

# Reported VA rates



## Lung Cancer Rates

- At least 25% higher
- Harris reported a 76% higher rate than the national average compared to age matched SEER data<sup>1</sup>

## Survival of Lung Cancer Patients

- Decreased median survival<sup>2</sup>
  - 12% vs. 15% (5 year)

1. Harris et al. Cancer 1989;64;1160-1168

2. Campling et al. Cancer 2005;104;833-840

# Risk

Tobacco:

Single Most Important Risk Factor in Lung Cancer

Prevalence 1991

- National Average ~22.1%
- Active Duty Military and Retirees ~**32.2%**
  - Majority heavy smokers >1 pack per day

# Tobacco

## Military smoking by year

- 1980 51%<sup>1</sup>
- 1998 30%<sup>2</sup>
- 2002 33.8%<sup>2</sup>
- 2005 32.2%<sup>3</sup>

## In 2005

- **Ages 18-25:** Military **39%** vs. Nonmilitary 35%
- **Ages 26-55:** Approximately equivalent rate 23%

1. Kroutil et al. Preventive Medicine 1994;22:521-528

2. Pyle et al. Preventive Medicine 2007, 45:460-463

3. Green et al. Nicotine & Tobacco Research 2008, 10:1533-1541

# Tobacco in Veterans

Increased smoking rates associated with war

- WWII and Korean War
  - **35% excess lung cancer** mortality over the general population<sup>1</sup>
- Vietnam Veterans
  - Estimated 47% current smokers<sup>2</sup>
  - Ever smoked 70%<sup>2</sup>
- Gulf War Veterans
  - Estimated 47% current smokers<sup>3</sup>

1. Bedard K et al. American Econ R, 2006:96;1-

2. Watanabe et al. J Occup and Envir Med, 1997:38;272-278

3. Bray et al. 2005 Department of defense survey, 2005, Report RTI/7841/106-FR

# DOD Subsidized Tobacco

- **1975** Military stopped issuing cigarettes as part of K-rations<sup>1</sup>
- **1985** Military made aware of the ill-effects of tobacco<sup>1</sup>
- **1996** Military stops subsidizing tobacco<sup>2</sup>
  - DOD spent est. **30 million dollars** subsidizing tobacco in 1996
- **2001**, DOD 1330.9, cigarettes must be within 5% local price<sup>2</sup>
- **Today**, the military continues to sell tobacco products at most military installations<sup>3</sup>
  - Overseas military base prices continue to be approx. \$2-3 cheaper per pack of cigarettes

1. Feigelman W. Preventive Medicine 1994;23:235-241

2. Smith et al. Tobacco Control 2007;16:38-46

3. Avery et al. Military Medicine 2008;173:985-990

# Other Unique Military Lung Cancer Risk Exposures

- Agent Orange Exposure<sup>1</sup>
- Engine exhaust from JP-8 and diesel fuel<sup>2</sup>
  - Polycyclic Aromatic Hydrocarbons (PAHs)
- Depleted Uranium<sup>3</sup>
- Ionizing Radiation Exposure<sup>3,4</sup>
- Asbestos exposure<sup>5</sup>
- Chemical (chromium, silica)<sup>5</sup>
- Environmental exposures<sup>5</sup>

1. Institute of Medicine 2004, Veterans and Agent Orange
2. Ritchie GD et al. J of Toxicology & Environ Health 2003;6:357-451
3. Menvielle G et al. Occup Environ Med 2003;60:584-589
4. Mould RF British J of Radiology 2001;74:677-683
5. Jockel KH et al. Int J Epidemiol 1998;27:549-560