

APPENDIX GA36a

LEVEL 4 ASSESSMENT SPECIFICATION

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Lung Cancer: A Public Health Issue

1. Introduction

As one of the most pressing global public health issues, lung cancer is also one of the largest contributors to cancer-related deaths. Abnormal lung cell overgrowth leads to tumors that may metastasize to other body sites (World Health Organization (WHO), 2023). Lung cancer impacts individuals, families and healthcare systems by virtue of the high numbers associated with mortality and the long-term health effects. Lung cancer results in approximately 2.5 million new cases and 1.8 million deaths worldwide each year, making it the leading cause of cancer-related mortality in the world (American Cancer Society, 2024; WHO, 2024). Lung cancer is one of the most commonly diagnosed cancer types in the UK, accounting for about 48,904 new lung cancers in 2021 (which is about 12% of all cancers diagnosed that year) (World Cancer Research Fund, 2023). Symptoms such as persistent cough, chest pain, shortness of breath, unintentional weight loss, and coughing up blood (WHO, 2023) illustrate that lung cancer represents a significant problem in terms of global public health and requires effective prevention, monitoring, and treatment of lung cancer.

2. Main Body

2.1. Approaches Used to Measure and Monitor Lung Cancer

Measuring and monitoring lung cancer incidence and trends is critical to public health as it enables governments and healthcare systems to determine the extent of lung cancer and develop the appropriate strategy for intervention. Different methods of monitoring the incidence and trends of lung cancer exist.

Cancer registries are one of the main strategies used for assessing lung cancer. These cancer registries record information about all cancer cases (e.g., diagnoses, treatment, and survival). They also help health authorities to monitor the pattern of disease occurrence and evaluate the impact of public health policies (Retegui et al., 2025). A good example of a cancer registry is the UK's National Cancer Registration and Analysis Service (NCRAS). London has a survey installed to collect data on the incidence and mortality of lung cancer. By collecting this information, NCRAS strives to improve health policy.

Another method of assessing lung cancer is via epidemiological surveillance. For instance, epidemiological studies can be used to analyse risk factor data (e.g. smoking, environmental pollution, and workplace exposure to hazardous chemicals). This type of study can help researchers establish the cause of lung cancer and the distribution of lung cancer among different populations (World Health Organisation [WHO], 2023).

Lung cancer is monitored by various screening programmes. Long-term smokers, who are high-risk patients, may undergo low-dose computed tomography (CT) scanning to identify lung cancers at their earliest stage (before any signs of the disease are present). Detecting the disease early allows for better treatment options and improved survival rates (World Health Organization, 2023).

Future lung cancer incidence and mortality can be modelled using statistics modelling and research data. Researchers look at as many historical records available and use this data to project what future disease trends may be like and where prevention programmes can be developed (Arik et al., 2024). These types of monitoring will give public health organisations in many countries the ability to look closely at the trends for lung cancer, helping them to appropriately allocate resources.

2.2. How Lung Cancer is controlled

Controlling lung cancer uses multiple prevention approaches, early identification (via screening), and medical treatment. Public health policies have been key in reducing the risk factors associated with lung cancer.

Tobacco control is the most important prevention approach. Tobacco use accounts for approximately 85% of all cases of lung cancer worldwide (World Health Organization, 2023). Governments have put in place many tobacco control policies, including the prohibition of smoking in public settings, an increase in the tax on tobacco products, and the development of public education campaigns to reduce smoking.

A second prevention mode includes reducing environmental and occupational exposure to substances that could cause lung cancer. The specific environmental/occupational exposures that have been correlated with an increase in the risk of developing lung cancer include asbestos, radon gas, and air pollution (UICC, 2024). There are several regulations that affect workplace

safety and environmental regulations that are designed to reduce the risk of exposure to these elements.

Lung cancer can also be controlled through the early detection and screening of lung cancer. The use of screening programmes that incorporate low-dose computed tomography (CT) scans can identify lung cancer during its early stages thus allowing for treatment before the cancer develops and spreads (WHO, 2023).

Surgery, chemotherapy, radiotherapy, and targeted therapies are the variety of ways in which lung cancer can be treated. The treatment selected will depend on the stage of the cancer as well as the overall health of the patient. Research and advances in medicine have been able to raise the survival rates of patients through the use of personalised treatments and advancements in diagnostic capabilities (Darvish et al., 2024).

Using combination modalities of prevention and treatment will lend to the reduced incidence of lung cancer as well as positive outcomes for patients with lung cancer.

2.3. Consequences of Lung Cancer on People in the Community

Lung cancer may cause both individual and community consequences physically, emotionally and socially. The primary consequence is the impact on one's physical health, with patients generally experiencing severe symptoms including persistent cough, trouble breathing, fatigue and weight loss; these symptoms can negatively affect a person's quality of life (WHO, 2023).

There are also psychological consequences of lung cancer because of the life-threatening nature and the challenging treatment of lung cancer, many patients report experiencing anxiety, depression and emotional distress because of the disease itself and also from being unable to care for themselves and support their families, thereby negatively affecting their overall well-being.

A further consequence of lung cancer is the direct financial burden that is incurred by the individual and by the healthcare system related to lung cancer. Treatment for cancer is very expensive because it typically involves long-term medical care, hospitalisation, and the need for special treatment. Lung cancer patients comprise a vast number of healthcare expenditures related to the treatment of cancer.

Family and communities of lung cancer patients can also be affected. A patient may lose their job as a result of their illness and create financial difficulties for their families. Caregivers may experience increased emotional strain related to caring for someone with lung cancer as well as increased responsibility.

At a community level, lung cancer places significant stress on healthcare services. In the UK, an estimated 35,000 people die from lung cancer each year making lung cancer the leading cause of cancer deaths in the UK (UK Lung Cancer Coalition, 2023). Thus, this illustrates that lung cancer is not only a serious medical problem; it is a serious issue for both social and economic reasons.

2.4. Health and Social Care Support Services

People with lung cancer require many health and social care services that will address their medical and emotional needs, so healthcare providers are key players in delivering patients the assistance they need for treatment, rehab and long-term care.

Medical professionals such as oncologists, respiratory specialists, and other multidisciplinary teams are involved in the treatment of lung cancer through the use of advanced technology to evaluate and care for patients diagnosed with lung cancer.

For patients suffering from advanced lung cancer, the focus of palliative care is to maximize the quality of life by providing symptom management or pain relief, emotional support and end-of-life care.

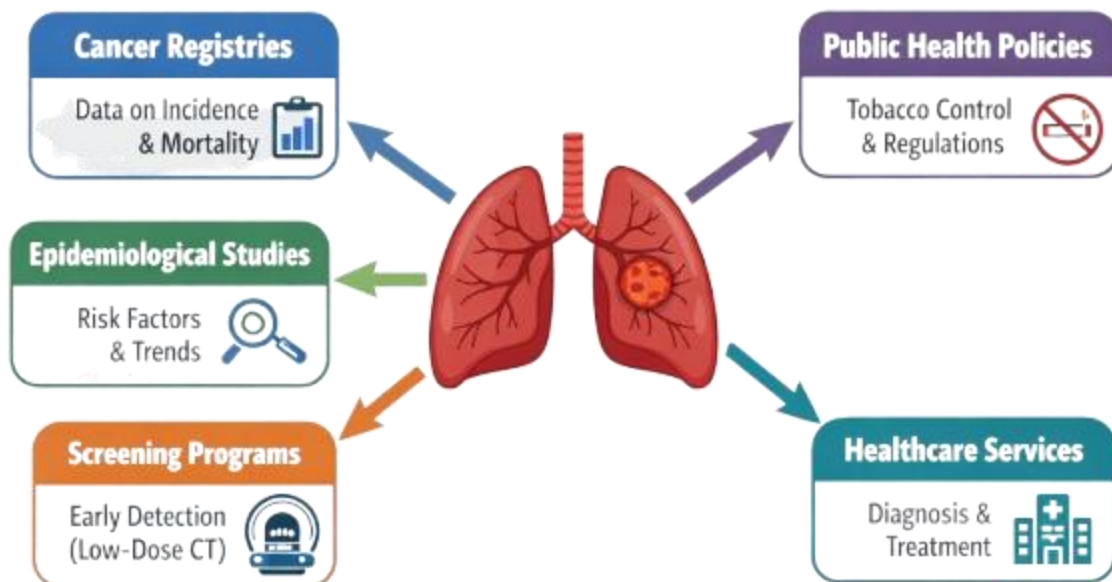
Another important type of support service available to patients diagnosed with lung cancer is psychological counselling. Mental health has an impact due to the stress of the cancer diagnosis and treatment. Therefore, counselling provides support to assist in managing stress, anxiety, and depression.

Moreover, community organizations can be good resources for patients with lung cancer and their families. The organizations assist with providing educational and supportive services to patients and families (e.g. paying for certain expenses related to lung cancer). Community-based organizations also provide resources to help the patients deal with the social and practical challenges of living with lung cancer.

Finally, public health programs reduce the risks of lung cancer by educating the population about healthy lifestyles and behaviors, encouraging smoking cessation, and raising public awareness of early signs and symptoms of lung cancer.

By joining together healthcare organizations and their services, it is possible to maximize services that will improve the lives of lung cancer patients and their families.

Approaches for Monitoring and Controlling Lung Cancer



3. Conclusion

By now, the reader should have a clear picture of lung cancer and why lung cancer is a global health issue. As one of the leading causes of cancer deaths worldwide, lung cancer remains a serious public health challenge. The disease is caused by the development of malignant cells in the lungs. The malignant cells usually arise as a result of several risk factors including exposure to second-hand smoke, environmental hazards and occupational exposure. Monitoring lung cancer incidence and prevalence through cancer registries, epidemiological studies and

screening programmes can help to better understand the disease pattern and provide public health practitioners with the necessary information to implement appropriate interventions.

Using public health strategies such as tobacco control and environmental protection are important components in decreasing lung cancer incidence. In addition to continuing to have a significant negative impact on individuals, families and public health systems, lung cancer presents individuals with an array of physical, psychological and financial challenges. Therefore it is essential that as part of a comprehensive health and social care service delivery, people receive appropriate medical treatment, palliative care and community support to improve the quality of the patient's life. Continued research, prevention initiatives and public health policies will be needed to reduce globally the burden of lung cancer on population health.

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