Treating Tobacco Dependence and Providing Smoking Cessation Services: What Have We Learned?

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OBJECTIVES

- Prevalence of tobacco use within VA
- Health Consequences of tobacco use
- Psychologist’s role as a leader within behavior change and tobacco cessation
- Evidence-based treatment approaches to tobacco cessation
- Special Populations
<table>
<thead>
<tr>
<th>Medical Causes of Death</th>
<th>10 Leading Causes</th>
<th>Lifestyle Factors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart disease</td>
<td>720,000</td>
<td>Tobacco</td>
<td>400,000</td>
</tr>
<tr>
<td>Cancer</td>
<td>505,000</td>
<td>Diet, sedentary lifestyle</td>
<td>300,000</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>144,000</td>
<td>Alcohol</td>
<td>100,000</td>
</tr>
<tr>
<td>Accidents</td>
<td>92,000</td>
<td>Infections</td>
<td>90,000</td>
</tr>
<tr>
<td>Chronic pulmonary disease</td>
<td>87,000</td>
<td>Toxic agents</td>
<td>60,000</td>
</tr>
<tr>
<td>Pneumonia and influenza</td>
<td>80,000</td>
<td>Firearms</td>
<td>35,000</td>
</tr>
<tr>
<td>Diabetes</td>
<td>48,000</td>
<td>Sexual behavior</td>
<td>30,000</td>
</tr>
<tr>
<td>Suicide</td>
<td>31,000</td>
<td>Motor vehicles</td>
<td>25,000</td>
</tr>
<tr>
<td>Liver disease, cirrhosis</td>
<td>26,000</td>
<td>Illicit drug use</td>
<td>20,000</td>
</tr>
<tr>
<td>AIDS</td>
<td>25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,148,000</strong></td>
<td><strong>Total</strong></td>
<td><strong>1,060,000</strong></td>
</tr>
</tbody>
</table>

Sources: National Center for Health Statistics, estimates for 1990 by Department of Health and Human Services, Carter Presidential Center.
PREVALENCE

- 19.8% of Americans are current smokers
- 46 million adults are smokers
- Smoking-attributable costs to society:
  - $96 billion per year medical expenses
  - $97 billion lost productivity (CDC, 2007)
- US leading cause of premature death
  - at 443,000 deaths each year (CDC, 2010)
- Leading cause death/disease within VA
2008 Current Smokers in VA

Age 45-64y = 64%
Income <36K = 63%

Legend
12.8% - 16.7%
16.8% - 19.3%
19.4% - 20.7%
20.8% - 24.8%

<table>
<thead>
<tr>
<th>VISN</th>
<th>Current Smokers</th>
<th>VISN Enrollees</th>
<th>Percent Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>53,898</td>
<td>323,601</td>
<td>16.7%</td>
</tr>
<tr>
<td>2</td>
<td>40,515</td>
<td>199,055</td>
<td>20.4%</td>
</tr>
<tr>
<td>3</td>
<td>40,095</td>
<td>318,906</td>
<td>12.8%</td>
</tr>
<tr>
<td>4</td>
<td>70,930</td>
<td>428,257</td>
<td>16.6%</td>
</tr>
<tr>
<td>5</td>
<td>33,034</td>
<td>179,995</td>
<td>18.4%</td>
</tr>
<tr>
<td>6</td>
<td>88,784</td>
<td>402,246</td>
<td>22.1%</td>
</tr>
<tr>
<td>7</td>
<td>90,877</td>
<td>460,552</td>
<td>19.7%</td>
</tr>
<tr>
<td>8</td>
<td>107,172</td>
<td>566,649</td>
<td>18.9%</td>
</tr>
<tr>
<td>9</td>
<td>83,109</td>
<td>341,797</td>
<td>24.3%</td>
</tr>
<tr>
<td>10</td>
<td>66,548</td>
<td>268,416</td>
<td>24.8%</td>
</tr>
<tr>
<td>11</td>
<td>67,198</td>
<td>326,318</td>
<td>20.6%</td>
</tr>
<tr>
<td>12</td>
<td>60,481</td>
<td>313,126</td>
<td>19.3%</td>
</tr>
<tr>
<td>15</td>
<td>62,598</td>
<td>306,533</td>
<td>20.4%</td>
</tr>
<tr>
<td>16</td>
<td>124,206</td>
<td>599,251</td>
<td>20.7%</td>
</tr>
<tr>
<td>17</td>
<td>75,738</td>
<td>341,071</td>
<td>22.2%</td>
</tr>
<tr>
<td>18</td>
<td>69,792</td>
<td>317,998</td>
<td>21.9%</td>
</tr>
<tr>
<td>19</td>
<td>41,678</td>
<td>224,935</td>
<td>18.5%</td>
</tr>
<tr>
<td>20</td>
<td>65,071</td>
<td>324,216</td>
<td>20.1%</td>
</tr>
<tr>
<td>21</td>
<td>56,412</td>
<td>314,932</td>
<td>17.9%</td>
</tr>
<tr>
<td>22</td>
<td>72,557</td>
<td>393,621</td>
<td>18.4%</td>
</tr>
<tr>
<td>23</td>
<td>73,976</td>
<td>387,976</td>
<td>19.1%</td>
</tr>
<tr>
<td>Nat'l</td>
<td>1,445,469</td>
<td>7,339,532</td>
<td>19.7%</td>
</tr>
</tbody>
</table>

Source: 2008 Survey of Enrollees
Health and Reliance in VA
2008 Survey of Veteran Enrollees (7.3 Million)

- 70% of veterans (5.1 million) reported being an “ever” (current or former) smoker
- 72% (3.7 million) reported: former smoker
- 30% (2.1 million) reported: never smoker
- 18% (1.3 million) reported: “recent quitter”

Current smokers make up 19.7% of the entire VA enrollee population
Prevalence of Smoking within Chronic Veteran Population

- Veterans receiving chronic care likely differ from veterans who responded to the 2008 Survey
- Reason: Higher rates of psychiatric disorders, substance abuse and medical co-morbidities;
- Same factors associated with increased smoking within non-VA population;
Current Enrollee Smokers by VISN

- Highest % current smokers:
  - VISN 10: 24.8%
  - VISN 9: 24.3%

- Lowest % current smokers:
  - VISN 3: 12.8%
  - VISN 4 and 1: 16.6% and 16.7%

- Largest reduction in current smokers:
  - VISN 7: 19.7%
SITES OF CARE AND SERVICES OFFERED

The Atlanta VAMC has 405 authorized inpatient beds (273 hospital, 120 Community Living Center and 12 PRRTP) and is a tertiary care facility classified as a Complexity Level 1A facility. It is a teaching hospital, providing a full range of patient care services complete with state-of-the-art technology, education and research. Comprehensive health care is provided through emergency medicine, primary care, tertiary care, and long-term care in the areas of medicine, surgery, mental health, physical medicine and rehabilitation, neurology, oncology, dentistry, geriatrics, and extended care. The Atlanta VAMC is part of the VA Southeast Network (VISN 7), which includes facilities in Georgia, Alabama, and South Carolina. The Atlanta VAMC Community Living Center serves metro Atlanta and includes extended care rehabilitation, psycho-geriatric care, and general long term care. The facility also serves as a prosthetics treatment center, fabricating and supplying mechanical devices such as artificial limbs for patients within the states of Georgia, South Carolina and Alabama.
Atlanta VA Tobacco Dependence Treatment Program

- Designated as a “Program of Excellence” in 2007;
- Follow-up telephone survey of 432 veteran participants treated over a 15 month period (2001-2004) revealed:
  - Quit: 28.9%  Smoking Less: 40.6%
  - Smoking Same: 28.9% or More: 1.6%
  - Better group attendance = higher cessation (p=.002)

Georgia Psychological Association, May 2004
Atlanta VA Tobacco Dependence Treatment Program

2009

Total # veterans treated in group: 1586

- Total Unique: 437
- First time group visits: 469
- Follow-up group attendee visits: 1117
- No Show Rate: 51%
Psychologists as Leaders

- Behavior plays a primary role in health and disease;
- Smoking and tobacco use is a behavior, and is the leading cause of preventable death and disease both within and outside VA;
- By virtue of psychologists' behavior change expertise, we should and do take lead positions in tobacco cessation programs;
VA Smoking and Tobacco Use Cessation Survey by Discipline

Total of 423 FTEE to SCP at 151 facilities:

**Discipline Leadership by Percent:**
- Psychologist: 22%
- Registered Nurse: 12%
- Social Worker: 9%
- Physician (MD/DO): 9%
- Nurse Practitioner: 8%
- Pharm D: 6%

Smoking and Tobacco Use Cessation Survey, 2005
Tobacco Dependence as a Chronic Disease

The addiction to nicotine

Medications for cessation

The habit of using tobacco

Counseling & Behavioral Therapy

Treatment should address ALL aspects of dependence
Smoking is a Risk Factor Across an Array of Diseases

Cardiovascular¹
Ischemic heart disease (#2)*
Stroke – Vascular dementia
Peripheral vascular disease
Abdominal aortic aneurysm

Respiratory¹
COPD (#3)*
Community-acquired pneumonia
Poor asthma control

Reproductive¹
Erectile dysfunction²
Reduced fertility
Pregnancy complications
Low birthweight
SIDS

Other¹
Adverse surgical outcomes/
wound healing
Hip fractures
Low bone density
Cataract
Peptic ulcer disease†
Metabolic syndrome³

Cancer¹
Lung (#1)*
Oral cavity/pharynx
Laryngeal
Esophageal
Stomach
Pancreatic
Kidney
Bladder
Cervical
Leukemia

*Top 3 smoking-attributable causes of death.
†In patients who are Helicobacter pylori positive
COPD = chronic obstructive pulmonary disease
SIDS = sudden infant death syndrome

Adapted from CDC Surgeon General’s Report 2004

Why Quit?
Potential Life Time Health Benefits of Smoking Cessation

CHD risk is similar to that of persons who have never smoked
Lung cancer risk is 30-50% that of continuing smokers
Stroke risk returns to the level of people who have never smoked at 5-15 years post-cessation
CHD: excess risk is reduced by 50% among ex-smokers
Lung function starts to improve with decreased cough, sinus congestion, fatigue, and shortness of breath
Cosmetic benefits

Other Potential Benefits:
COPD: rate of lung function decline among former smokers returns to that of never smokers
Decreased risk of developing gastric and duodenal ulcers
Smoking cessation is also known to reduce the risk of cancers of the larynx, oral cavity, esophagus, pancreas, and urinary bladder

Tobacco is Carcinogenic
Nicotine, Although Addictive, is Not Carcinogenic

- Tobacco smoke contains greater than 60 carcinogenic agents and approximately 200 known toxins.
- Smoking cigarettes with lower yields of tar has not been proven to decrease associated risks.
- Nicotine is not carcinogenic.
- Nicotine is the substance in cigarettes that causes addiction.

Carcinogenic/Toxic Chemicals in Tobacco Smoke

- Ammonia
- Arsenic
- Cadmium
- Carbon monoxide
- Formaldehyde
- Hydrogen cyanide
- Toluene

Nicotine Pharmacology

- Tertiary amine
- Absorbed unprotonated through skin, buccal mucosa, alveoli
- When smoked, nicotine reaches the brain < 10 seconds
  - $T_{1/2} = 2$ hours
- 70-80% is metabolized in liver to cotinine
  - $T_{1/2} = 18$ hours
Nicotine CNS Effects

- Increases mesolimbic dopamine through actions at nACh receptors
  - ↑ Arousal
  - ↑ Relaxation
  - ↑ Mood
  - ↑ Attention

Fiore et al., Clinical Practice Guidelines, 2008
Nicotine Withdrawal (DSM-IV)

- Depressed mood
- Irritability/ anger
- Anxiety
- Restlessness

- Poor concentration
- Insomnia
- ↓ heart rate
- ↑ appetite or weight gain

Begins 1 – 6 hours after smoking cessation

Peaks 24 – 48 hours
VA First Line Pharmacotherapies

- Nicotine Patch
- Nicotine Gum
- Nicotine Lozenge
- Bupropion SR
- Combination Therapy
# Tobacco Use Cessation Medications

## Available at VA

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patch</strong></td>
<td>21mg x 4-6wks, then 14mg x 2-3wks, then 7mg x 2-3wks; adjust dose based on withdrawal symptoms, urges, and comfort</td>
<td>Skin reactions, insomnia, vivid dreams, headache</td>
</tr>
<tr>
<td><strong>Gum</strong></td>
<td>4mg (&gt;20cigs/d) or 2mg (&lt;20cigs/d) q1-2hrs x 6wks (usu 10-12 pieces/d), then q2-4hrs x 3-4wks, then q4-6hrs x 2-3wks; taper as tolerated</td>
<td>Hiccups, dyspepsia, jaw ache, lightheadedness</td>
</tr>
<tr>
<td><strong>Lozenge</strong></td>
<td>4mg lozenge q1-2hrs x 6wks (minimum of 9/day), then 1 q2-4hrs x 3wks, then 1 q4-8hrs x 3wks; taper as tolerated</td>
<td>Nausea, hiccups, dyspepsia, cough; Frequency of AE’s related to amount used</td>
</tr>
<tr>
<td><strong>Bupropion SR</strong></td>
<td>150mg qd x 3d then 150mg bid x 4d then STOP Smoking; continue 150mg bid x 12 weeks</td>
<td>Insomnia, dry mouth; nervousness, seizures (0.1%); no need to taper</td>
</tr>
<tr>
<td><strong>Varenicline</strong> *</td>
<td>0.5 mg qd x 3d, then 0.5 mg bid x 4d, then STOP smoking and take 1 mg bid x 11 wks; CrCl&lt;30 = 0.5mg bid; ESRD 0.5mg qd</td>
<td>Nausea, constipation, sleep disorders, headache, insomnia, abnormal behavior, agitation</td>
</tr>
</tbody>
</table>

*restrictions

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*[varenicline](https://www.ncbi.nlm.nih.gov/pubmed/17582045)*
Effectiveness and Long Term Abstinence Rates of Tobacco Cessation Medications (83 studies)

Fiore et al., Clinical Practice Guidelines, 2008
Combination Therapy More Effective

- All combination therapies > doubled the likelihood of helping smokers achieve long term abstinence
- Combination patch and long term gum or lozenge > tripled the likelihood of abstinence
- Only 2mg varenicline and combination long-term patch + prn NRT had abstinence rates significantly better than patches alone
- Combination therapy results in significantly higher long-term abstinence rates compared to monotherapies

Fiore et al., Clinical Practice Guidelines, 2008
Effectiveness and Abstinence Rates of Combination Medications

(2-3 studies/per combination)

Fiore et al., Clinical Practice Guidelines, 2008
Brief Fagerstrom Test for Nicotine Dependence

1. How soon after waking do you smoke your first cigarette?
   a. Less than five minutes (3 points)
   b. 5 to 30 minutes (2 points)
   c. 31 to 60 minutes (1 point)

2. How many cigarettes do you smoke each day?
   a. More than 30 cigarettes (3 points)
   b. 21 to 30 cigarettes (2 points)
   c. 11 to 20 cigarettes (1 point)

Scoring: 5-6=heavy dependence; 3-4=moderate; 0-2=light.

(Heatherton et al, 1991)
Transtheoretical Model For Readiness To Change

5 stage model for understanding addictive behaviors e.g. alcohol and smoking
- Pre-Contemplation
- Contemplation
- Preparation
- Action
- Maintenance

(Prochaska & DiClemente, 1983)
PROMOTING MOTIVATION TO QUIT

Motivational Interviewing can help with those not ready to quit:

“5 R’s” to enhance future quit attempts:
- Relevance
- Risks
- Rewards
- Roadblocks
- Repetition

Carpenter, Hughes@ Solomon et al, 2004
Strong Evidence for Counseling

- Counseling adds significantly to the effectiveness of tobacco cessation medications;
- Group and individual counseling efficacy increases with treatment intensity:
- Quitline counseling is an effective tool;
- Two components of counseling especially effective: problem-solving/skills training + social support (group);

Fiore et al., Clinical Practice Guidelines, 2008
Primary Care Setting

Gold standard for cessation treatment is the 5 “A’s”:
- Ask- about tobacco use
- Advise- tobacco users to stop
- Assess- readiness to quit
- Assist- with the quit attempt
- Arrange- follow-up care

Schroeder, 2005
Even Brief Counseling Makes a Difference

Compared to smokers who receive no counseling, smokers who receive even low intensity counseling are 1.6–2.3 times as likely to quit successfully for 5 or more months. The more sessions the better.

$n = 43$ studies

<table>
<thead>
<tr>
<th>Counseling Intensity</th>
<th>Estimated abstinence rate at 5+ months</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1.0 (1.01, 1.6)</td>
</tr>
<tr>
<td>Minimal (&lt;3 mins)</td>
<td>1.3 (1.2, 2.0)</td>
</tr>
<tr>
<td>Low-intensity (3-10 mins)</td>
<td>1.6 (1.2, 2.0)</td>
</tr>
<tr>
<td>Hi-intensity (&gt;10 mins)</td>
<td>2.3 (2.0, 2.7)</td>
</tr>
</tbody>
</table>

Fiore et al., Clinical Practice Guidelines, 2008
Compared to smokers who receive assistance from no clinicians, smokers who receive assistance from two or more clinicians are 2.4–2.5 times as likely to quit successfully for 5 or more months.

<table>
<thead>
<tr>
<th>Number of Clinician Types</th>
<th>Estimated abstinence rate at 5+ months</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1.0</td>
</tr>
<tr>
<td>One</td>
<td>1.8</td>
</tr>
<tr>
<td>Two</td>
<td>2.5</td>
</tr>
<tr>
<td>Three or more</td>
<td>2.4</td>
</tr>
</tbody>
</table>

$n = 37$ studies

Fiore et al., Clinical Practice Guidelines, 2008
## Meta-analysis (2000): Effectiveness of and estimated abstinence rates for number of person-to-person treatment sessions (n = 46 studies)\(^a\)

<table>
<thead>
<tr>
<th>Number of sessions</th>
<th>Number of arms</th>
<th>Estimated odds ratio (95% C.I.)</th>
<th>Estimated abstinence rate (95% C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1 session</td>
<td>43</td>
<td>1.0</td>
<td>12.4</td>
</tr>
<tr>
<td>2–3 sessions</td>
<td>17</td>
<td>1.4 (1.1–1.7)</td>
<td>16.3 (13.7–19.0)</td>
</tr>
<tr>
<td>4–8 sessions</td>
<td>23</td>
<td>1.9 (1.6–2.2)</td>
<td>20.9 (18.1–23.6)</td>
</tr>
<tr>
<td>&gt; 8 sessions</td>
<td>51</td>
<td>2.3 (2.1–3.0)</td>
<td>24.7 (21.0–28.4)</td>
</tr>
</tbody>
</table>

\(^a\)Fiore et al., Clinical Practice Guidelines, 2008
### Meta-analysis (2000): Effectiveness of and estimated abstinence rates for various types of counseling and behavioral therapies (n = 64 studies)

<table>
<thead>
<tr>
<th>Type of counseling and behavioral therapy</th>
<th>Number of arms</th>
<th>Estimated odds ratio (95% C.I.)</th>
<th>Estimated abstinence rate (95% C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No counseling/behavioral therapy</td>
<td>35</td>
<td>1.0 (0.7–1.3)</td>
<td>10.8 (7.9–13.8)</td>
</tr>
<tr>
<td>Relaxation/breathing</td>
<td>31</td>
<td>1.0 (0.7–1.4)</td>
<td>11.2 (7.8–14.6)</td>
</tr>
<tr>
<td>Contingency contracting</td>
<td>22</td>
<td>1.0 (0.8–1.3)</td>
<td>11.2 (8.5–14.0)</td>
</tr>
<tr>
<td>Weight/diet</td>
<td>19</td>
<td>1.0 (0.8–1.3)</td>
<td>11.2 (8.5–14.0)</td>
</tr>
<tr>
<td>Cigarette fading</td>
<td>25</td>
<td>1.1 (0.8–1.5)</td>
<td>11.8 (8.4–15.3)</td>
</tr>
<tr>
<td>Negative affect</td>
<td>8</td>
<td>1.2 (0.8–1.9)</td>
<td>13.6 (8.7–18.5)</td>
</tr>
<tr>
<td>Intra-treatment social support</td>
<td>50</td>
<td>1.3 (1.1–1.6)</td>
<td>14.4 (12.3–16.5)</td>
</tr>
<tr>
<td>Extra-treatment social support</td>
<td>19</td>
<td>1.5 (1.1–2.1)</td>
<td>16.2 (11.8–20.6)</td>
</tr>
<tr>
<td>Practical counseling (general problem-solving/skills training)</td>
<td>104</td>
<td>1.5 (1.3–1.8)</td>
<td>16.2 (14.0–18.5)</td>
</tr>
</tbody>
</table>

*Fiore et al., Clinical Practice Guidelines, 2008*
Combining Counseling and Medication is more effective than either alone (A)

#### Graph

- **Medication alone**: 1.0
- **Medication + counseling**: 1.4
- **Medication alone**: 1.0
- **Medication + Quitline**: 1.3

#### Telephone Quitline Counseling is Effective and has Broad Reach (A)

- **1-800-QUITNOW**
- Direct counseling from trained staff
- Multi-language, culturally tailored services

*Fiore et al., Clinical Practice Guidelines, 2008*
## TUC Counseling and Medication

(18 studies)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>OR to quit (95% CI)</th>
<th>Abstinence rate (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication alone</td>
<td>1.0</td>
<td>21.7</td>
</tr>
<tr>
<td>Medication and counseling</td>
<td>1.4 (1.2-1.6)</td>
<td>27.6 (25.0-30.3)</td>
</tr>
<tr>
<td>0-1 session + medication</td>
<td>1.0</td>
<td>21.8</td>
</tr>
<tr>
<td>2-3 sessions + medication</td>
<td>1.4 (1.1-1.8)</td>
<td>28.0 (23.0-33.6)</td>
</tr>
<tr>
<td>4-8 sessions + medication</td>
<td>1.3 (1.1-1.5)</td>
<td>26.9 (24.3-29.7)</td>
</tr>
<tr>
<td>&gt;8 sessions + medication</td>
<td>1.7 (1.3-2.2)</td>
<td>32.5 (27.3-38.3)</td>
</tr>
</tbody>
</table>

*Fiore et al., Clinical Practice Guidelines, 2008*
Special VA Populations Requiring IC Model

- Psychiatric disorders more common among smokers;
- 50% with serious mental illness are smokers. Psychiatric populations show:
  - Higher morbidity/mortality due to tobacco;
  - Heightened risk for relapse following cessation attempts;
- Within VA, McFall (2008) and George (2006) recommend integrated care model;
Current and Lifetime Smoking and Mental Illness

INTEGRATED CARE MODEL -PSYCHIATRIC/SUB-ABUSE

- IC care needed with this population due to:
  - High “no show” rates in cessation clinics
  - High non-compliance;
  - Tobacco dependence is chronic and relapsing condition;
  - “One-stop shopping” thru MH visits can overcome logistical barriers;
  - MH providers can tailor treatment

McFall, 2006
SMOKING AND MENTAL ILLNESS

- Nicotine use w/in Schizophrenia 58%-88% higher than general population
- Reasons: resources, stress, poverty, modeling, genetic factors;
- Nicotine may “normalize” abnormal brain activity and improve deficits in fxing;
- Need for further “culture change” w/in VA;

George, 2006
Smoking and PTSD

- Vets with PTSD more likely to be heavy smokers and less likely to quit;
- Why: trauma cues may evoke nicotine withdrawal
- May smoke to relieve anxiety and tension
- Cessation may exacerbate depression
- MH providers trained to understand and treat via Integrated Care model

McFall, 2005
CONCLUDING REMARKS

- Tobacco dependence is a chronic relapsing disease requiring repeated interventions and multiple quit attempts.
- Effective treatments exist that can significantly increase rates of long-term abstinence.
- Vets with chronic mental illness require more of our attention for innovative IC approaches.
“The doctor of the future will give no medicine, but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease.”

Thomas A. Edison
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