



# Tobacco Dependence Treatment Education and Undergraduate Nursing Students

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# Greetings from Lexington, Kentucky, USA





# Purpose and Specific Aims

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To develop and test an educational intervention based on a national tobacco dependence treatment (TDT) program.

- 1) Assess knowledge of, confidence in, and skills in providing tobacco dependence treatment among nursing students pre & post intervention
- 2) To assess the acceptability of the survey questionnaires and educational intervention (process evaluation).



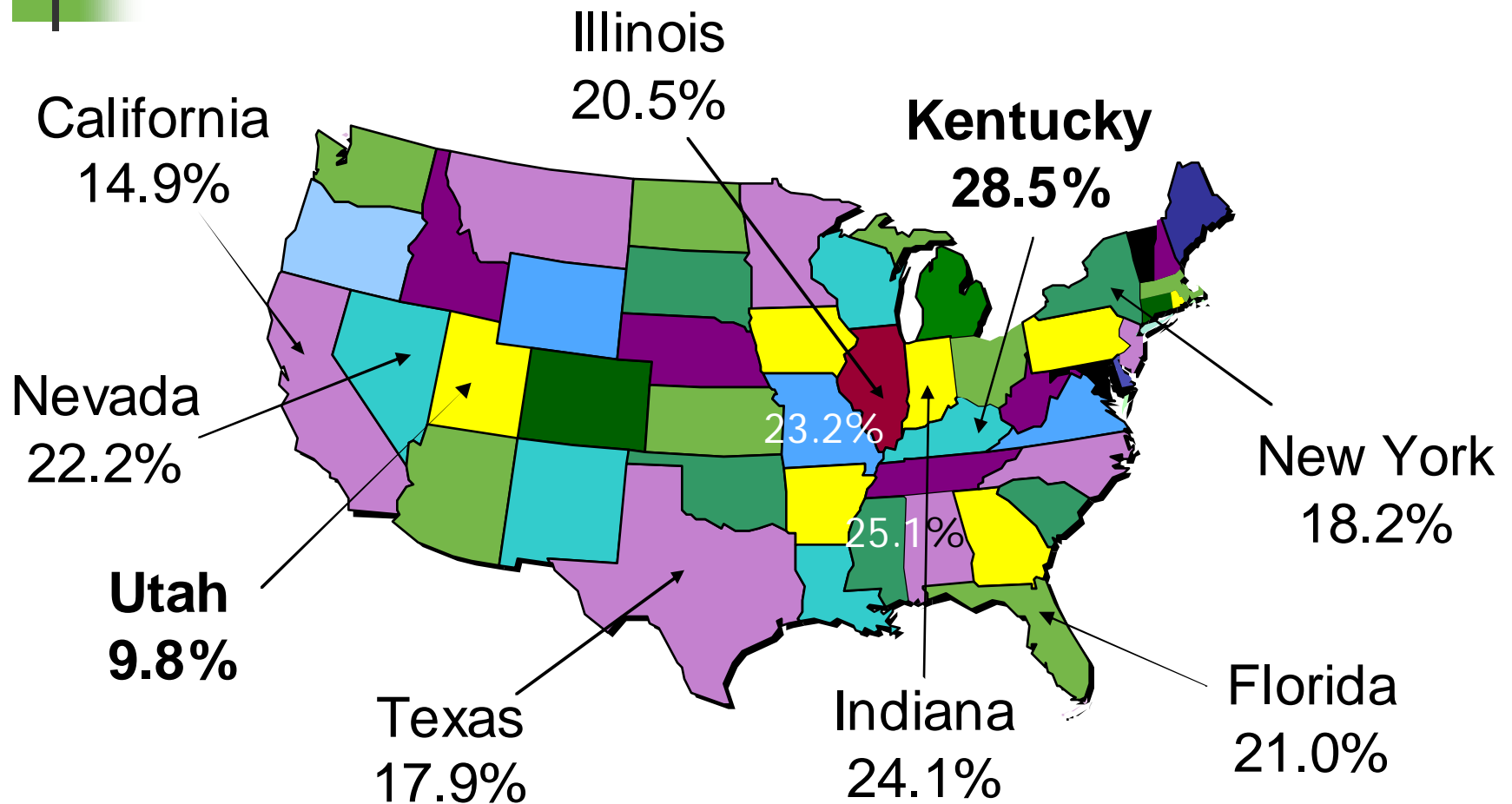
"CIGARETTE SMOKING..

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is the chief, single,  
avoidable cause of  
death  
in our society and the  
most important public  
health issue of our  
time."

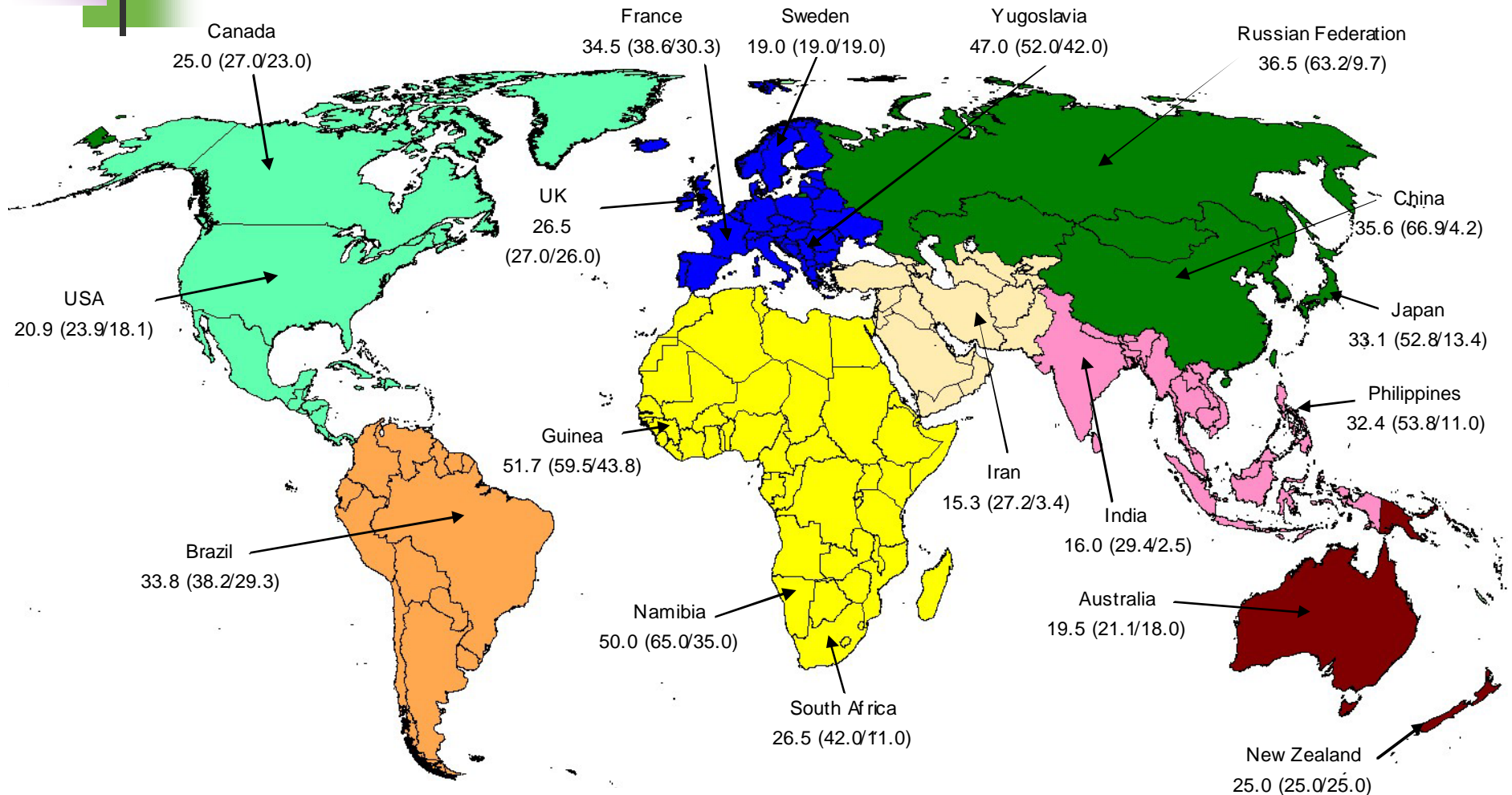
*C. Everett Koop, M.D., former U.S. Surgeon General*

# STATE-SPECIFIC PREVALENCE of SMOKING among ADULTS, 2006



Centers for Disease Control and Prevention. BRFSS (2006).

# WORLDWIDE ADULT TOBACCO USE PREVALENCE (Men/Women)



Mackay & Erickson. (2002). *The Tobacco Atlas*. World Health Organization.




# PUBLIC HEALTH versus "BIG TOBACCO"

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The biggest opponent to tobacco control efforts is the tobacco industry itself.

**In the U.S., for every \$1 spent on tobacco prevention, the tobacco industry spends \$28 to market its products.**

# ANNUAL U.S. DEATHS ATTRIBUTABLE to SMOKING, 1997–2001



Percentage of all smoking-attributable deaths\*

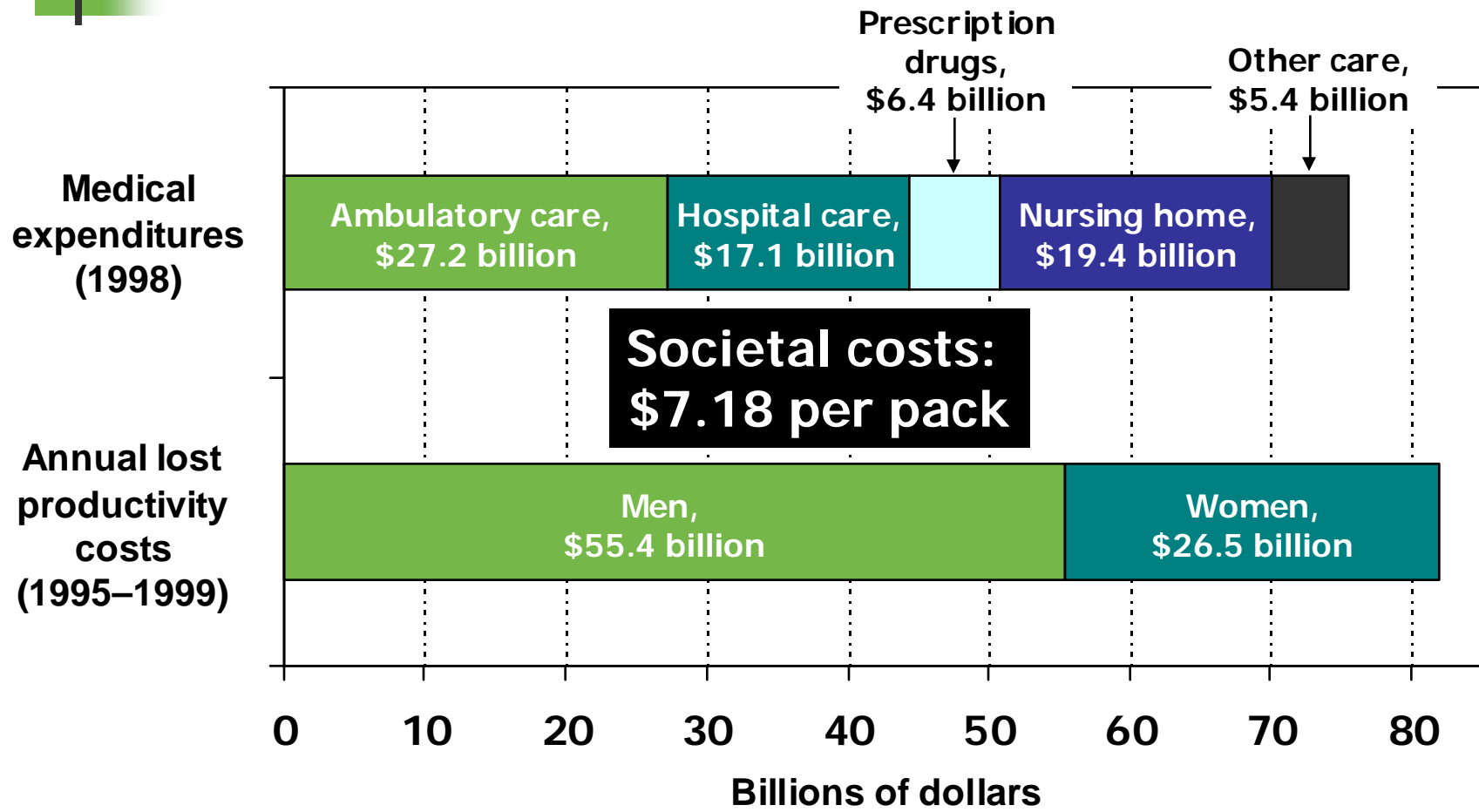
Cardiovascular diseases	137,979	32%
Lung cancer	123,836	28%
Respiratory diseases	101,454	23%
Second-hand smoke*	38,112	9%
Cancers other than lung	34,693	8%
Other	1,828	<1%
<b>TOTAL: 437,902 deaths annually</b>		

\* In 2005, it was estimated that nearly 50,000 persons died due to second-hand smoke exposure.

Centers for Disease Control and Prevention. (2005). *MMWR* 54:625–628.



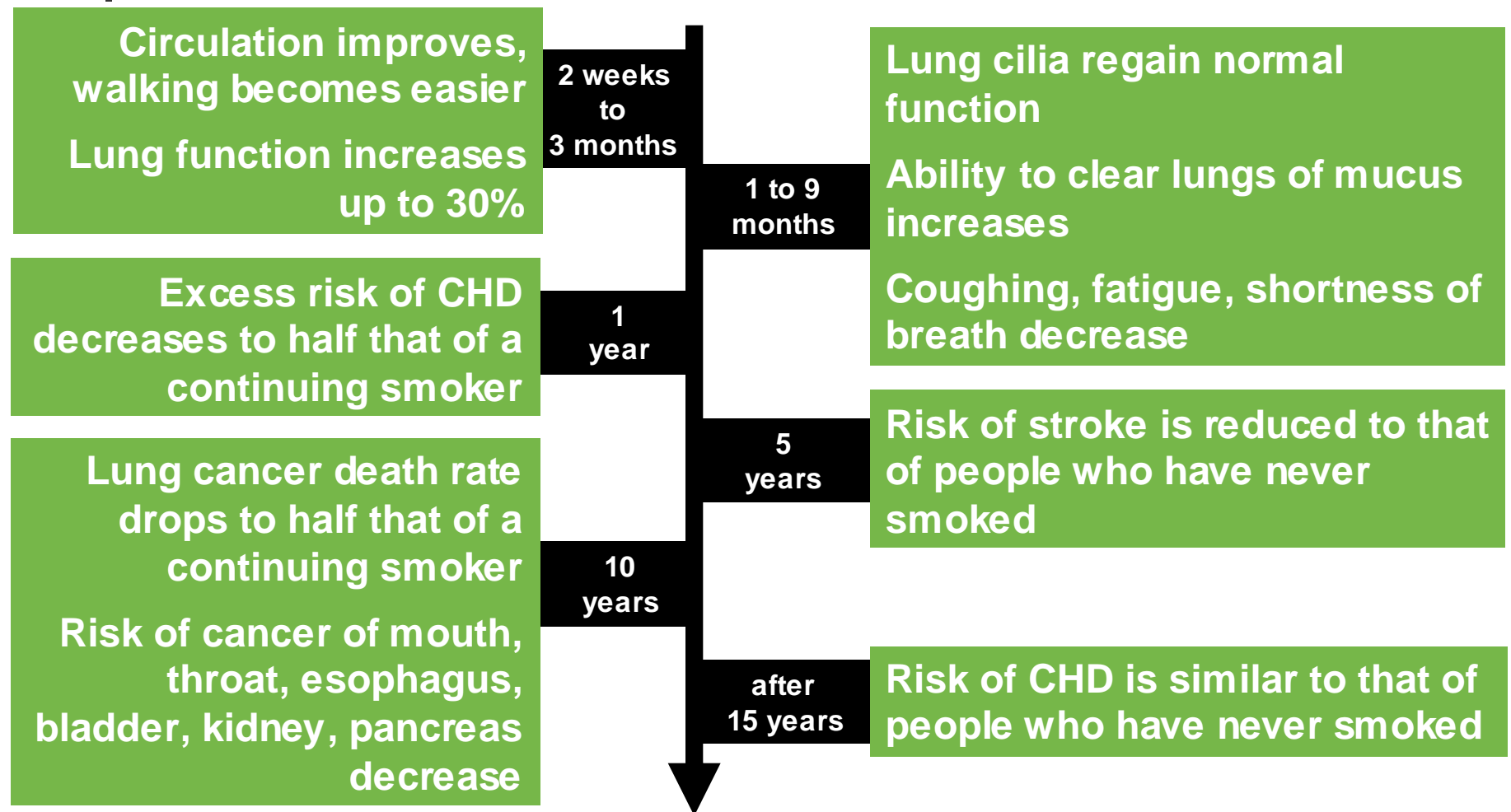
# ANNUAL SMOKING-ATTRIBUTABLE ECONOMIC COSTS—U.S., 1995–1999



Centers for Disease Control and Prevention. (2002). *MMWR* 51:300–303.

# QUITTING: HEALTH BENEFITS

Time Since Quit Date





# US SURGEON GENERAL REPORT: INVOLUNTARY EXPOSURE to TOBACCO SMOKE

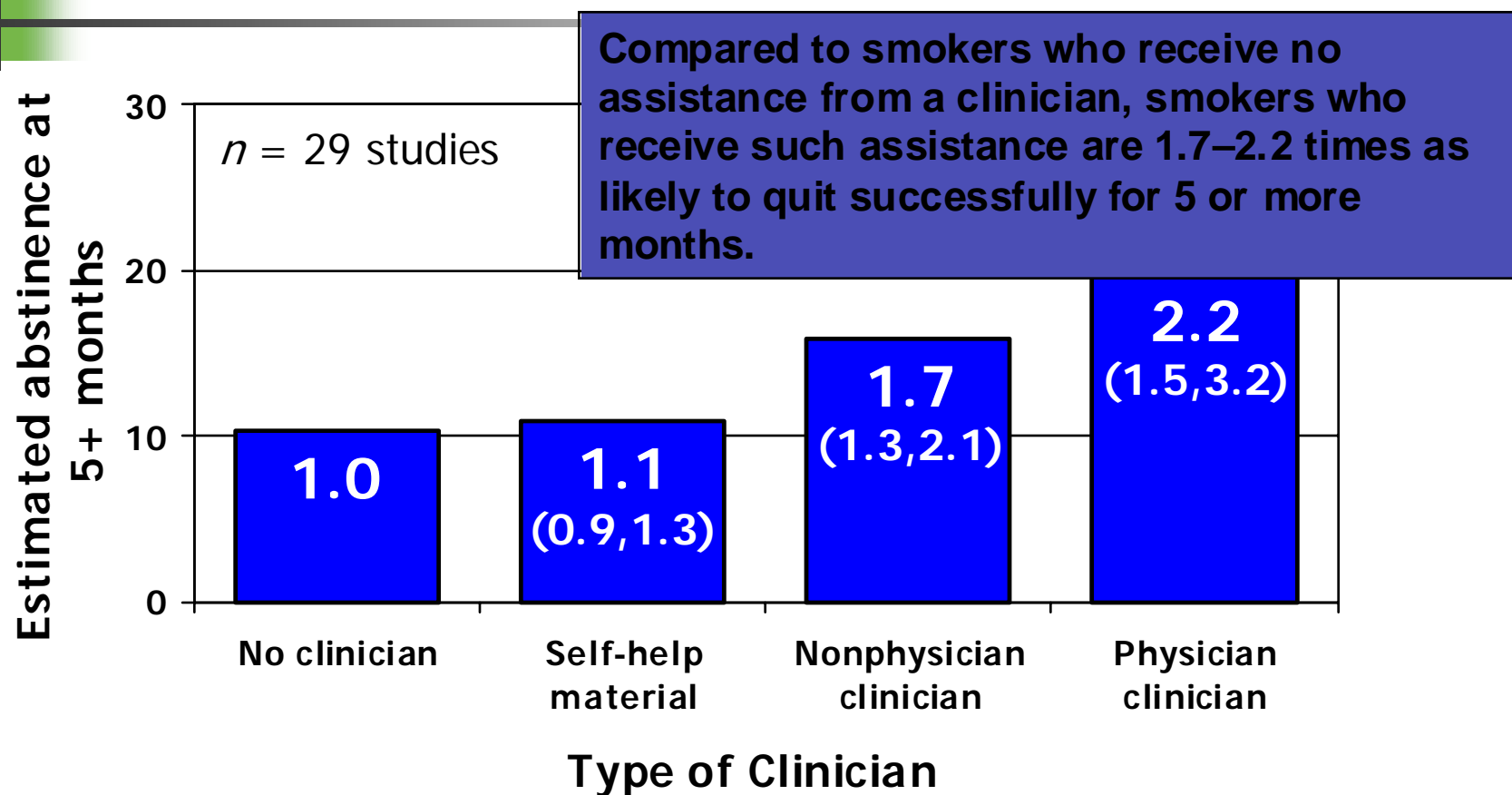
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- Second-hand smoke causes premature death and disease in nonsmokers (children and adults)
- Children:
  - Increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma
- Respiratory symptoms and slowed lung growth if parents smoke
- Adults:
  - Immediate adverse effects on cardiovascular system
  - Increased risk for coronary heart disease and lung cancer
- Millions of Americans are exposed to smoke in their homes/workplaces
- Indoor spaces: eliminating smoking fully protects nonsmokers
  - Separating smoking areas, cleaning the air, and ventilation are ineffective

**There is no  
safe level of  
second-hand  
smoke.**

USDHHS. (2006). *The Health Consequences of Involuntary Exposure to Tobacco Smoke: Report of the Surgeon General.*

# EFFECTS of CLINICIAN INTERVENTIONS



Fiore et al. (2000). *Treating Tobacco Use and Dependence. Clinical Practice Guideline*. Rockville, MD: USDHHS, PHS.

# Smoking & Nurses

- More than 300,000 nurses smoking nationally
- Nursing students smoking rates are 4 times higher than medical students
- Studies show smokers who received TDT information from their nurses were nearly 50% more likely to quit than those with no nursing intervention.



Our secret weapon against smoking?  
**Each other.**

I first lit up a cigarette when I was 9. I started smoking at 16 and smoked for 15 years. When I wanted to quit, I found out the average person takes 3-4 efforts to quit because nicotine is so powerful. I learned that if you pick it up again, it's part of a process. It's not that you failed, that's just how it works. When I finally quit, I had more weapons to help me — my pills, my support and my nurse practitioner to talk to. Now we have Tobacco Free Nurses to help, too.

— Maria, RN

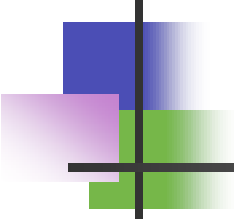
Tobacco Free Nurses is a one-stop shop for all nurses, especially nurses who want to help their patients quit smoking and nurses who want to quit themselves. We are nurses who want to benefit nurses and patients, and promote a tobacco free society. Please visit our website or call for further information.

Toll Free: 877-203-4144 | [www.tobaccofreenurses.org](http://www.tobaccofreenurses.org)



Support for the Initiative was provided by a grant from the Robert Wood Johnson Foundation in Princeton, New Jersey, to the School of Nursing, University of California, Los Angeles in partnership with American Association of Colleges of Nursing, American Nurses Foundation/American Nurse Association, and National Coalition of Ethnic Minority Nurse Associations.

[www.tobaccofreenurses.org](http://www.tobaccofreenurses.org)



# Tobacco Dependence Treatment Education and Undergraduate Nursing Students





# Hypotheses

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- Compared to baseline, nursing students who participate in *Rx for Change: Clinician Assisted Tobacco Cessation Curriculum* will demonstrate increased knowledge of, confidence in, and skill in providing TDT following the intervention.
- Participants who receive the six-hour training will demonstrate better outcomes than those who receive the two-hour training.



# Methods and Measures

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Quasi-experimental design with two cohorts of nursing students

- Process evaluation with a convenience sample (Cohort I) to assess acceptability of the pre-training survey and the intervention program
- Pre- and post-training surveys with a convenience sample (Cohort II)



# *Rx for Change*: Clinician Assisted Tobacco Cessation Curriculum

- Created at UCSF for use with pharmacy students
- Used as a one-time, evidence-based educational intervention
- Based on the *U.S. Public Health Service Clinical Practice Guideline for Treating Tobacco Use and Dependence* (2000)



© 2002

*R<sub>x</sub> for Change*



# Sample Survey Questions

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- Demographics including smoking history
- 5 point Likert Scale
  - Please rate your level of skills for assessing patients' readiness to quit.
  - How confident are you that you know the appropriate questions to ask patients when providing tobacco cessation counseling?
- Most nicotine withdrawal symptoms tend to resolve between \_\_\_\_ hours after quitting?



# Sample Characteristics

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## **Cohort I**

- Sophomore and senior nursing students ( $N = 79$ ); average age 21.4 ( $SD = 3.5$ )
- Female (92.4%) and Caucasian (91.1%)
- 7.6% Smokers

## **Cohort II**

- Sophomore, senior and RN-BSN students ( $N = 99$ ); average age 24.7 ( $SD = 7.7$ )
- Female (87.7%) and Caucasian (96.0%)
- 9.1% Smokers

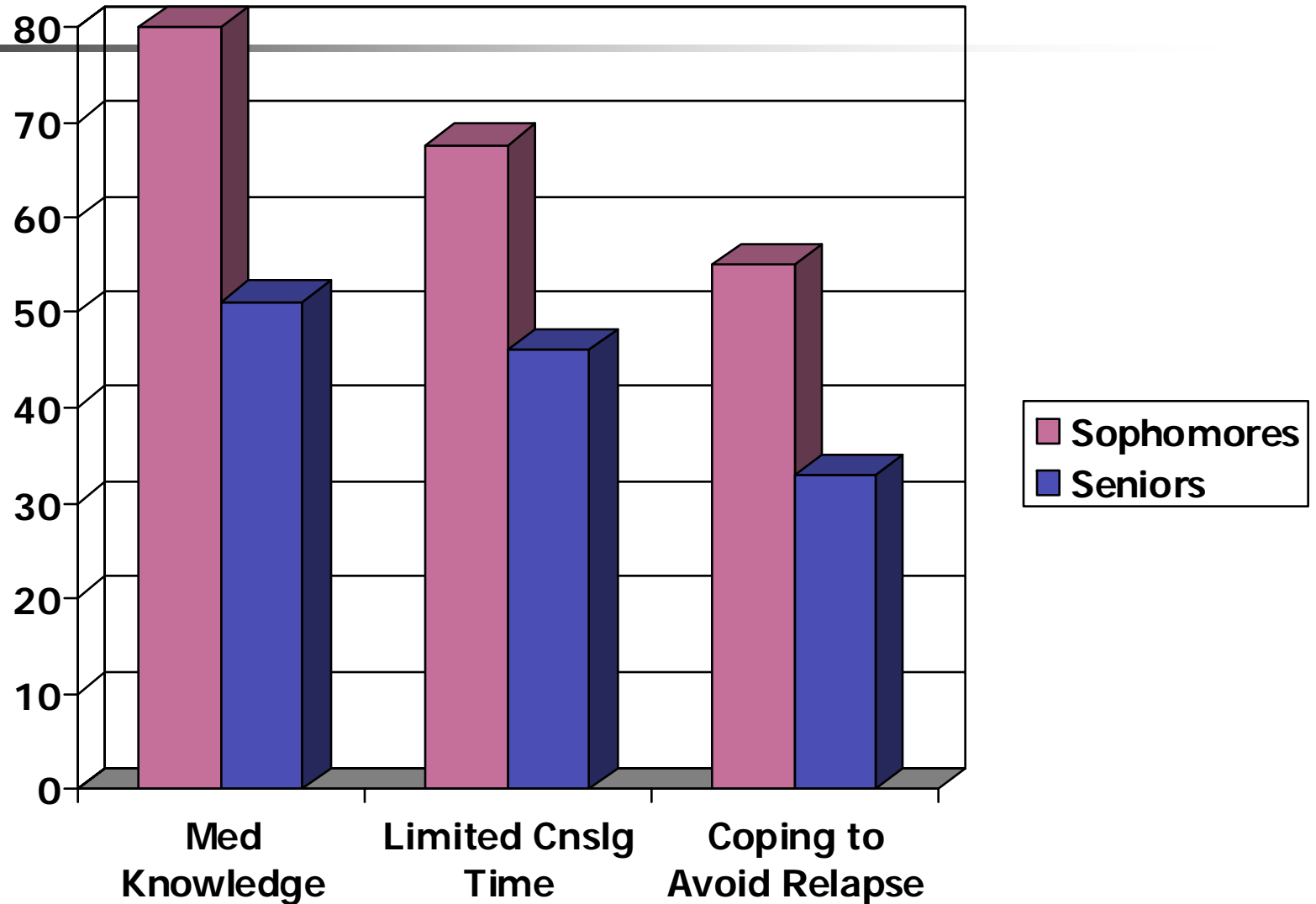


# Results: Cohort I

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- Pre-training survey instrument rated favorably (average score 39.1 ( $SD = 6.5$ ) out of 45)
- Most participants (84.4%) agreed survey length just right
- Average rating of the training program 20.5 ( $SD = 3.6$ ) out of 25
- No difference in ratings of survey instrument or training program between smokers and nonsmokers

# Lack of Confidence by Year in School



## Results: Cohort II

Pre- and post-training survey scores, average differences and paired t-tests for Cohort II ( $n = 99$ ).

<b>Scale</b>	<b>Potential range of scores</b>	<b>Pre-training Mean (SD)</b>	<b>Post-training Mean (SD)</b>	<b>Average difference (post – pre)</b>	<b>Paired <math>t</math> (<math>p</math>-value)</b>
Skill	6 – 30	16.5 (4.2)	22.4 (3.3)	6.0	13.8 (<.0001)
Confidence	12 – 60	27.9 (7.5)	42.5 (5.8)	14.8	17.6 (<.0001)
Knowledge	0 – 100	59.0 (14.3)	73.0 (15.2)	14.0	7.5 (<.0001)
Activity	2 – 6	5.9 (0.3)	5.9 (0.3)	0.03	2.2 (.03)

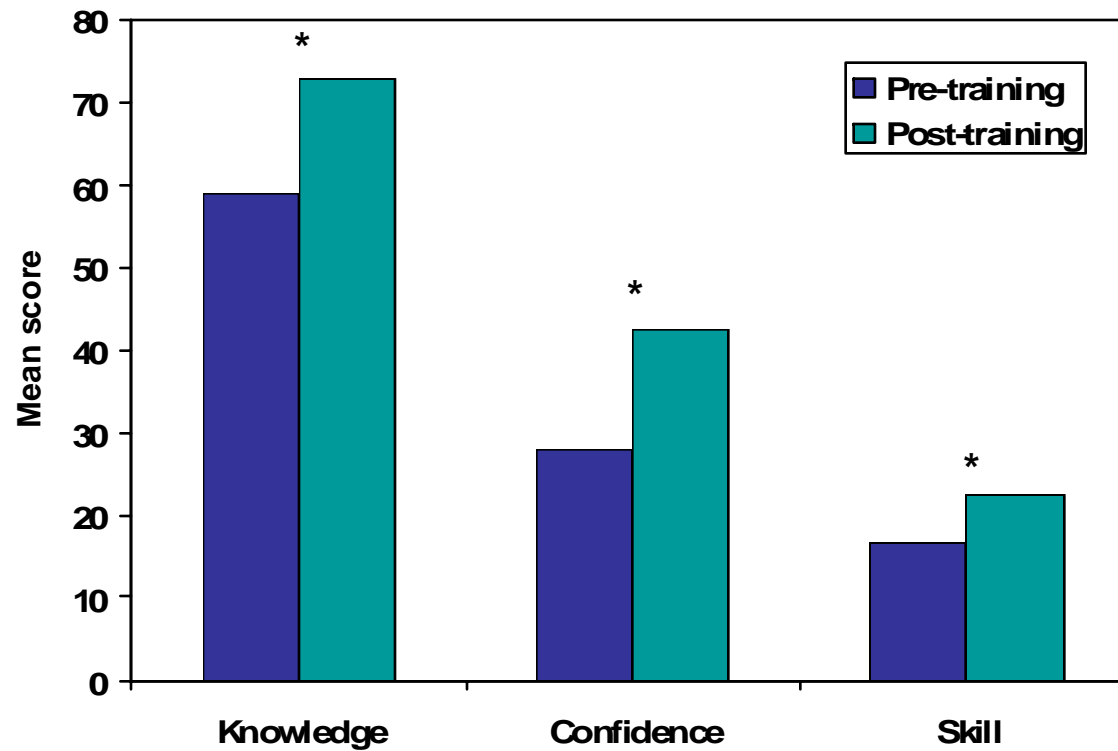


## Results: Cohort II

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- Despite significant positive impact in each area, there was no difference post-training in knowledge, confidence, or skill scores between the students who received the six-hour vs. two-hour training, controlling for baseline scores
- No differences in these outcomes by smoking status

# Results



Cohort II: Average scores at pre- and post-training for each outcome  
(N = 99)

\*Note: Change scores significant ( $p < .0001$ ) for all outcomes





# Discussion

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- Nurses and nursing students have relatively high smoking rates, yet they are expected to provide evidence-based tobacco treatment.
- *Rx for Change* had a positive impact on perceived knowledge, confidence and skill in providing TDT to patients regardless of smoking status.
- At baseline, nursing students had minimum knowledge, and they reported limited confidence in their ability to provide tobacco dependence treatment.
- An interdisciplinary approach to providing TDT is proposed.

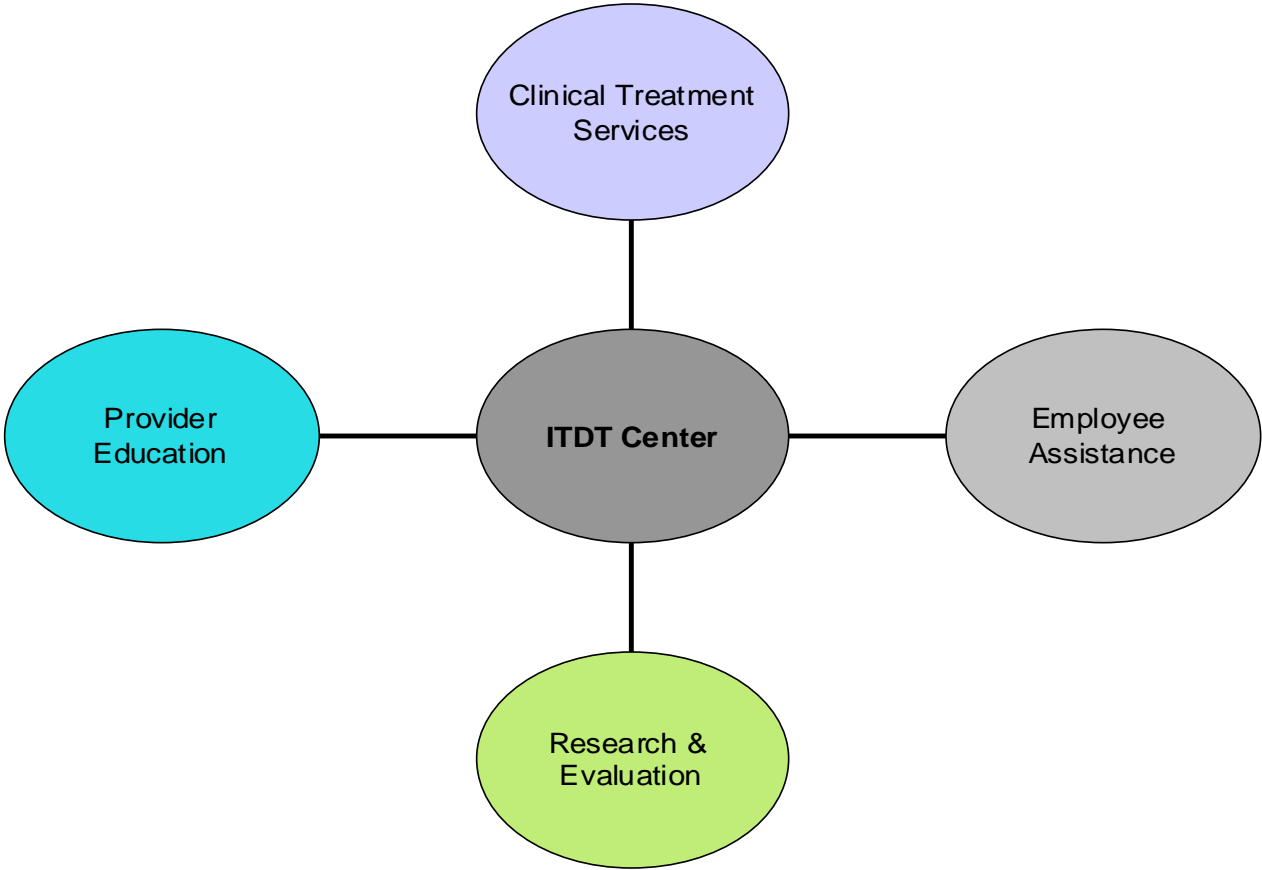
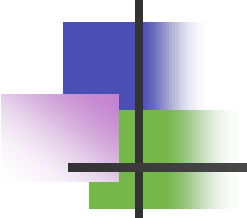


# Limitations of the Study

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- Students who received the enhanced (6-hour) training were all senior nursing students, so that the comparison of the 6-hour format to the 2-hour session was confounded with the length of time the student had been in the degree program.
- The small number of smokers in both cohorts ( $n = 6$  and  $n = 9$  in Cohorts I and II, respectively)
  - Differences in instrument and program assessment may have been more striking had there been a larger contingent of smokers.
  - A larger group of smokers would have provided more statistical power to detect differences in post-training skill, confidence, knowledge or activity between smokers and nonsmokers.

# Proposed UK Interdisciplinary Tobacco Dependence Treatment (ITDT) Center





# Conclusion

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- The educational intervention is effective.
- All groups receiving the intervention showed improvement from pre- to post-test in the areas of Knowledge, Confidence, and Skill
- There were no differences in groups who received the 2 hour vs. 6 hour intervention on perceived knowledge, confidence and skill.



# Future Directions

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- Future studies will benefit from assigning multiple classes of students at the same level of progression in the program to different program formats, as a more sensitive test for differences in skill, confidence, knowledge and activity by program length.
- While smoking status was not associated with intervention outcomes, study of the relationship between nurses' smoking status and actual TDT behaviors with patients is needed.




# Future Directions

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- Development of a standardized curriculum for nursing education programs.
- Development of an Interdisciplinary Tobacco Dependence Center.
- Mandatory education in tobacco dependence treatment for all health care professionals, including nurses.

# Resources:

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- Association for the Treatment of Tobacco Use and Dependence [www.attud.org](http://www.attud.org)
  - [www.tobaccofreenurses.org](http://www.tobaccofreenurses.org) 800-203-4144
  - Helping Smokers Quit: A guide for nurses [www.ahrq.gov/path/tobacco.htm](http://www.ahrq.gov/path/tobacco.htm), 800-358-9295 (Identify yourself as a nurse and get up to 100 free copies of the pocket guide)
  - RX for Change <http://rxforchange.ucsf.edu/>
  - Treat Tobacco <http://www.treattobacco.net/home/home.cfm>
  - American's for Non-smokers Rights <http://www.no-smoke.org/>
  - Smoke-free Movies <http://www.smokefreemovies.ucsf.edu/index.html>
  - Tobacco Policy Research Program <http://www.mc.uky.edu/tobaccopolicy/>



# Resources:

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- <http://www.tobacco.org/>
- Legacy Tobacco Library  
<http://legacy.library.ucsf.edu/>
- Nightingales Nurse Advocacy  
<http://www.nightingalesnurses.org/letters.html>
- Reimbursement for smoking cessation therapy: A health care Practitioner's Guide  
<http://www.endsmoking.org/>
- Treating Tobacco Use and Dependence: Clinical Practice Guidelines  
<http://www.surgeongeneral.gov/tobacco/>
- Data on tobacco use prevalence & tobacco related Morbidity & mortality rate  
<http://www.cdc.gov/tobacco/data.htm>





# For more information:

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**Smoke-free Lexington. Good for People. Good for Business.**



Keeneland Race Course



Barbaro



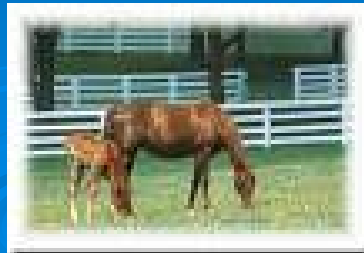
Charismatic



Kentucky Horse Park



Lexington, KY



Secretariat



Thank you!