



## CHAPTER 8. Lung Cancer

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## LUNG CANCER

### IMPORTANCE OF LUNG CANCER FOR CANCER PREVENTION AND CONTROL

Lung cancer is the leading cause of cancer death among U.S. men and has been the leading cause of cancer death among women since surpassing breast cancer in 1987.<sup>1-3</sup> It is estimated that in 2007 there will be 213,380 new cases of lung cancer diagnosed in the U.S. and 160,390 deaths. Lung cancer will account for 15% of all cancer diagnoses and 29% of all cancer deaths.<sup>1,2</sup> Throughout their lifetime, men have a 1 in 12 chance of developing lung cancer, and women, a 1 in 16 chance. The 5-year relative survival rate for lung cancer is only 16%.<sup>1,2</sup>

Smoking is the single most preventable cause of death and disease and the leading cause of lung cancer. Tobacco smoking is responsible for 87% (almost 9 out of 10) of lung cancer deaths.<sup>4</sup> The 2004 Surgeon General's report, *The Health Consequences of Smoking*, found sufficient evidence that smoking contributes to the cause of cancers of the bladder, cervix, esophagus, kidney, larynx, lung, oral cavity and pharynx, pancreas, and stomach, as well as acute myeloid leukemia.<sup>5</sup> More Americans die from smoking each year than from AIDS, alcohol, other drugs, motor vehicle accidents, homicide, and suicide combined. Smoking will cost the nation \$167 billion and 438,000 premature deaths each year.<sup>6</sup> Overall, smoking is responsible for more than 13,000 deaths annually in New Jersey alone.<sup>7</sup> Smokers generate \$2.48 billion in direct medical costs and \$2.2 billion in lost productivity costs each year in New Jersey due to tobacco-related illnesses.<sup>8</sup>

While tobacco is the leading cause of lung cancer, and tobacco cessation is the most effective method for reducing lung cancer morbidity and mortality, there do exist other factors that contribute to the lung cancer burden in New Jersey and the U.S. These other risk factors include environmental and occupational exposures including secondhand smoke, radon, asbestos, arsenic, and some organic chemicals (such as benzene), as well as radiation exposure, air pollution, and tuberculosis. Most importantly, however, there is an interaction between cigarette smoking and exposure to radon or asbestos, resulting in a significantly greater risk of lung cancer than would be attributed to either of the exposures alone.<sup>1</sup> There also may be a genetic, or inherited, component placing some individuals at an increased risk of developing lung cancer.

Prevention and early detection are necessary to decrease mortality from lung cancer. Currently, however, there is no recommended screening or early detection method for lung cancer. While the use of computed tomographic (CT) scans have shown promise in detecting lung cancers early, the impact of such methods on lung cancer mortality has yet to be proven.<sup>9</sup>

Nationally, unexplained cancer-related health disparities remain among population subgroups (e.g., blacks and individuals with low socioeconomic status have the highest overall rates for both incidence and mortality).<sup>10,11</sup> New Jersey must also address existing lung cancer morbidity and mortality disparities by race and gender, especially for black men, through funded research.

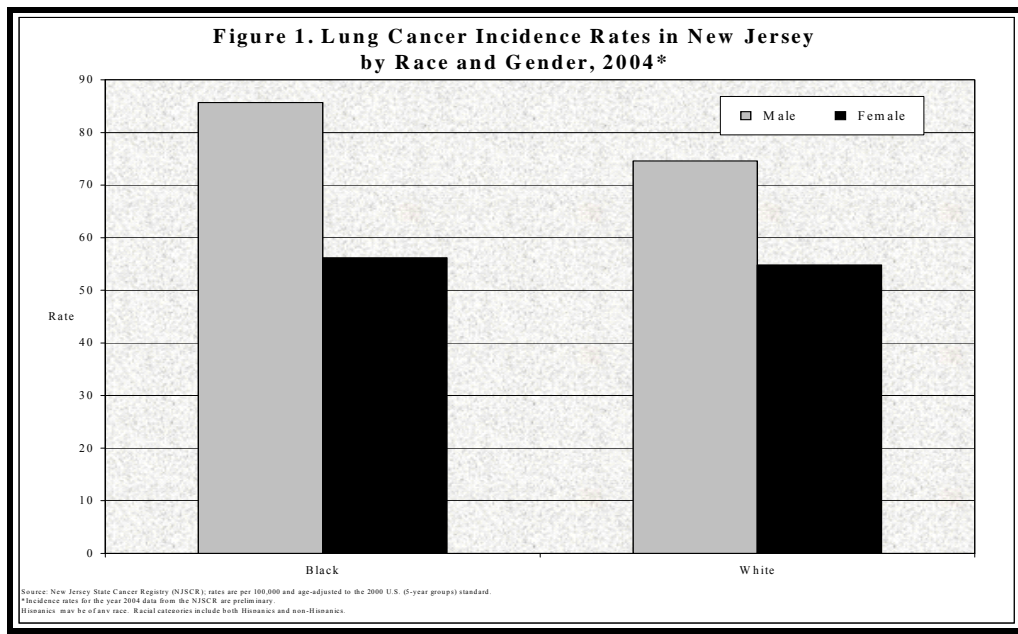


## LUNG CANCER IN NEW JERSEY

In this section we discuss the status of lung cancer in New Jersey, including incidence, mortality, prevalence, and survival.

**Incidence.** According to the American Cancer Society, in 2007, lung cancer was projected to be the second most common cancer in the U.S. and in New Jersey, accounting for about 13% of all cancer diagnoses.<sup>1</sup> Reflecting the national trend of decreasing lung cancer incidence among white men, New Jersey has seen a decreasing trend in incidence since the late 1980s. Female lung cancer incidence rates were rising in New Jersey and the U.S. but have now reached a plateau. While lung cancer incidence rates for white females in New Jersey are similar to those among black females (54.8 versus 56.2 per 100,000\*\*, respectively, in 2004\*), the incidence rates for black males in New Jersey are substantially higher than for white males (85.7 versus 74.6 per 100,000\*\*, respectively, in 2004\*) (Figure 1).<sup>12</sup> In 2007 the American Cancer Society estimates that 6,310 new lung cancer cases will be diagnosed in New Jersey.<sup>1</sup>

In contrast, the lung cancer incidence rates for Hispanic men and women have risen since 1995. In 1995, the male rate was 58.0 compared to 62.0 per 100,000\*\* in 2004. The female rate was 30.5 in 1995 compared to 37.5 per 100,000\*\* in 2004. Although their rates have increased, Hispanic men and women still have lower incidence rates than non-Hispanic men and women (62.0 versus 75.6 per 100,000\*\* for men and 37.5 versus 55.5 per 100,000\*\* for women in 2004).<sup>12</sup>



\* Incidence rates for the year 2004 data from the New Jersey State Cancer Registry are preliminary.

\*\* Rates are per 100,000 and age-adjusted to the 2000 U.S. population standard.



**Mortality.** Lung cancer is the most common cause of cancer death in the U.S. and in New Jersey, accounting for about 28% of all cancer deaths. U.S. mortality rates from the National Center for Health Statistics revealed that lung cancer deaths among men (all races combined) have decreased from 84.4 per 100,000\*\* in 1995 to 71.9 per 100,000\*\* in 2003.<sup>13</sup> For New Jersey females, mortality rates during the same time period remained relatively stable. For the years 1995 through 2003, black males in New Jersey had the highest mortality rate, followed by white males. Mortality rates were lower for females and similar for white and black females in New Jersey during the same years (Figure 2).<sup>14</sup> The American Cancer Society estimates that, in 2007, 4,380 new lung cancer deaths will occur in New Jersey compared to about 4,800 deaths that occurred in 1998, representing an almost 10% decrease.<sup>1</sup> The Hispanic lung cancer mortality rate for males and females is much lower than that for non-Hispanics (32.9 versus 67.9 per 100,000\*\* for men and 13.8 versus 43.1 per 100,000\*\* for women in 2003).<sup>13</sup>

**Prevalence.** Estimates indicate that on January 1, 2003, there were 11,559 or 0.1% of New Jersey men and women alive who had ever been diagnosed with lung cancer. As with other cancers, the prevalence of lung cancer increases with age and is highest in the 65+ age group (0.7%). The prevalence of lung cancer is the same in whites and blacks (0.1%).<sup>15</sup>

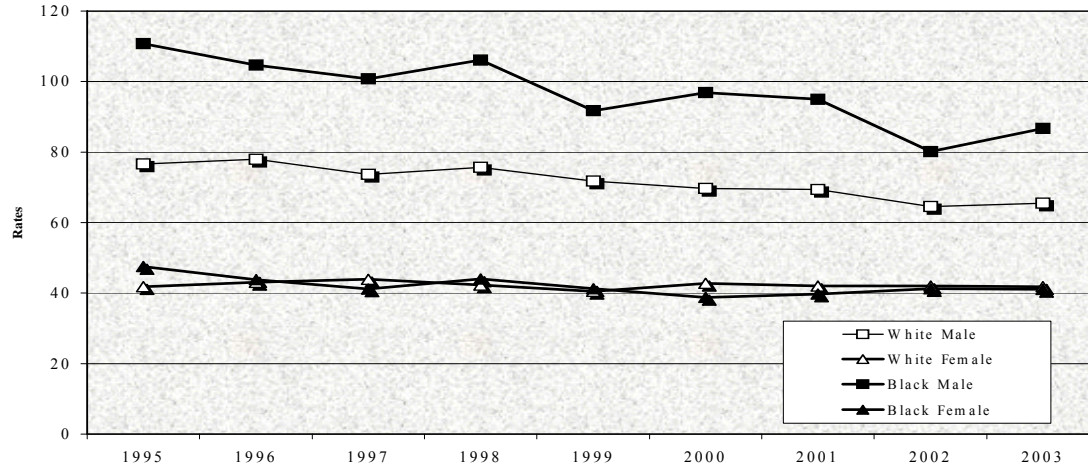
**Survival.** The five-year survival rate for lung cancer diagnosed in New Jersey from 1994–1997 is 14.5%. This rate is slightly lower than the U.S. rate of 15.2%. Disparities in survival exist between blacks and whites. In New Jersey, as in the U.S., black women have a slightly lower survival rate than white women (14.8% versus 16.3%, respectively), and black men have a lower survival rate than white men (10.0% versus 13.4%, respectively).

Lung cancer survival rates are much higher for cancers diagnosed at the local stage than at the regional or distant stage. For example, in New Jersey from 1994–1997, the five-year survival rate for local-stage lung cancer was 46.2% for men and 49.5% for women, whereas that for regional-stage lung cancer was 13.7% and 16.8% for men and women, respectively, and that for distant-stage was 1.9% and 2.6% for men and women, respectively. Unfortunately, fewer than 20% of lung cancer cases are diagnosed in the early stage.<sup>1,2,16</sup>

\*\*Rates are per 100,000 and age-adjusted to the 2000 U.S. population standard.



Figure 2. Lung Cancer Mortality in New Jersey  
by Race and Gender, 1995–2003



Source: National Center for Health Statistics; rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population.



**HEALTHY NEW JERSEY 2010 GOALS**

**Healthy New Jersey Goal 1**

Reduce the age-adjusted death rate from lung cancer per 100,000 standard population to target below, by 2010.

Table 1. Age-adjusted death rate from lung cancer, New Jersey, 1999–2002 and [Healthy New Jersey 2010](#) projected target rates.<sup>17</sup>

| Population              | 1999  | 2000  | 2001  | 2002  | Target | Preferred 2010 Endpoint |
|-------------------------|-------|-------|-------|-------|--------|-------------------------|
| Total                   | 52.9  | 53.4  | 52.7  | 50.4  | 43.0   | 38.0                    |
| White                   | 53.3  | 53.8  | 53.1  | 51.0  | 43.0   | 38.0                    |
| Black                   | 60.9  | 61.1  | 61.4  | 56.2  | 43.0   | 38.0                    |
| Hispanic*               | 15.6  | 23.7  | 20.5  | 19.6  | **     | **                      |
| Asian/Pacific Islander* | 15.7  | 16.5  | 18.1  | 18.7  | **     | **                      |
| Male                    | 72.1  | 71.1  | 70.4  | 64.7  | 45.0   | 38.0                    |
| Female                  | 39.8  | 41.6  | 40.7  | 40.8  | 38.0   | 38.0                    |
| Persons 65+             | 299.7 | 303.3 | 301.6 | 292.0 | 276.0  | 256.0                   |

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics, [Healthy New Jersey 2010: Update 2005](#)

\* The number of Hispanic and Asian/Pacific Islander deaths is known to be understated.

\*\* A target was not set because the baseline data for this subpopulation were statistically unreliable.

Note: Data for white, black, and Asian/Pacific Islander include Hispanics and non-Hispanics.



## GOALS, OBJECTIVES, AND STRATEGIES

In support of the Healthy New Jersey 2010 goal for lung cancer, the recommendations of the Lung Cancer Workgroup are summarized below in the following focal areas:

- Tobacco control
- Provider education
- Screening and early detection
- Public awareness and education
- Research and surveillance

### TOBACCO CONTROL

The major intervention in the prevention of lung cancer is tobacco control. The most effective approach to tobacco control is to enact public policies that reduce tobacco use. Proven strategies include increasing tobacco taxes, making tobacco-dependence resources available, and restricting tobacco use in public places.<sup>7,18</sup> Policies that restrict the use of tobacco in public places have been shown to increase the social unacceptability of tobacco use, leading to a reduction in overall smoking prevalence.<sup>19</sup> In 2006 the Surgeon General released a new report on the health effects of secondhand smoke. The report concluded that secondhand smoke causes premature death and disease among adults and children and recommends the elimination of smoking in indoor spaces as the only way to fully protect nonsmokers from exposure to secondhand smoke.<sup>20</sup>

In 2005, the Lung Cancer Workgroup, together with the Task Force and the New Jersey Comprehensive Tobacco Control Program (NJCTCP), was instrumental in the passage of the New Jersey Smoke-Free Air Act (P.L. 2005, c.383), which prohibits smoking inside public buildings, representing a major step in increasing social unacceptability of tobacco use in the state. New Jersey has also implemented an increase in the age of sale for tobacco products (from 18 to 19 years old), as well as an increase in the state tobacco tax that makes it the highest state tobacco excise tax in the nation. Tobacco control programs in New Jersey should continue to build on the existing efforts of the NJCTCP<sup>21-23</sup> in order to further reduce tobacco use among state residents.

Other issues surrounding tobacco control include:

- Addressing racial, gender, and cultural disparities through targeted interventions
- Reducing exposure to Environmental Tobacco Smoke (ETS)
- Educating healthcare providers and insurers
- Expanding access to and funding for smoking cessation
- Promoting public information/support
- Engaging in active advocacy for smoke-free environments
- Implementing countermarketing in response to tobacco industry marketing and promotional activities<sup>21</sup>



For each of these issues, the Comprehensive Tobacco Control Program has identified specific challenges and strategies for overcoming them. The Lung Cancer Workgroup recommends collaborating with the NJCTCP to overcome implementation barriers and facilitate provider actions to achieve desired outcomes.

### GOAL LU-1

To adopt the goals already formulated by the New Jersey Comprehensive Tobacco Control Program, namely to:

- Decrease the acceptability of tobacco use among all populations
- Decrease the initiation of tobacco use by youth under 18 years of age and youth 18 to 24 years of age
- Increase the number of youth and adult tobacco users who initiate treatment
- Decrease exposure to environmental tobacco smoke
- Reduce disparities related to tobacco use and its effects among different population groups<sup>23</sup>

### Objective LU-1.1

To support the long-term goals of the New Jersey Comprehensive Tobacco Control Program and its comprehensive components by increasing funding to the levels recommended by the Centers for Disease Control and Prevention.

### Strategies

- LU-1.1.1** Broaden the number and scope of advocates for tobacco control by identifying new advocates and advocacy groups that will advocate for tobacco control.
- LU-1.1.2** Increase the cost of tobacco products through such measures as an increase in the tobacco excise tax or tobacco retailer licensing fee.
- LU-1.1.3** Advocate for the revenue generated through the tobacco tax and tobacco retailer licensing fees to be designated for state-sponsored tobacco and cancer programs.
- LU-1.1.4** Increase the awareness and use of state-sponsored tobacco treatment resources in communities.
- LU-1.1.5** Increase the awareness and improve utilization of the University of Medicine and Dentistry of New Jersey, School of Public Health Certified Tobacco Treatment Specialist training program.



## PROVIDER EDUCATION

In 2000, the U.S. Department of Health and Human Services updated the Public Health Service (PHS) *Guidelines for Treating Tobacco Use and Dependence* (henceforth referred to as the PHS Guidelines).<sup>24</sup> The PHS Guidelines provide clinicians with excellent strategies to help their patients abstain from tobacco. However, the guidelines are rendered useless if providers are unaware of them and are unable to execute them effectively. Since publication of the PHS Guidelines, the challenge of tobacco control advocates has been to persuade healthcare providers to implement the recommendations in their respective practices.

The importance of enlisting healthcare providers in tobacco-related treatment is undeniable.<sup>25-27</sup> It is reported that 70% of smokers visit a healthcare provider each year,<sup>28</sup> and smokers visit their doctor on average six times per year,<sup>29</sup> thus allowing for considerable patient/provider contact. Despite the commonly accepted knowledge of the adverse health effects of smoking, a significant number of smokers are still unclear about the full scope of the dangers they are risking.<sup>30</sup> Patients view their healthcare provider as an important and credible source of medical information and, therefore, providers must be up to date on tobacco-related issues. Patients report that a strong quit message from a provider is a very important motivating factor in the quitting process.<sup>31</sup> Reviews show that minimal-duration (less than 3 minutes) counseling by a clinician can increase smoking cessation by 2.5%.<sup>25,26</sup> While this may not seem like a significant difference, it is far from negligible when considered in light of the 1.2 million smokers in the state. Moreover, simple advice to quit has a cumulative effect, and the patient can interpret omitting the advice as a rationalization that quitting is not as important as some say and that the clinician does not care. Providers also have the opportunity to intervene in circumstances beyond the direct patient's habit. This would include pediatricians addressing environmental tobacco smoke in the household of smokers and obstetricians addressing smoking during pregnancy and the fetal effects that ensue.

The PHS Guidelines also make clear that, although brief interventions by clinicians can have an impact, more intense interventions have even greater effect. Interventions have been shown to operate in a dose-response fashion; the more intensive the intervention and the more resources utilized, the higher the rates of success.<sup>24</sup> This effect applies to any smoker willing to participate, not simply those unable to achieve abstinence on their own or with the help of their primary care provider. Luckily, excellent resources exist in New Jersey for specialized treatment. These include the Quitline, Quitnet, and Quitcenter. In addition, the NJQuit2Win website (<http://www.njquit2win.com>) provides valuable smoking cessation tools and information for physicians, employers, smokers, and their families.

The National Cancer Institute's 5 A's: *Ask, Advise, Assess, Assist, Arrange* strategy for smoking intervention, advocated in the PHS Guidelines, has been abbreviated into a 30-second intervention: *Ask, Advise, Refer*, encouraging physicians to **Ask** patients if they smoke, **Advise** them to quit, and **Refer** them to the New Jersey Quit Services and other resources available at the NJQuit2Win website. This new "2 A's + R" campaign represents an innovative strategy for engaging all healthcare professionals in smoking cessation counseling.

The PHS Guidelines recommend that each clinical site designate a tobacco-dependence treatment coordinator, responsible for instructing patients on the effective use of treatments (e.g., pharmacotherapy, telephone calls to and from prospective quitters, and scheduled follow-up visits, especially in the immediate post-quit period).<sup>24</sup> The University of Medicine and Dentistry of New Jersey, School of Public Health has developed a training program to prepare professionals to provide



intensive specialized treatment services for tobacco dependence. The program provides knowledge of evidence-based treatment methods and offers participants the skills and tools needed to assess and treat smokers in multiple settings.<sup>32</sup>

Unfortunately, despite the availability of the PHS Guidelines and specialized resources, smoking cessation counseling by healthcare providers is not occurring as it should. Barriers to physician engagement in smoking cessation include a perceived lack of efficacy, lack of time with the patient, patient sensitivity, perceived lack of patient motivation, and lack of skills or effective strategies for counseling.<sup>26</sup>

There is good evidence that healthcare providers are not fully aware of the tools at their disposal. In New Jersey, while more than 85% of smokers reported being asked their smoking status by their clinician, less than 75% reported being advised to quit. Less than 30% reported being advised on how to quit. While the percent of smokers referred to New Jersey quit services (Quitline, Quitnet, and Quitcenters) is low, it increased from 17.3% in 2002 to 25.1% in 2005.<sup>21</sup>

Despite the increase, providers are not meeting the recommended levels of tobacco treatment. A concerted effort must be made to inform providers of the resources available for specialty referral and improve their utilization.

*Healthy People 2010* includes an objective to “increase insurance coverage of evidence-based treatment for nicotine dependency.”<sup>33</sup> In order for this objective to be met, a strong advocacy effort must be undertaken to convince third-party insurers that efforts to increase cessation are cost effective in both the short and the long term. If reimbursement is increased to the *Healthy People 2010* goals, a major barrier to tobacco-dependency treatment as reported by providers will be reduced.

**GOAL LU-2** To increase the proportion of providers in New Jersey who properly and effectively implement the Public Health Service Guidelines regarding tobacco-dependency treatment.

### Objective LU-2.1

To increase provider knowledge regarding standard of care for tobacco-dependency treatment in the State of New Jersey.

### Strategies

**LU-2.1.1** Support the assessment of providers’ current knowledge regarding the Public Health Service Guidelines for tobacco-dependency treatment via a provider survey.

**LU-2.1.2** Support the development and/or promotion of educational programs to increase the awareness of the Public Health Service Guidelines for tobacco-dependency treatment. These interventions will target stakeholders of provider organizations.



## Objective LU-2.2

To increase provider knowledge regarding available resources for tobacco-dependency treatment in New Jersey (Quitline, Quitnet, and Quitcenters).

### Strategies

- LU-2.2.1** Support the assessment of providers' current awareness of New Jersey's efforts in tobacco control via a statewide providers' survey.
- LU-2.2.2** Support promotional programs to increase the awareness of tobacco-dependency treatment in New Jersey (Quitline, Quitnet, and Quitcenters).

## Objective LU-2.3

To reduce the barriers for insurance providers in implementing the Public Health Service Guidelines for tobacco-dependency treatment.

### Strategies

- LU-2.3.1** Advocate for third-party payer reimbursement of tobacco-dependency treatment.
- LU-2.3.2** Advocate for third-party payer reimbursement of certified tobacco specialists.

## SCREENING AND EARLY DETECTION

According to 2007 estimates, lung cancer remains the primary cause of cancer-related death in men and women in the nation. The overall long-term (five-year) survival for lung cancer only increased from 12% in 1974 to 15% in 2001.<sup>2</sup> Despite poor survival in general, five-year survival for cancers diagnosed in the early, localized stage is 50%, although only 16% of lung cancers are localized at the time of diagnosis. Lung cancer accounts for more cancer deaths in the U.S. than the combination of the next three most common causes of cancer death: colorectal, breast, and prostate cancers. However, lung cancer is the only one of these cancers for which there are no screening recommendations.<sup>1,2</sup>

The goal of a screening program is to detect cancers at an early stage when they are small and asymptomatic and when treatment leads to a higher cure rate.<sup>34,35</sup> Several recent studies have sought to demonstrate an effective screening mechanism. During the 1970s, the National Cancer Institute sponsored the Cooperative Early Lung Cancer Detection program, and more recent 20-year follow-up data from the Mayo Lung Project confirmed that early detection of lung cancer with chest x-ray at frequent intervals does not decrease mortality from lung cancer. Although there was a greater surgical



resectability rate in the screened patients and survival time was increased, there was no effect on overall mortality rates. As a result of these and similar trials, no national recommendations for lung cancer screening were made.<sup>9,36-38</sup>

Recent technological advances and development of new tools for screening have led to renewed trials of methods for detection of early-stage lung cancers. The most promising of these is the low-radiation-dose spiral computer topography (LDCT) scan.<sup>9,39</sup> LDCT requires less than 20 seconds of scanning time, does not require intravenous contrast, and is much less expensive than a standard chest CT. The cost is only slightly higher than the cost of a chest radiograph, and the radiation exposure is about equal.<sup>9,40</sup>

Results of lung cancer screening trials have been varied. While studies have established the ability of the LDCT to detect lung cancer at an earlier stage, there is as yet little evidence that screening decreased mortality. In addition, there is a great deal of concern over the potential for harm due to the possibility of a high number of false positive tests.<sup>9,38</sup>

**GOAL LU-3** To increase the detection of lung cancer at earlier stages.

**Objective LU-3.1**

To monitor low-dose spiral CT as an effective screening method to decrease lung cancer mortality.

**Strategies**

- LU-3.1.1** Monitor and support the National Cancer Institute's progress in defining the value of spiral CT and other effective methods as a recommended screening method for lung cancer.
- LU-3.1.2** Educate New Jersey healthcare providers about state-of-the-art lung cancer screening, especially if a national lung cancer screening recommendation as defined by a large controlled randomized study is issued.
- LU-3.1.3** Educate New Jersey residents about state-of-the-art lung cancer screening, especially if a national lung cancer screening recommendation as defined by a large controlled randomized study is issued.
- LU-3.1.4** Promote efforts to have the screening tests covered by health insurers and third-party payers, especially if a national lung cancer screening recommendation as defined by a large controlled randomized study is issued.



## Objective LU-3.2

To promote research on early detection of lung cancer and precancerous lesions.

### Strategies

- LU-3.2.1** Assess results of current studies in the area of early detection of lung cancer and precancerous lesions.
- LU-3.2.2** Support existing research projects and additional pilot projects for early detection of lung cancer and precancerous lesions.

## PUBLIC AWARENESS AND EDUCATION

It is important to note that not all lung cancers occur among current smokers. Former smokers and never-smokers should be aware of the factors that may put them at risk for developing lung cancer. While some of the risk factors for lung cancer, such as heredity, cannot be controlled or prevented, raising awareness will ultimately help New Jersey residents to avoid environmental and occupational exposures that may increase their risk of developing lung cancer. For those who are at increased risk due to heredity or past exposures, raising awareness of lung cancer risk and symptoms can lead to earlier detection.

The symptoms of lung cancer may include persistent cough, sputum streaked with blood, chest pain, and recurring pneumonia or bronchitis.<sup>1</sup> In the absence of sufficient evidence to recommend broad, population-based lung cancer screening of asymptomatic individuals, it is important to educate the public about not only the risk factors of lung cancer, but also the signs and symptoms of the disease to facilitate early diagnosis and treatment.

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| <b>GOAL LU-4</b> | To heighten public awareness and knowledge of lung cancer, its risk factors, symptoms, treatment, and the potential for early detection. |
|------------------|--|

## Objective LU-4.1

To implement an awareness campaign to educate New Jersey residents about lung cancer, its risk factors, symptoms, treatment, and the potential for early detection.



## Strategies

- LU-4.1.1** Work with other organizations to secure funding for a lung cancer awareness campaign.
- LU-4.1.2** Identify, and develop where needed, appropriate lung cancer educational materials.
- LU-4.1.3** Collaborate with the county cancer Coalitions and other community-based organizations to disseminate educational materials.

## RESEARCH AND SURVEILLANCE

Lung cancer is the leading cause of cancer death in the United States. Its major cause is cigarette smoking. Lung cancer is usually detected at the late stage, making treatment more difficult. Therefore, tobacco control and early detection are the two most important strategies for the reduction of lung cancer incidence and mortality. However, continued research is needed to develop more effective measures for tobacco control and early detection.

As discussed previously, many early detection methods are still in the research stage. New Jersey residents should be encouraged to participate in early lung cancer detection trials. Recent advances in cancer biology suggest the potential for developing molecular markers, such as P16 gene hypermethylation and p53 gene mutation, for the detection of early stages of lung cancer or even precancerous lesions. Research in this area is highly promising and should be encouraged in New Jersey.

The American College of Surgeons (ACoS) requires that all ACoS-certified oncology programs enroll at least 2% of their patients in clinical trials.<sup>41</sup> Although it is outside the scope of this plan, the Lung Cancer Workgroup recommends that this requirement be increased, especially concerning lung cancer early detection trials.

As discussed previously in this chapter, the majority of lung cancer cases are diagnosed in late-stage disease, when curative treatment is rarely successful, or even possible. Currently, the goal of standard therapy for late-stage lung cancer is palliative—that is, to provide relief from symptoms and prolongation of survival and comfort, not cure. Enrolling patients in clinical protocols to trial new treatments and investigational agents may lead to improved outcomes and perhaps decreased mortality.

Actions that should be taken in New Jersey with regard to lung cancer research include:

- Advocate for increased funding for lung cancer research.
- Promote research on effective means for tobacco control.
- Promote research on effective means for detecting lung cancer at early stages and precancerous lesions.
- Promote research on the treatment of lung cancers at early and later stages.
- Promote research funding for effective interventions to palliate or relieve the common symptoms associated with lung cancer, including pain, dyspnea/cough, and anorexia.<sup>42</sup>



## GOAL LU-5

To increase accrual and broaden access to lung cancer clinical trials for early detection, treatment, and supportive care for patients and physicians in New Jersey.

### Objective LU-5.1

To support the National Cancer Institute's Clinical Trial Implementation Committee Goals for Clinical Trials for lung cancer.

### Strategies

- LU-5.1.1** Develop educational programs to promote participation in and enhance public visibility and understanding of important lung cancer clinical trials.
- LU-5.1.2** Publicize the existence of a clinical trials website, particularly New Jersey Cancer Trials Connect ([www.njctc.org](http://www.njctc.org)), via the county cancer Coalitions and other avenues.

## GOAL LU-6

To ensure that New Jersey residents and physicians remain up to date on the most currently available lung cancer technologies and resources.

### Objective LU-6.1

To continue to monitor and disseminate current advances in lung cancer prevention, screening, diagnosis, treatment, and supportive care.

### Strategies

- LU-6.1.1** Conduct periodic literature reviews to determine the state of the science in lung cancer research and to identify potentially promising new technologies.
- LU-6.1.2** Work with stakeholders to disseminate, as they become available, evidence-based advances to healthcare providers through CME offerings.



## Objective LU-6.2

To continue to monitor trends in lung cancer incidence, mortality, and survival.

## Strategy

- LU-6.2.1** Request appropriate data, as needed, from the New Jersey State Cancer Registry and other applicable sources.



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