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Current Perspective

The need for a comprehensive and integrated approach to lung cancer policy in Europe



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Abstract Lung cancer is the leading cause of cancer-related deaths in Europe. *Europe's Beating Cancer Plan* calls for a comprehensive approach to the disease in general but not specifically to lung cancer. Such a comprehensive approach, integrating efforts to strengthen anti-tobacco policies, early detection and underlying models of care, is sorely needed for lung cancer – particularly considering disruptions to care during the COVID-19 pandemic. In a recently published think piece, a multidisciplinary group of experts proposed four key policy priority areas. First, to reduce stigma and improve awareness of potential symptoms, there is a need to foster a better understanding of lung cancer – among the public and healthcare professionals. Second, opportunities for early detection should be enhanced, and the implementation of targeted screening through low-dose computed tomography should be encouraged as a complement to smoking cessation services. This complementarity should be recognised and built into joint policy proposals, with development and better integration of screening and smoking cessation programmes on the ground. Third, the socioeconomic inequalities underpinning disparities in outcomes in people with lung cancer must be addressed, with

Abbreviations: LDCT, low-dose computed tomography.

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targeted approaches to overcome barriers to access. Finally, the overall quality of lung cancer care must be improved, making multidisciplinary care available to all and ensuring survivorship is given due attention.

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1. Introduction

Lung cancer inflicts a high burden on societies globally. In Europe, lung cancer causes one fifth of all deaths from cancer (translating into over 380,000 deaths per year) [1]. It also accounts for 15% of the total costs of cancer in Europe and approximately one quarter of productivity losses due to premature cancer-related mortality [2]. Despite considerable advances in diagnostics and treatments, lung cancer survival remains low due to late presentation, when the chance of surviving for 5 years may be even less than 10% [3,4]. With earlier detection, this figure could increase to 68–92% [3].

Smoking is a highly significant risk factor for lung cancer, particularly in Europe. The continent has the highest prevalence of adults who smoke globally: 29% of Europeans aged 15 years or older are people who smoke [5]. Smoking rates are gradually declining in many European countries [6]; nonetheless, people with a smoking history remain at high risk of developing lung cancer for up to 25 years [7]. In addition, the epidemiology of lung cancer is changing, with other risk factors, such as air pollution, occupational exposure and genetic predisposition playing a growing role. Air pollution alone is thought to be responsible for up to 7% of all lung cancers in Europe [8], and worldwide, between 10 and 25% of lung cancers affect people who have never smoked [9].

Notably, mortality rates are increasing for women while they are stabilising or decreasing in men [6]. The epidemiology of cigarette consumption may play a part, as Europe has one of the highest proportions of women who smoke in the world [10]. However, a significant number of cases could be due to other carcinogens, as the incidence of lung cancer in people who do not smoke is higher in women [6].

Cancer has attracted increasing political attention from the European Union in recent years, with the European Commission nominating cancer as one of its core missions and publishing *Europe's Beating Cancer Plan* in February 2021. This document calls for a comprehensive approach to cancer. The plan proposes to tackle the entire disease pathway in four key action areas: prevention, early detection, diagnosis and treatment and quality of life for people with cancer and survivors [11]. Lung cancer, however, is not addressed specifically. The plan also announced a new proposal to

update the Council of the European Union's 2003 Recommendation on cancer screening with a view to potentially extend screening to other types of cancer [11]. Experts have strongly advocated for lung cancer screening be included in the new recommendations, given the maturity of the evidence [12].

Considering this, a multidisciplinary group of experts drafted a think piece highlighting four key priority areas (Fig. 1) that should be the focus of any new policy approach. If addressed, these have the potential to foster a more comprehensive approach to tackling lung cancer [13].

2. Improve awareness and reduce stigma

Despite its high prevalence, many people may be unfamiliar with symptoms that could indicate lung cancer (such as a persistent cough, shortness of breath, chest pain, tiredness or weight loss), attributing them to other illnesses. As a result, people may delay seeking medical advice. In addition, primary care physicians may confuse symptoms for other respiratory diseases. Following diagnosis, a fatalistic attitude towards lung cancer can exist due to a lack of awareness of the significant improvement in potential effective treatment options. These informational barriers can compound other barriers to appropriate diagnosis and care, particularly among vulnerable populations [14].

Societal stigma towards smoking and those who smoke remains a significant issue. This stigma can cause feelings of guilt and shame in people diagnosed with lung cancer, as it can make people feel responsible for their illness [14]. Another issue is public attitudes towards lung cancer. In a global survey, a significant proportion of respondents had less sympathy for people with lung cancer than for those with other forms of cancer [15]. Therefore, awareness campaigns and educational efforts around the disease must also work to dispel misconceptions of lung cancer as a self-inflicted condition and create more empathy for people impacted by lung cancer [15].

3. Enhanced opportunities for early detection, with screening at its core

Early detection is a key priority in lung cancer given the large proportion of cases diagnosed at an advanced stage, when curative treatment options are limited. Multiple large-scale randomised controlled trials showed that low-

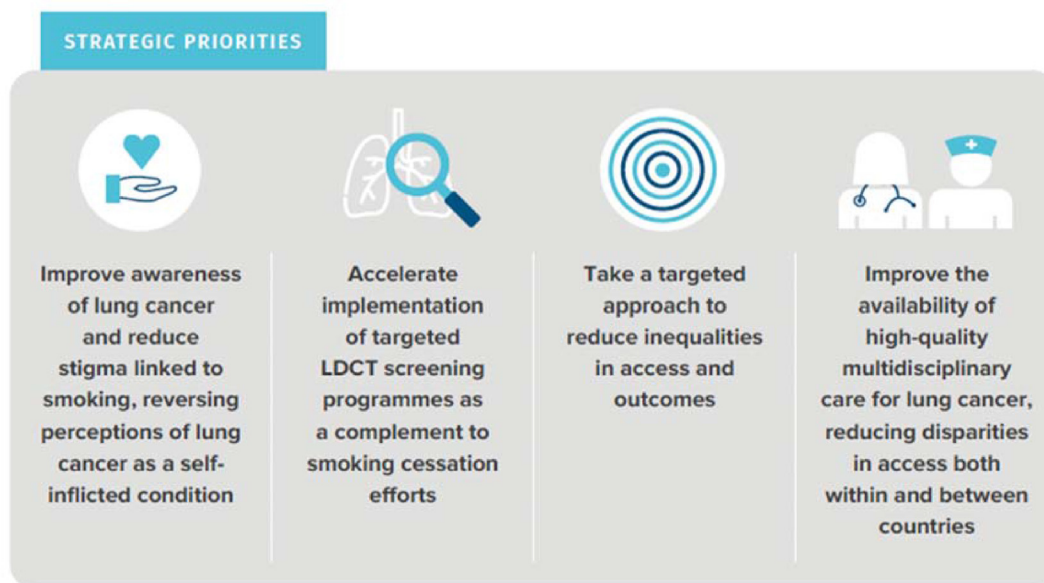


Fig. 1. Strategic policy priorities to tackle lung cancer in Europe [13].

dose computed tomography (LDCT) screening in people who smoke or in people with a heavy smoking history demonstrated reduced mortality from lung cancer by up to one quarter [16]. However, the pace of implementation of lung cancer screening programmes in Europe does not reflect the maturity of the evidence. It is felt by many experts that the European Commission and national governments need to prioritise investment into large-scale lung cancer screening programmes targeted at high-risk individuals.

Although clinical research has focussed on targeting LDCT at people who smoke or in people with a heavy smoking history, there is considerable interest in expanding the eligibility criteria for screening to other populations at high risk of lung cancer to amplify the impact of screening. These could include socioeconomically disadvantaged populations, people with certain genetic predispositions or comorbidities and those with occupational exposure to asbestos or other carcinogens [17]. Different approaches, such as using risk prediction models, are being explored to optimise recruitment for screening programmes. To further increase chances for survival, early detection could also be offered to people who do not meet current criteria for screening. Incidental pulmonary nodule detection and management, and rapid referral pathways offer possible approaches that merit further exploration (Fig. 2) [18,19].

Screening programmes should be integrated with existing smoking cessation programmes. The relationship between the two is complementary: the impact of screening on lung cancer mortality is greatest if coupled with smoking cessation [20]. In addition, the likelihood of quitting tobacco smoking is higher for participants in

a screening programme with a smoking cessation component than for programmes focussing solely on smoking cessation [20].

4. Targeted approaches to reduce disparities in access and outcomes

Lung cancer has a steep social gradient. People from socially deprived groups are at higher risk of developing lung cancer [21]; presenting with late stage disease [22]; facing barriers to screening [23] and having poorer survival [21]. There are also apparent disparities in access to quality diagnosis and care, including biomarker/molecular testing [24], radiotherapy [25], palliative care [26], psychological support [27] and specialist cancer nurses. In addition, delays in and reduced access to diagnosis and care owing to the COVID-19 pandemic [28] have further hampered the management of lung cancer.

There is a need for a particular gendered approach for lung cancer considering differences by sex in epidemiology, clinical behaviour, and increasing incidence and mortality [6,10]. There is a growing evidence that LDCT screening may be more effective in women than men [16] and that lung cancer shows slower progression in women [29].

5. Improve availability of and access to high-quality care

Management of lung cancer by a multidisciplinary team should be a high priority for any strategy to improve the quality and experience of care for lung cancer. This team should involve relevant specialists with high levels of training on lung cancer, to ensure patients are offered

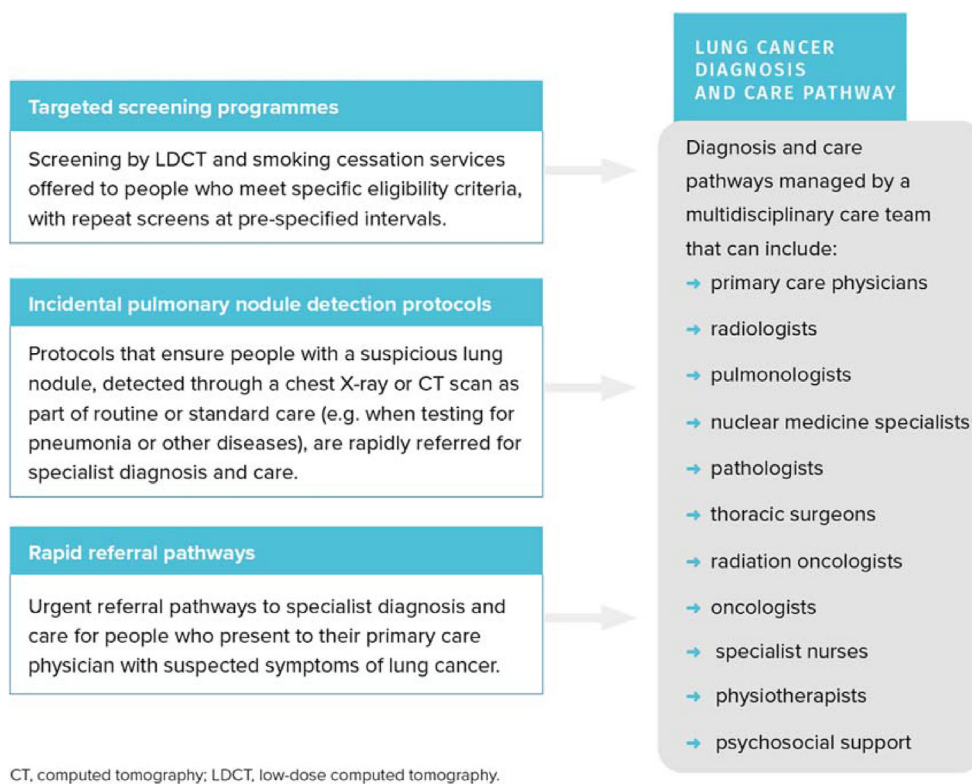


Fig. 2. Components of comprehensive early detection of lung cancer [13].

the latest evidence-based advances for diagnosis, treatment and are offered participation in clinical trials, if applicable. Evidence suggests the involvement of a multidisciplinary team results in rapid and more accurate diagnosis, better access to appropriate treatment, improved coordination and quality of care, and longer survival [30]. However, such multidisciplinary care is not available everywhere. Many people are still left to navigate complex pathways unsupported, with fragmented access to different providers and poor coordination between them, resulting in suboptimal outcomes [27].

It is also important to bring survivorship needs more prominently into lung cancer care. With treatment advances, more people live with and beyond lung cancer. Hence, it is important to give due attention to the needs of people after their initial treatment and embed survivorship into lung cancer care, providing rehabilitation, psychological, and peer support to meet individuals' ongoing needs.

6. Conclusion: the way forward

Lung cancer is a paradox: It is the largest cause of cancer death, yet traditionally it has been relatively neglected as a priority in cancer plans and policies. Lung cancer's incidence remains high owing to current smoking rates in Europe and other factors, including increasing air pollution. Prognosis can be transformed if

lung cancer is detected at an earlier stage. However, governments have been slow in providing access to and implementing large-scale LDCT screening programmes despite mature evidence demonstrating the positive balance of benefits to risks and reasonable cost-effectiveness. The publication of *Europe's Beating Cancer Plan* provides a good opportunity to focus on lung cancer, as it provides a clear framework to build on and creates momentum for policy change.

To shift the burden of lung cancer, we need a comprehensive, multistakeholder approach that spans across primary risk reduction, early detection, treatment, and care. More efforts should also be made to seize on the opportunities presented by improvements in diagnosis, targeted treatments and multidisciplinary approaches to care, making them available to all and thus addressing the intrinsic inequities in lung cancer epidemiology and care.

By addressing the key strategic priorities outlined in this paper, governments across Europe could have a huge impact on the quality of life and outcomes for people currently living with lung cancer, and those who are of risk of being diagnosed in the future. The time to act is now.

CRedit author statement

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