

Report of The Lung Cancer PRG

February, 2002

Lung Cancer PRG

Co-chairs

Jack Ruckdeschel, M.D.

(Moffitt Cancer Center)

Margaret R. Spitz, M.D.

(M. D. Anderson Cancer Center)

Scott Saxman, M.D.

(NCI)

Thanks....

- ◆ **NCI**
- ◆ **PRG members**
- ◆ **Roundtable participants**
- ◆ **OSPA**
- ◆ **Science Writers**

Lung Cancer

A Public Health Problem

Estimated 2002 Statistics

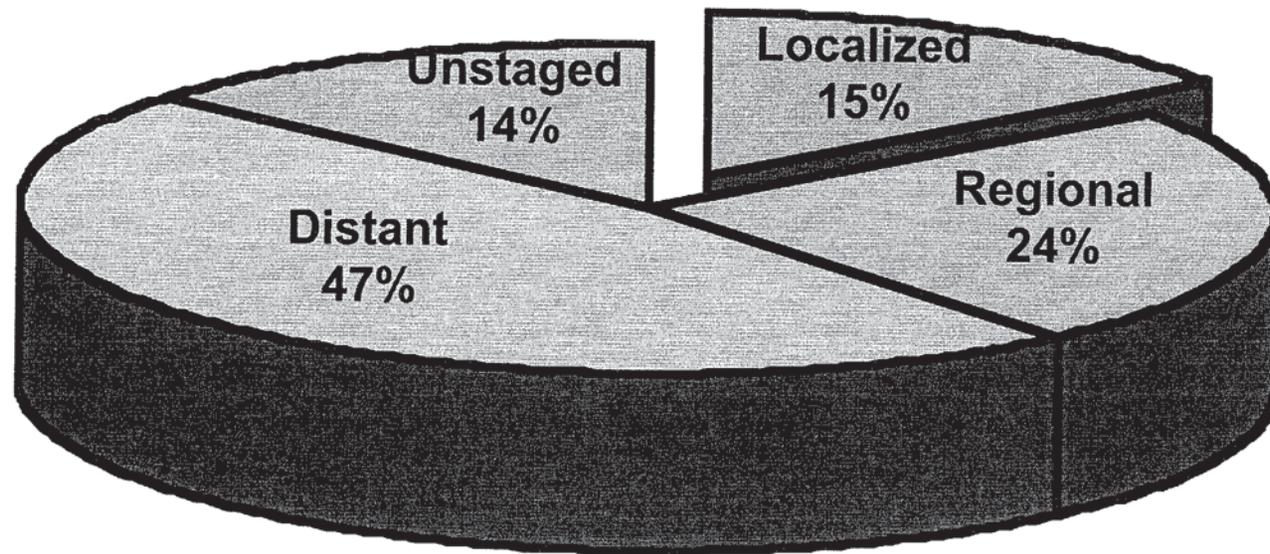
- ◆ **169,400 cases**
- ◆ **154,900 deaths**
- ◆ **13.5 % of cases (14% men; 12% women)**
- ◆ **28% of deaths (31% men; 25% women)**

Lung Cancer

A Clinical Problem

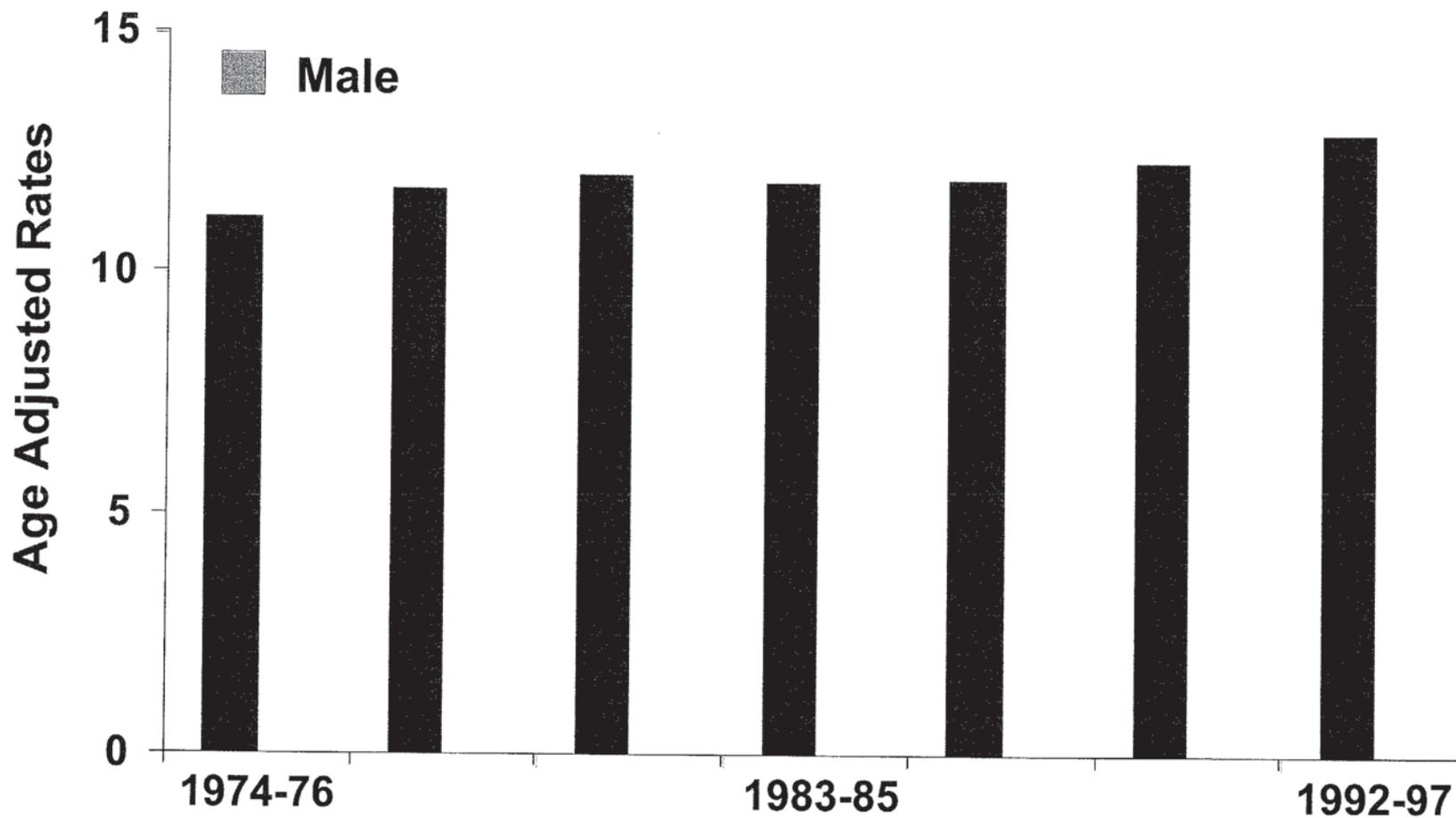
- ◆ **Early and widespread dissemination**
- ◆ **Modest impact of therapy**
- ◆ **No accepted means of early detection**

Lung Cancer Stage Distribution



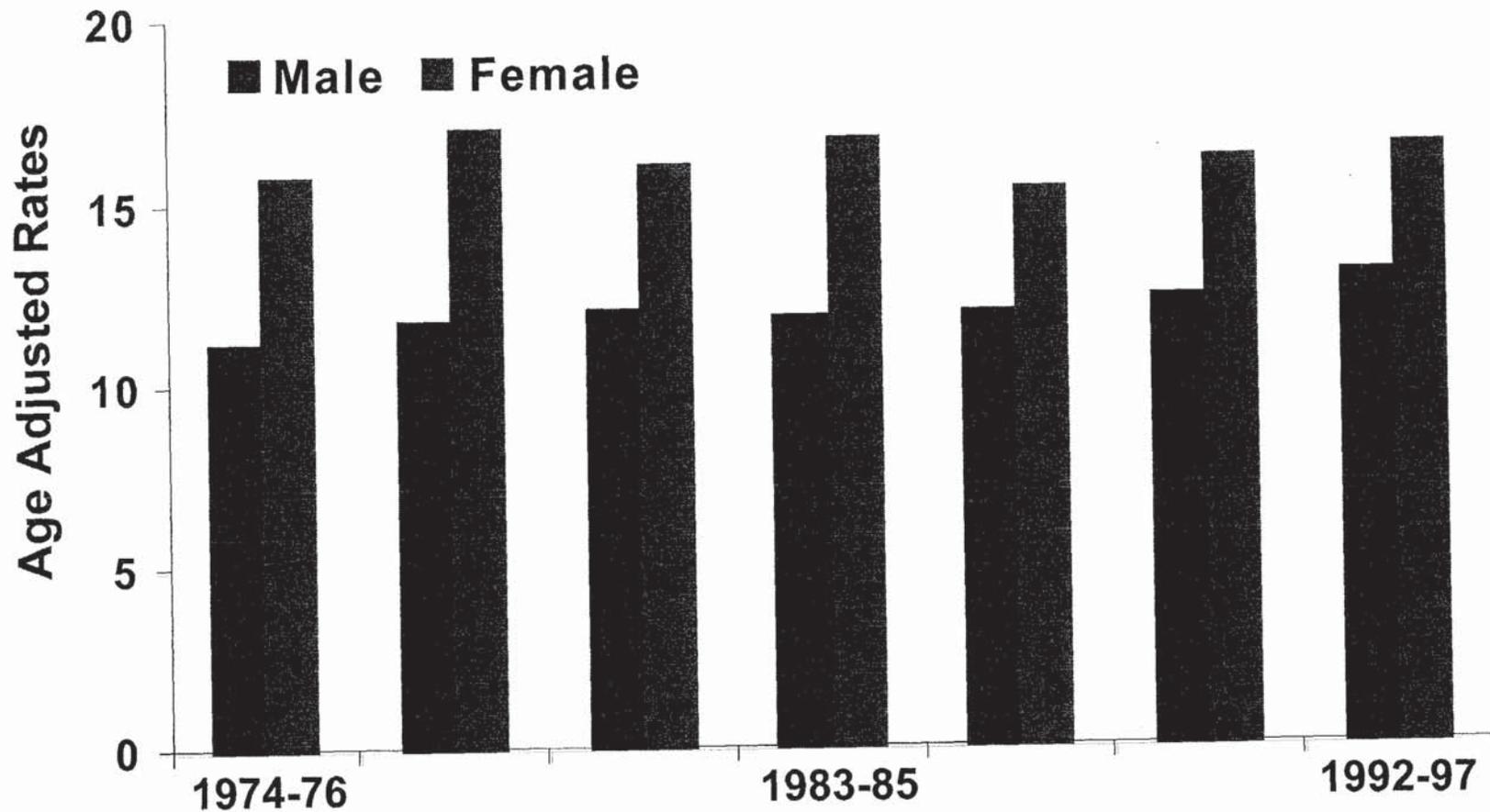
SEER, 1992- 1997

Lung Cancer 5-year Relative Survival



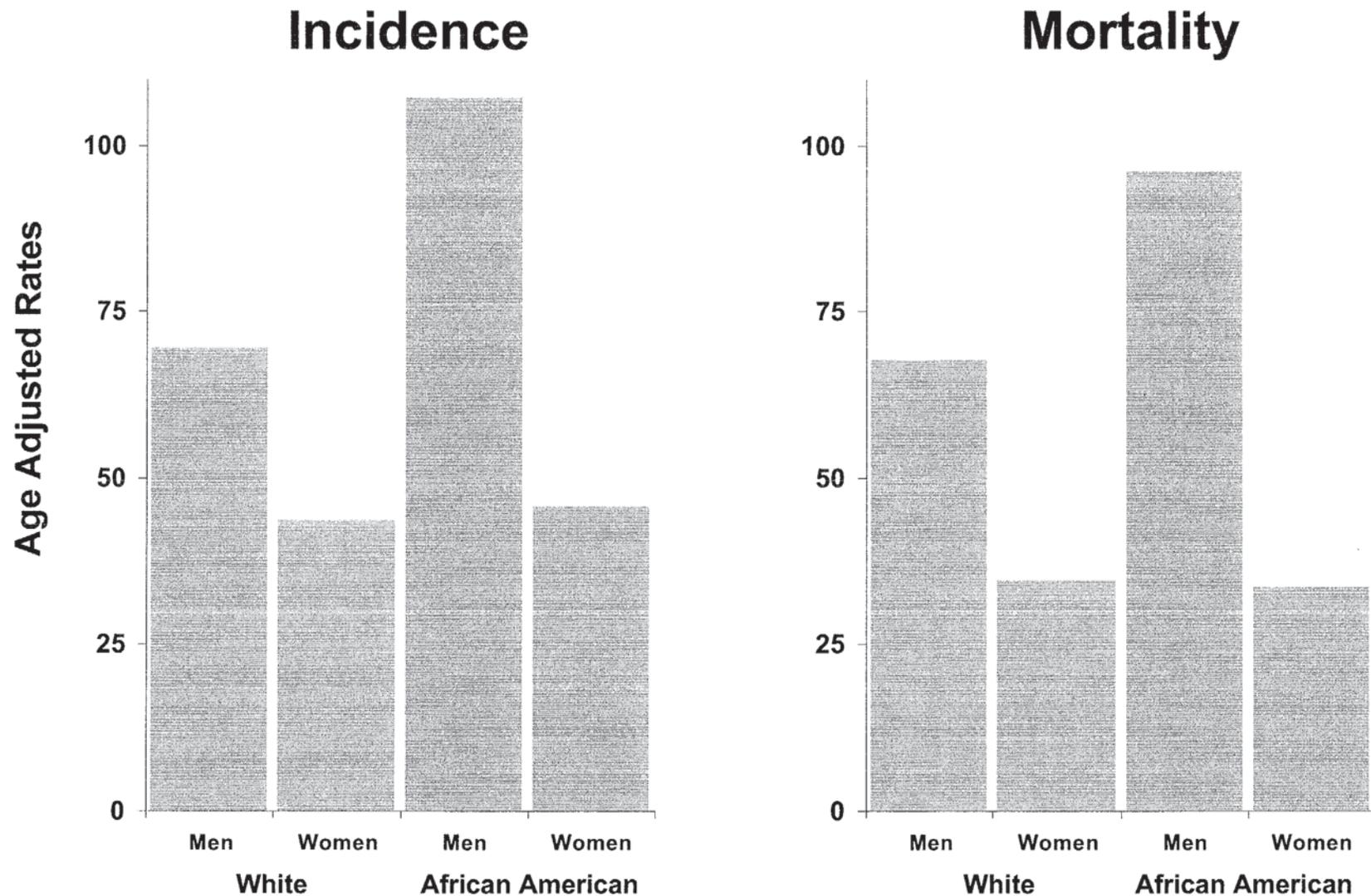
SEER, 1974- 1997

Lung Cancer 5-year Relative Survival



SEER, 1974- 1997

Lung Cancer Rates per 100,000 1992 - 1998



Lung Cancer

A Scientific Problem

- ◆ **Molecular events underlying development largely unknown**
- ◆ **Inter-relationships among genetic, molecular, other biologic responses and smoking poorly understood**
- ◆ **Ineffective chemoprevention related to lack of understanding of carcinogenesis**

Lung Cancer A Social Problem

- ◆ **“Blame the victim” mentality has thwarted advocacy efforts**
- ◆ **Therapeutic nihilism is rampant**
- ◆ **Balkanization of the health care delivery and training systems**
- ◆ **Relative under-funding of research**

The Lung PRG - Process

- ◆ **Convened - October, 2000**
- ◆ **Planning Meetings**
 - PRG, January 2001
 - Pre-meeting on Early Detection
 - State of the Art on Management of CT Detected Lesions
- ◆ **Roundtable - April 16th -18th, 2001**

Lung Cancer PRG

Topic Areas

- ◆ **Biology** (*Drs. Baylin, Pietenpol, Harris*)
- ◆ **Chemoprevention** (*Drs. Hong, Dimitrovsky, Hecht*)
- ◆ **Tobacco Control** (*Drs. Bal, Hatsukami, Glynn*)
- ◆ **Detection and Diagnosis** (*Drs. Patz, Franklin*)
- ◆ **Etiology** (*Drs. Caporaso, Shields, Kadlubar*)
- ◆ **Prognosis and Staging** (*Drs. Rusch, Gumerlock*)
- ◆ **Therapy** (*Drs. Bunn, Curran, Bepler*)
- ◆ **Quality of Care** (*Drs. Evans, Smith, Earle*)

The Lung PRG - Process

- ◆ **Clusters of Topics**

 - Biology, Etiology, Chemoprevention

 - Prognosis and Staging, Quality of Care, Therapy

 - Detection and Diagnosis, Tobacco Control

- ◆ **Joint State of the Science sessions**

- ◆ **Breakout groups**

- ◆ **Cross cutting sessions**

Recommendations

The Lung PRG commended NCI on its effective infrastructure initiatives.

These should be:

- ◆ Continued**
- ◆ Enhanced**
- ◆ Expanded to lung cancer where necessary**

What is working well at NCI . . .

- ◆ **Bioinformatics**
- ◆ **Animal Models**
- ◆ **Molecular Profiling**
- ◆ **Special Populations and Population Disparities**
- ◆ **Tissue and Data Repositories**
- ◆ **Drug Development and Clinical Trials Infrastructures**
- ◆ **Centers of Excellence in Communication**

Overarching Recommendations

- ◆ **Cross-Disciplinary Lung Cancer Consortia**
 - **Current dispersion of limited number of lung cancer clinicians and translational scientists across multiple study groups**
 - **Incorporates SPORE program and a clinical trials infrastructure focused on lung cancer similar to Lung Cancer Study Group**
 - **Not the Organ Sites Program revisited**

Overarching Recommendations

- ◆ **Cross-Disciplinary Lung Cancer Consortia**
 - **Ready made infrastructure for treatment, prevention and screening trials**
 - **Facilitate cross-disciplinary studies along biology/behavior/exposure continuum**
 - **Facilitate population based studies**

Early Detection

- ◆ **Facilitate and hasten assessment of spiral CT as a means of early detection**
- ◆ **Could have an extraordinary impact on cancer mortality figures if the stage migration is in fact real**
- ◆ **NCI must continue to take a strong leadership role**
- ◆ **Possible role of international trials**

Recommendations

Tobacco Control

- ◆ **Consensus**

*Tobacco control transcends clinical
and scientific boundaries of lung cancer*

- ◆ **Recommendation**

Tobacco PRG or TRIG?

Tobacco Control

Consensus

***Greatest challenge to tobacco control is
the need to understand more about the
biology and treatment of nicotine addiction***

Recommendations

Tobacco Control

- ◆ **Biobehavioral research on nicotine addiction**
- ◆ **Research on novel pharmacologic treatments**
- ◆ **Assess effects of harm reduction approaches**
- ◆ **Capitalize on opportunities to integrate smoking cessation advice into prevention, screening and treatment trials**
- ◆ **Systematic evaluation of population-based tobacco control efforts**

Biology

- ◆ **Consensus**

Need to elucidate the contributions of injury, inflammation and infection to the genesis of lung cancer

- ◆ **Recommendation**

Concerted multidisciplinary approach to elucidate steps in cell renewal and cell fate decisions

Etiology

- ◆ **Consensus**

No validated risk assessment models incorporating biomarkers of susceptibility

- ◆ **Recommendation**

Explore etiology and low/ high penetrance susceptibility genes in subgroups...

former and never smokers, women, minorities, early lesions, histologic subtypes

Chemoprevention

◆ Consensus

No successful proof of principle trial of effective agent, appropriate high risk target population or validated surrogate endpoints

◆ Recommendation

Conduct smaller, targeted, biomarker - integrated mechanistic studies

selective agents, less toxicity, combination regimens, novel delivery and diagnostic imaging approaches

Outcomes

- Develop and implement models of care delivery**
- Define extent to which “best practice” is employed**
- Expansion of CanCORS program needed**

Training

- Need to emphasize inter-disciplinary training**
- Expand early and mid-career training programs in lung cancer care and research**
- Coordination with certification process will be an issue**

Conclusions

- ◆ **We face decades of the lung cancer epidemic**
- ◆ **Progress will depend on a concerted multidisciplinary approach**
- ◆ **Elucidating the biology will impact diagnostic, preventive and therapeutic approaches**