

Lung Cancer a unique model –
for disease control
A partnership program

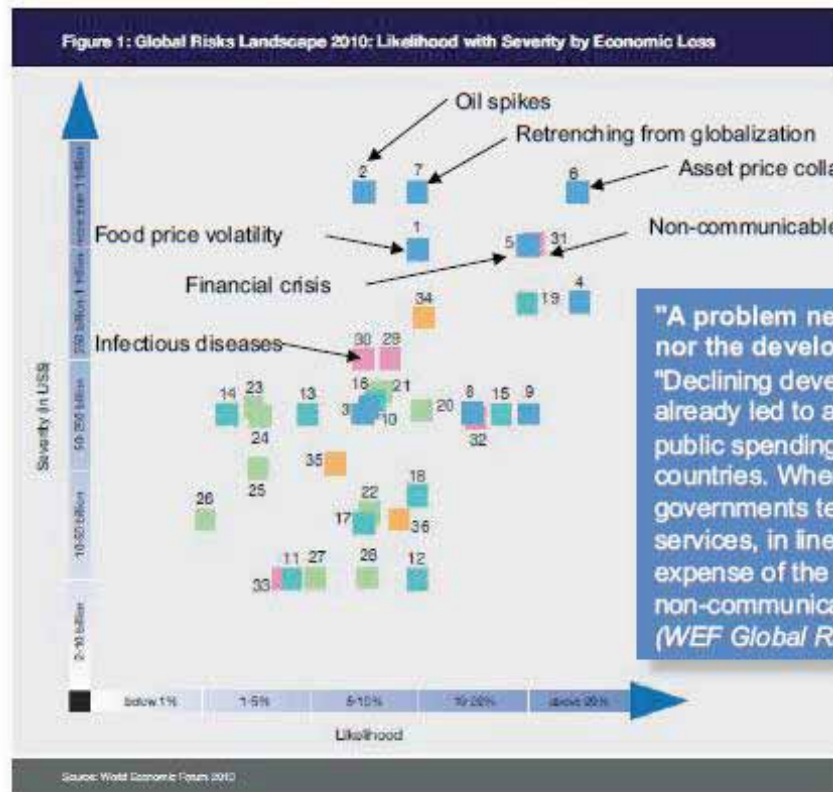
Dr G S Bhattacharyya

On behalf of Indian Lung Cancer Task Force

The World Economic Forum named NCDs the third largest economic risk facing the globe in 2010



World Economic Forum:
Global Risk 2010 Report



"A problem neither the developed world nor the developing world can afford"
 "Declining development assistance has already led to a significant reduction of public spending on health in many countries. When funds are limited, governments tend to focus on basic health services, in line with the MDGs, at the expense of the prevention and treatment of non-communicable diseases."
 (WEF Global Risk 2010 Report)

Factors that contribute to the rise of NCDs

- Rapid urbanization has led to changes in diet, physical activity, and environmental exposure
- Decreases in the price of animal based products, sweeteners, and oils over the past two decades have contributed to dietary changes
- Increasing availability of tobacco products as a result of expanding markets and lack of protective trade policies
- Lack of knowledge about chronic disease and poor understanding of contributing risk factors
- Shifting patterns of behavior due to globalization and increased media exposure/marketing

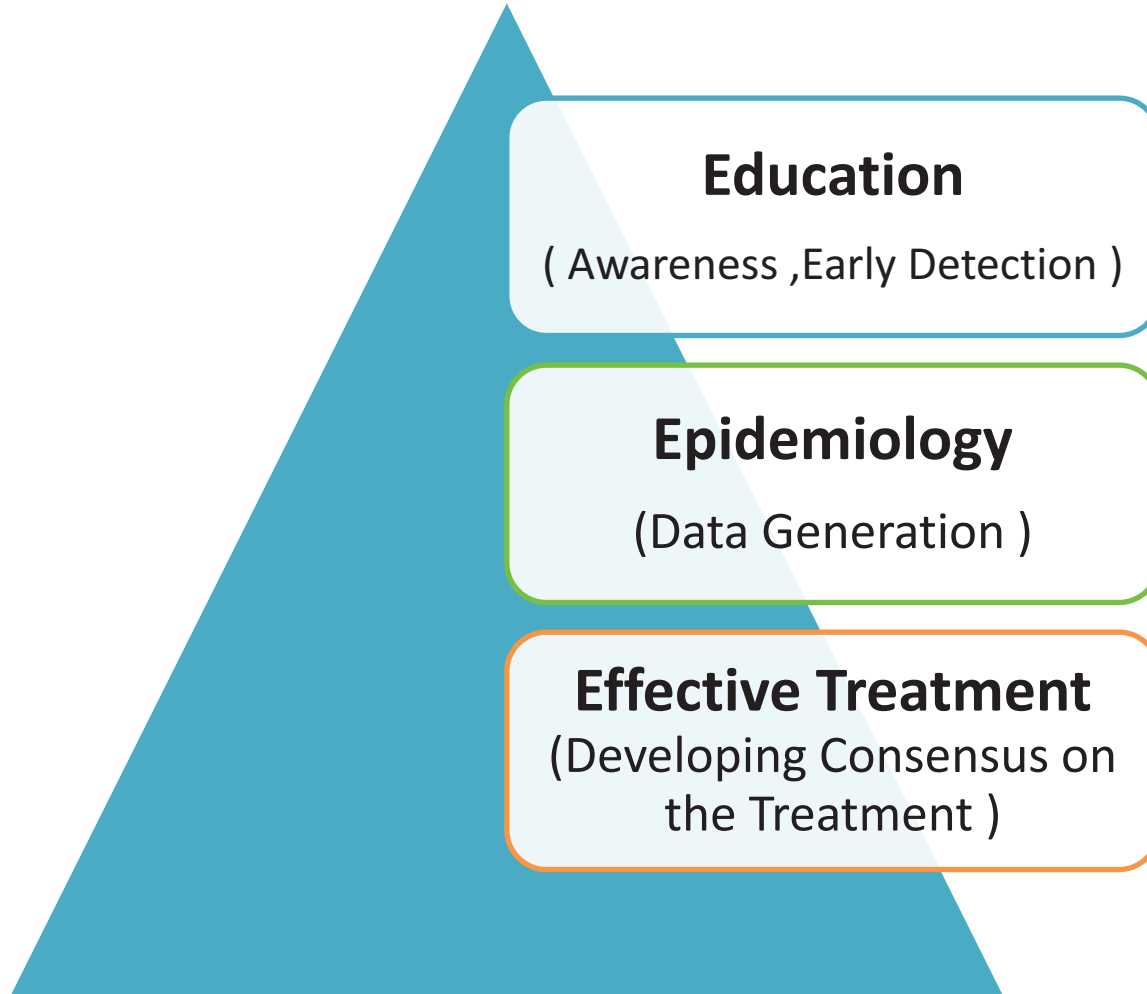
Economic impact of NCDs

- NCDs reduce the economic productivity of individuals and cause many families to fall into poverty
 - The long-term nature of treatment and care for chronic disease results in significant household expenditures over prolonged periods of time and inability of the household to accumulate savings
 - Indian households that include a family member with a chronic disease are 40 percent more likely to fall into poverty
 - The expense of treatment often deters individuals from seeking treatment
 - In Nigeria, over 60 percent of cancer patients failed to complete their chemotherapy treatments because of the prohibitive cost of the drugs
 - NCDs also have a severe impact on the economies of countries
 - Over the next decade, China is estimated to lose over \$550 billion in national income due to cardiovascular disease
 - In Central Asia, chronic diseases may reduce workers' labor effort by 7 to 30 percent

Indian Lung Cancer Task Force



Modus Operandi : The 3Es Model



Education – Awareness through Multipronged approach

General Public

- May / November – month for awareness on lung cancer
- Utilizing the youth /School children – Tobacco awareness programs
- Utilizing the social networking media platform with the celebrity for the awareness spread
- Linking up with the NGOs which have adopted villages for the screening assistance

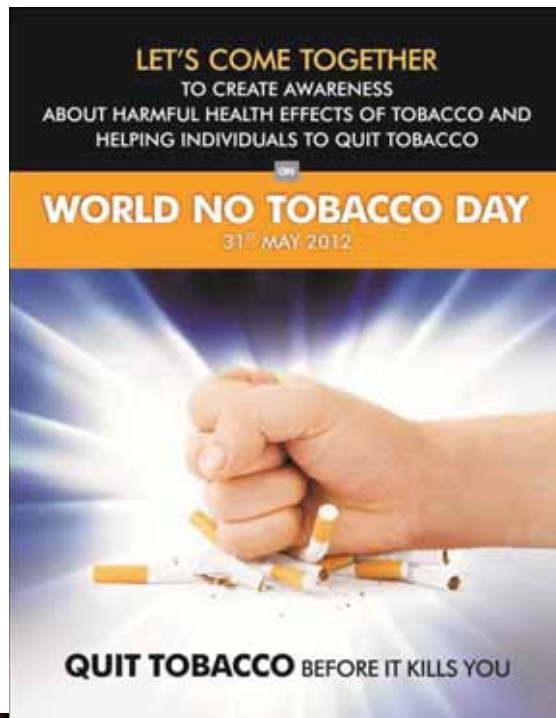
Patients

- Public interest poster campaign on the awareness on the lung cancer – series monthly one through out India all clinics and hospitals
- Video Presentation to highlight the ill effects of Smoking and Tobacco in any form .

Paramedics

- Improve the management skills and the knowledge on lung cancer
- best supportive care – tips for the management – life styles

World No Tobacco Day – Awareness Walks & Educational Events



For Patients Input Snapshots

- Toxins in cigarettes
- Common symptoms of lung Cancer
- Risk factors of lung cancer
- Exercise and diet to avoid lung cancer
- Quit Smoking
- 10 steps to quit Smoking



4000
chemicals

400
toxins

43
cancer-causing
substance

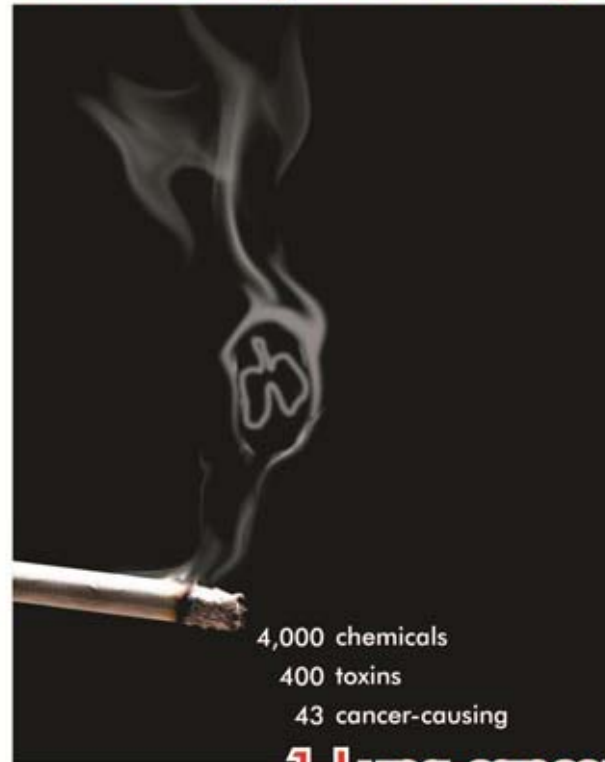


1
Lung cancer

Protect your lungs



Protect your lungs



4,000 chemicals
400 toxins
43 cancer-causing

↑ Lung cancer

Major cancer-causing substances

Arsenic

Used in rat poison

Propylene Glycol

Solvent in brake fluid

Ammonia

Found in floor cleaner



Protect your lungs



4,000 chemicals
400 toxins
43 cancer-causing

1 Lung cancer

Major cancer-causing substances

Arsenic

Used in rat poison

Propylene Glycol

Solvent in brake fluid

Ammonia

Found in floor cleaner



We all share the
same air

Think about your
little one



Tips to quit smoking easily

1. Intake more water or other fluids
2. Take Deep breaths once you want to smoke
3. Avoid Sugar, Coffee, Alcohol
4. Go to a gym or have regular exercise
5. Have something in your mouth once you want to smoke
6. Avoid the company of Smokers for some weeks
7. Read articles and watch videos about the harmful effects of smoking
8. You save money too!

Supported through education grant from **Penacee Biotech**



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steps to help you STOP SMOKING

Take first step and contact your family physician. They will give you advice and regular support to help you quit smoking

Nicotine replacement therapy – such as nicotine patches, nicotine gums, nicotine inhalers & nicotine nasal sprays will help you to get rid of withdrawal symptoms

Set a date to stop and stick to it – try and pick a relatively stress free day

Share your experience with your friends who has stopped in the past – peer support can be very helpful

Write down all the reasons you want to stop – keep them handy and look at them when you feel your will power slipping

Get support from your family – they will benefit too from you quit smoking

Learn to relax; your local stop smoking service can help you with simple breathing exercises and distraction techniques

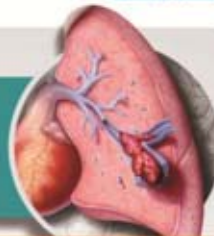
Take it one day at time – enjoying saying 'I don't smoke'

Reward yourself – treat yourself with some of the money you saved

Remember – once stopped, stay stopped. One cigarette can lead to another – remind yourself of the health and other benefits of staying stopped



Input - 1



Differential Diagnosis of Pulmonary Tuberculosis and Lung Cancer

	Lung cancer	Tuberculosis
Signs and symptoms	<ul style="list-style-type: none"> Age 40 years or more Symptoms of COPD Shortness of breath/ wheezing/ chest pain Persisting cough or worsening of an existing chronic cough Hemoptysis Repeated respiratory infections Unexplained weight loss Dyspnea, hoarseness Dysphagia, stridor Shoulder pain, paralysis Swelling in lymph node and signs of metastasis 	<ul style="list-style-type: none"> Any age (usually adolescent, young-adults) Ill looking Appearance Evening rise in temperature, mild fever Night sweats, weight loss, loss of appetite Increased respiratory rate Restricted chest movement Pluirtic chest pain-if involved Cough with productive sputum Hemoptysis-scarcy for >2weeks duration Cyanosis, decubitus
Auscultatory Signs	<ul style="list-style-type: none"> Increased breath sounds Rattle sound Wheezes 	<ul style="list-style-type: none"> Crackles Wheezes Bronchial breathing Amphoric breathing
Past history	<ul style="list-style-type: none"> Current or past history of tobacco abuse-40 pack years or more Exposure to radon in non-smokers 	<ul style="list-style-type: none"> Immunosuppression Malnutrition Alcoholism
Contact history	---	Contact with TB patients
Global Program on Evidence (GPE)	<ul style="list-style-type: none"> Signs of Homer syndrome Lymphadenopathy Superior vena caval syndrome Hypertrophic pulmonary osteoarthropathy (HPOA) 	<ul style="list-style-type: none"> Thin built Lymphadenopathy-rarely Pallor
Systemic examination	<ul style="list-style-type: none"> Normal/localized bulging Skeletal pain Pancoast syndrome Signs of collapse or pleural effusion Diaphragmatic palsy 	<p>Primary:</p> <ul style="list-style-type: none"> Normal/fine creptations-upper lobe Signs of pleural effusion Collapse in lung tissue, D'Espine's sign <p>Post primary:</p> <ul style="list-style-type: none"> Signs of cavitations Large pneumonic consolidation Fibrosis, fibrothorax
Chest x-ray	<ul style="list-style-type: none"> Irregular opacity Central (sun-burst sign)/ peripheral mass lesion Mediastinal lymphadenopathy Collapse Pleural effusion, pancoast tumor Diaphragmatic palsy 	<p>Primary:</p> <ul style="list-style-type: none"> Upper lobe infiltration-Ghon focus, Effusion Hilar lymphadenopathy <p>Post primary:</p> <ul style="list-style-type: none"> Cavitations, consolidation Fibrosis, fibrothorax
Sputum examination	Malignant cells-Positive	Acid fast bacilli (AFB)-Positive

For General Practitioners

- Risk factors for lung cancer
- TB Vs Lung Cancer
- Early Detection of Lung Cancer (Booklet)

For consulting Physicians /Respiratory Physicians

- Differential Diagnosis of Lung Cancer
- Differential Diagnosis of Lung Cancer(Booklet)

UNDERSTANDING LUNG CANCER



Symptoms



Types of Lung cancer



Stages of Lung Cancer



Treatment

Surgery

Major operations: Lobectomy (removal of a lobe), Pneumonectomy (removal of the lung), and Sleeve lobectomy (removal of a portion of the lung).
Precautions: For all lung resections.

Radiotherapy

It is a high-energy x-ray applied from outside the body to kill cancer cells. It is often combined with chemotherapy.

Chemotherapy

Both non-small cell carcinoma and small cell carcinoma are treated with chemotherapy. These drugs are used to kill rapidly growing cancer cells.

Targeted Therapy

Newer treatments are now available that target cancer cells specifically. They do not attack all dividing cells and therefore usually have less effect.

Lung Cancer awareness Inputs

Education – Awareness through Multipronged approach

General practitioners (GP)

- **Indian family physicians association conference** –Dedicated session
- Template card hand over
- Booklet on early detection of lung cancer
- Poster on the early detection - importance
- referral system

Consulting Physicians

- **API conference** - dedicated session
- Differential diagnosis of lung cancer
- CME supplement in the newspaper – lung cancer
- Booklet on the best supportive care management

Respiratory physicians

- Multidisciplinary management of lung cancer
- Scientific poster on lung cancer vs. tuberculosis
- Booklet on the Early diagnosis of Lung Cancer

Education – Early Detection

- Associating with the Tuberculosis center in the early detection
- To bring together chest physicians and oncologists (Confluence Meets)

Primary objective – Early Detection & Diagnosis

Secondary objective – Treatment

Major problem – **Misdiagnosis of the disease (TB vs. lung cancer)**

Scientific Collaterals for Medical Fraternity

Panacea Biotech
Innovation in support of life

Stage IV Non-Small-Cell Lung Cancer Focused Update

Recommendation	Summary
A. First-line chemotherapy	
A1	Evidence supports use of chemotherapy in patients with stage IV NSCLC with ECOG-defined performance status of 1, possibly 2.
A2	In patients with performance status of 1 or 2, evidence supports using combinations of two cytotoxic drugs for first-line therapy. Platinum combinations are preferred over nonplatinum combinations because they are superior in response rate and mortality superior to EGFR tyrosine kinase inhibitors. Combinations are reasonable in patients with biomarker confirmation to platinum therapy: mesothelin, ALK, and ALK inhibitors to add to erlotinib or gefitinib to first-line cytotoxic therapy.
A3	Available data support use of single-agent chemotherapy in patients with performance status of 2. Data are insufficient to make recommendations for or against using combinations of two cytotoxic drugs in patients with performance status of 2.
A4	Evidence does not support selection of specific first-line chemotherapy drug or combination based on age alone.
A5	Choice of either cisplatin or carboplatin as platinum drugs that may be combined with platinum agents. Platinum cytotoxic drug treatment, gemtuzumab, nabiximab, tacrolimus, docetaxel, paclitaxel, and docetaxel, evidence suggests cisplatin combinations result in higher response rates than carboplatin, and more patients survived when combined with EGFR tyrosine kinase inhibitors. Carboplatin is less likely to cause nausea, nephrotoxicity, and neutropenia than cisplatin but may have more severe thrombocytopenia.
A6	In patients with stage IV NSCLC, carboplatin chemotherapy should be preferred to cisplatin for patients with performance status of 1 or 2. In patients whose disease is stable but not responding to platinum two-drug cytotoxic combination, cisplatin should be substituted for no more than one cycle; if patients still have disease after two cycles, carboplatin is preferred with subsequent single-agent chemotherapy such as gemtuzumab, nabiximab, tacrolimus, docetaxel, paclitaxel, or erlotinib. In patients with advanced or metastatic disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin.
A7	In selected patients, erlotinib or gefitinib may be used in combination with cytotoxic chemotherapy (EGFR tyrosine kinase inhibitors) in patients with advanced disease. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin.
A8	On basis of results of one large phase III RCT, epidermal growth factor receptor tyrosine kinase inhibitors (EGFR tyrosine kinase inhibitors) may be substituted for cisplatin or carboplatin in patients with advanced disease. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin.
A9	On basis of results of one large phase III RCT, epidermal growth factor receptor tyrosine kinase inhibitors (EGFR tyrosine kinase inhibitors) may be substituted for cisplatin or carboplatin in patients with advanced disease. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin.
B. Second-line chemotherapy	
B1	Treated, selected patients in performance status of 1 or 2 may be considered for second-line therapy in patients with advanced NSCLC with adequate performance status who have not progressed during or after first-line platinum-based therapy.
B2	Evidence does not support selection of specific second-line chemotherapy drug or combination based on age alone.
C. Third-line chemotherapy	
C1	When disease progresses or in other second-line chemotherapy treatment with selected patients may be considered for third-line therapy for patients with performance status of 1 or 2 who have not received prior erlotinib or gefitinib.
C2	Data are not sufficient to make recommendations for or against using cytotoxic drug as third-line therapy; patients should consider experimental treatment, clinical trials, and best supportive care.
D. Molecular analysis	
D1	Evidence is insufficient to recommend routine use of molecular markers to select systemic treatment in patients with advanced NSCLC.
D2	To obtain bases for more accurate biologic classification or prognostic purposes, epidermal growth factor receptor tyrosine kinase inhibitors may be substituted for cisplatin or carboplatin in patients with advanced disease. In patients with advanced disease, erlotinib or gefitinib may be substituted for cisplatin or carboplatin.

Live your life healthy

Early detection of lung cancer...



Differential Diagnosis of Pulmonary Tuberculosis and Lung Cancer



	Lung cancer	Tuberculosis
Signs and symptoms	<ul style="list-style-type: none"> Age 40 years or more Symptoms of COPD Shortness of breath, wheezing, chest pain Persistent cough or worsening of an existing chronic cough Hemoptysis 	<ul style="list-style-type: none"> Repeated respiratory infections Unexplained weight loss Cystic, necrotic Cystic, similar Shoulder pain, paronychia Swelling in lymph node and signs of metastasis
Auscultatory signs	<ul style="list-style-type: none"> Increased breath sounds Rales, crackles 	<ul style="list-style-type: none"> Crackles Wheezes
Past history	<ul style="list-style-type: none"> Current or past history of tobacco (more than 40 pack years or more) 	<ul style="list-style-type: none"> Immunosuppression Malnutrition
Contact history		Contact with TB patients
Subal Program on Evidence (SPE)	<ul style="list-style-type: none"> Signs of hemoptysis Lymphadenopathy 	<ul style="list-style-type: none"> Superior vena cava syndrome Pyramidal pulmonary infarction (PPFI)
Systemic manifestations	<ul style="list-style-type: none"> Paraneoplastic lung Skeletal pain Paraneoplastic syndrome 	<ul style="list-style-type: none"> Signs of collapse or pleural effusion Diaphragmatic palsy
Other's by	<ul style="list-style-type: none"> Irregular opacity Central (surrounds of hilar) peripheral mass lesion Mediastinal lymphadenopathy 	<ul style="list-style-type: none"> Collaps Point effusion, paraneoplastic tumor Diaphragmatic palsy
Epidermal manifestations	Metastatic cells-Positive	Acid fast bacilli (AFB)-Positive

1. What is Pneumothorax?
Pneumothorax is the sudden removal of the entire lung affected by cancer.

2. Chemotherapy
Chemotherapy is broadly defined as the use of medicines to kill disease in the body of cancer. Chemotherapy is the use of drugs (medicines) to kill cancer cells.

3. Radiation Therapy
Radiation therapy is also used for the treatment of lung cancer. It uses high-energy radiation to stop cancer cell division.

How can lung cancer be prevented?

- The lung cancer can be prevented by the following ways:
 - Quitting of smoking
 - Avoiding exposure to passive smoking
 - Using a humidifier to keep air clean and avoid irritation of the respiratory tract

Resolving to Save Lives

World No Tobacco Day 2012

Early detection of...

LUNG CANCER

Lung Cancer is the third leading cause of death in the United States. It is the leading cause of cancer death among men and women, claiming approximately 1.2 million lives per year. The symptoms of early lung cancer are hard to detect, and it is often found in the advanced stages.

Say No to tobacco and fight for fresh air

Lung Cancer CMEs



Epidemiology – Data Generation

- **Online Data compilation** on ISSLC (Indian Society for Study of Lung Cancer) . The Website of ISSLC to have a separate registration on web domain and online CRF would be part of the ILTF .

Effective Treatment – Consensus development

Current Practice

- Capture pan India current management practices in lung cancer

Assessment

- Review the ESMO, NCCN Guidelines for the Indian setting

Compliance

- Reporting of the current practice gaps
- Development of recommendation for answering the lacunae through a well planned study