, some are still failing to submit full datasets for all their patients. This seriously hampers efforts to fully understand the reasons for variations in care and to take the steps necessary to tackle it. To enable the highest quality and most meaningful information to be available, it is essential that cancer centres are required to collect and submit all the data necessary to make such analyses possible. The UKLCC believes that commissioners should insist on this as part of their planning processes.

An additional policy lever, in the shape of the new Quality Accounts, could give trusts the added impetus they need to prioritise data collection. The UKLCC has written to the NHS Medical Director, Professor Bruce Keogh, to urge him to make publication of compliance with national comparative audits, such as the NLCA, a core requirement of Quality Accounts. We believe that this would be an efficient and effective way of driving improvements, both to the quality of data collection and to patient care.

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**2010 call for action:**  
**Compliance with national comparative audits should be a core part of Quality Accounts and every Trust should be striving to complete and submit datasets for all lung cancer patients.**

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# What is the UK Lung Cancer Coalition?

The United Kingdom Lung Cancer Coalition (UKLCC) is the nation's only multi-interest group in lung cancer – a powerful partnership of the leading lung cancer charities, clinicians, NHS professionals and healthcare companies with a commitment to lung cancer issues. Our members include:

## Healthcare professionals

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Dame Gill Oliver, UKLCC Chair

Dr Mick Peake, Glenfield Hospital, Leicester

Dr Stephen Falk, Bristol Haematology and Oncology Centre

Prof Stephen Spiro, University College London Hospital

Mr Richard Steyn, Birmingham Heartlands Hospital

Nicola Bell, representative of the National Lung Cancer Forum for Nurses

John White, representative of the National Lung Cancer Forum for Nurses

## Voluntary organisations

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British Lung Foundation (Secretariat)

Cancer Black Care

Cancer Research UK

General Practice in Airways Group

Macmillan Cancer Support

Marie Curie Cancer Care

Roy Castle Lung Cancer Foundation

Tenovus

## Healthcare companies

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AstraZeneca UK Ltd

GlaxoSmithKline

Lilly UK

Merck Serono

Novartis

Pfizer

Roche Products

The UKLCC is funded by its members, who are bound by a funding and governance policy. The member healthcare companies and charities provide financial grants and grants in kind to achieve the UKLCC's stated goals. Details of our members, governance, aims and objectives can be found on our website at: [www.uklcc.org.uk](http://www.uklcc.org.uk).

## Contacting UK Lung Cancer Coalition

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The UKLCC is keen to engage and work in partnership to bring about improvements in the lung cancer picture.

If you would like more information on this report or any aspect of our work, please contact the UKLCC's secretariat, which is provided by the British Lung Foundation. The British Lung Foundation can be contacted on 020 7688 5555 or [uklcc@blf-uk.org](mailto:uklcc@blf-uk.org).

# References:

- <sup>1</sup> Figures from Cancer Research UK, available at: <http://info.cancerresearchuk.org/cancerstats/types/lung/>
- <sup>2</sup> Figures from Cancer Research UK, available at: <http://info.cancerresearchuk.org/cancerstats/types/lung/>
- <sup>3</sup> Office for National Statistics, 2009 Mortality Statistics: Deaths registered in England & Wales, 2007; General Register Office for Scotland, 2009 Deaths Time Series Data, 1997-2007; Northern Ireland Statistics and Research Agency Registrar General Annual Report 2007 2009
- <sup>4</sup> Coleman, M.P., et al., Trends and socioeconomic inequalities in cancer survival in England and Wales up to 2001. *Br J Cancer*, 2004, 90(7): p. 1367-73.
- <sup>5</sup> The cancer reform strategy: maintaining momentum, building for the future - first annual report, 1 December 2008. Available online: [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_091261](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_091261)
- <sup>6</sup> National Lung Cancer Audit for 2007.
- <sup>7</sup> Survival for eight major cancers and all cancers combined for European adults diagnosed in 1995-99: results of the EUROCARE-4 study Franco Berrino, Roberta De Angelis, Milena Sant, Stefano Rosso, Magdalena The *Lancet Oncology*, Volume 8, Issue 9, Pages 752 - 753, September 2007
- <sup>8</sup> Cancer Research UK, Lung cancer incidence projections to 2024, available online at: <http://info.cancerresearchuk.org/cancerstats/projections/lung/>
- <sup>9</sup> Cancer Research UK, Lung Cancer and Smoking Statistics: <http://info.cancerresearchuk.org/cancerstats/types/lung/smoking/>
- <sup>10</sup> Cancer Research UK, Lung Cancer and Smoking Statistics: <http://info.cancerresearchuk.org/cancerstats/types/lung/smoking/>
- <sup>11</sup> General Household Survey: Smoking and drinking among adults 2007, Office for National Statistics. 2008
- <sup>12</sup> *The cancer reform strategy: maintaining momentum, building for the future - first annual report, p.8*
- <sup>13</sup> West R, Smoking Toolkit Study, published 1 July 2008: <http://info.cancerresearchuk.org/news/archive/pressreleases/2008/june/444256>
- <sup>14</sup> National Statistics: <http://www.statistics.gov.uk/cci/nugget.asp?id=828>
- <sup>15</sup> Jarvis, M.J., Monitoring cigarette smoking prevalence in Britain in a timely fashion. *Addiction*, 2003, 98(11): p. 1569-74
- <sup>16</sup> ASH factsheet, Smoking statistics, available online: [http://www.ash.org.uk/files/documents/ASH\\_93.pdf](http://www.ash.org.uk/files/documents/ASH_93.pdf)
- <sup>17</sup> NICE Public Health guideline: PH10 Smoking cessation services: guidance, February 2008
- <sup>18</sup> BHF calculation using the latest available data regarding vending machines from Smoking, Drinking and Drug Use among Young People in England 2008 and mid-2007 population estimates by individual year for England and Wales. It assumed that trends in smoking in young people and children are similar in England and Wales. Campaign details available online: [http://www.bhf.org.uk/news\\_and\\_campaigning/our\\_campaigns/cigarette\\_machine\\_ban/latest\\_news.aspx](http://www.bhf.org.uk/news_and_campaigning/our_campaigns/cigarette_machine_ban/latest_news.aspx)
- <sup>19</sup> Jha P, Chaloupka FJ. *Curbing the Epidemic: Governments and the Economics of Tobacco Control*. Washington DC: World Bank, 1999
- <sup>20</sup> ASH factsheet, The economics of tobacco, available online: [http://www.ash.org.uk/ash\\_00/cpj8.htm?search=factsheets](http://www.ash.org.uk/ash_00/cpj8.htm?search=factsheets)
- <sup>21</sup> F. Berrino, R. De Angelis, M. Sant, S. Rosso, M. B. Lasota, J. W. Coebergh, M. Santaquilani and the EUROCARE Working Group: Survival for eight major cancers and all cancers combined for European adults diagnosed in 1995-99: results of the EUROCARE-4 study. *Lancet Oncology* 2007; 8:773-783
- <sup>22</sup> The Cancer Reform Strategy: maintaining momentum, building for the future - first annual report, 1 December 2008. Available online: [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_091261](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_091261)
- <sup>23</sup> Redeker C, Wardle J, Wilder D, Hiom S, Miles A 2008. The launch of Cancer Research UK's 'Reduce the Risk' campaign: Baseline measurements of public awareness of cancer risk factors in 2004. *European Journal of Cancer* 45:827-36
- <sup>24</sup> Knowles J, Hamilton W. Knowledge of risk factors in cancer. *BJGP*. 2008;58: 650-651
- <sup>25</sup> National Lung Cancer Audit 2007
- <sup>26</sup> Strengthening the Cancer Nurse Specialist Workforce - Findings from the 2008 English Specialist Nursing Workforce Census. Paul Trevatt and Dr Alison Leary.
- <sup>27</sup> Martin-Ucar AE, Waller DA, Atkins JA, et al. 'The beneficial effects of specialist Thoracic Surgery on the resection rate for non-small cell lung cancer.' *Lung Cancer*, 2004; 46: 227-232
- <sup>28</sup> Crawford SM, Sauerzapf V, Haynes R, Zhao H, Forman D, Jones AP. Social and geographical factors affecting access to treatment of lung cancer. *British Journal of Cancer*, 2009
- <sup>29</sup> Smythe, W.R., *Chest*, 2003, 123(1 Suppl): p. 181S-187S
- <sup>30</sup> Souhami R and Tobias J, *Cancer and its management* (5th edition). 2005: Blackwell publishing.
- <sup>31</sup> Southampton University Hospitals Trust press release. 20 July 2009: <http://www.suht.nhs.uk/AboutTheTrust/Newsandpublications/Latestnews/2009/SouthamptonurgeonshonouredfordevelopingkeyholelungcancersurgeryintheUK.aspx>
- <sup>32</sup> O'Rourke N, Edwards R 2000. Lung Cancer Treatment Waiting Times and Tumour Growth. *Clin Oncol*. 12(3):141-144
- <sup>33</sup> National Audit Office, End of Life Care, November 2008
- <sup>34</sup> National Cancer Peer Review Programme 2004 - 2007 An Overview of the Findings From the Second National Round of Peer Reviews of Cancer Services in England. Available online: <http://www.v3.cquins.nhs.uk/download.php?d=CancerAnnualRv2.pdf>
- <sup>35</sup> Cancer Reform Strategy, Department of Health, 3 December 2007, p.10.
- <sup>36</sup> Mapping the English cancer clinical nurse specialist workforce. *Cancer Nursing Practice*. Trevatt P, Petit J, Leary A (2008)
- <sup>37</sup> Lung Cancer Research in the UK. National Cancer Research Institute, October 2006. Available at <http://www.ncri.org.uk/includes/Publications/reports/LCReport.pdf>
- <sup>38</sup> MRC press release, December 2007. <http://www.mrc.ac.uk/Newspublications/News/MRC004031>

