Tobacco Control Among Youth: Emphasis on Mental Disorders

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The Problem

- Cigarette smoking rates have declined as have mortality rates for some smoking-related diseases (CVD, lung cancer).

However...
- Between 2005 and 2009, cigarette smoking accounted for more than 480,000 premature annual deaths among Americans 35 years of age and older.
- Nearly all tobacco use begins during adolescence. Each day, over 3,800 youth under 18 start smoking.
- Exposure to second-hand smoke is a major public health problem and a risk factor for morbidity and mortality. As many as 50,000 deaths annually.

The Health Consequences of Smoking – 50 Years of Progress. SGR 2014
Preventing Tobacco Use Among Youth and Young Adults SGR. 2012
USDHHS, 2010
Key Elements of Tobacco Control

Prevention

Cessation
TRENDS in ADULT CIGARETTE CONSUMPTION—U.S., 1900–2011

Annual adult per capita cigarette consumption and major smoking and health events

Year


Number of cigarettes

0 1,000 2,000 3,000 4,000 5,000

1904 Surgeon General’s Report

Great Depression

First modern reports linking smoking and cancer

1954 Federal cigarette tax doubles

1964 Broadcast ad ban

1965 Nonsmokers’ rights movement begins

1968 Marketing of filtered cigarettes

1970 California first state to enact ban on smoking in bars

1980 Master Settlement Agreement; California first state to enact ban on smoking in bars

1990 Cigarette price drop

2000 2010

20 states have > $1 pack tax

TRENDS in ADULT SMOKING

Trends in cigarette current smoking among persons aged 18 or older


Trends in cigarette smoking among 12th graders: 30-day prevalence of use

Institute for Social Research, University of Michigan, Monitoring the Future Project
www.monitoringthefuture.org
Major Depressive Episode (MDE) and Major Depressive Episode with Severe Impairment in the Past Year among Youths Aged 12 to 17: Percentages, 2004-2014

Results:
The prevalence rate of current (i.e., past 30 days)cigarette smoking among US adolescents age 12-17 years was twice as high for those with vs. without a past-year major depressive episode (PYMDE) (22 vs. 11% in the 2004 survey and 16 vs. 8% in the 2010 survey).

Disparities in cigarette smoking in the United States

- Approximately 18% of adults smoke in the US (general population)
- Approximately 30% of those below the federal poverty line smoke
- Many smoking cessation services do not meet the needs of low-income populations
  - Transportation barriers
  - Un/under-insured
  - Lower educational level
  - Economic barriers

CDC, MMWR 2014
Our “Discovery to Community” Model

Research grant → Rethinking approach → Intervention project → Significant impact

Monitoring

Broad dissemination

Marketing

Further tailoring to communities

Satellite products (apps)

Tobacco Outreach Education Program

Publications

Since 2000…
e-Health and m-Health

- > 90% of adults own a cell phone (more cell phones than landlines)
- About 75% use their cell phone to send/receive text messages
- Individuals living in poverty more likely to live in cell phone only households
- Health intervention studies using cell phones and text messaging have shown feasible and promising results.
  - (e.g. smoking cessation, diabetes education, alcohol prevention, adherence, sexual health, etc.)

Pew Internet & American Life Project in collaboration with California HealthCare Foundation, 2013
Ibn Sina Health Clinic - Wilcrest
The Fountain of Praise Church
1st Missionary Baptist Church
ASPIRE (A Smoking Prevention Interactive Experience)
ASPIRE BIG Kickoff Event
ASPIRE in Schools
Prevention in Youth is Warranted

Coordinated, multicomponent interventions that combine mass media campaigns, price increases including those that result from tax increases, school-based policies and programs, and statewide or community-wide changes in smokefree policies and norms are effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults.

Retail tobacco outlets are disproportionately located in socially and economically disadvantaged neighborhoods.

Tobacco Industry still targets youth in the US and globally.

Preventing Tobacco Use Among Youth and Young Adults SGR. 2012
Novak et al., 2006; Brodin, 2013
Are We “Drilling” Deep Enough?

- Superficial Knowledge
- Deep Knowledge
- Language/Literacy
- Culture/Traditions
- Tobacco-free lifestyle
American Lung Association: Until FDA approves e-cigs as safe and effective for cessation, the ALA does not support claims that e-cigs help in quitting.

American Heart Association: There is not yet enough evidence for clinicians to advise their patients to use e-cigs as a primary cessation aid.

American Medical Association: Supports regulations that... prohibit claims that e-cigs are effective tobacco cessation tools.

American Academy of Pediatrics: There is a critical need for ENDS regulation, legislative action, and counter promotion to protect youth. ENDS have the potential to addict a new generation of youth to nicotine and reverse more than 50 years of progress in tobacco control.
• **Program delivered in 2 packages:** Online curriculum-based program for middle and high school students; Or online program tailored to the specific needs of the user (e.g., smoking status)

• **Implemented:** In science/health, PE, library, and alternative to suspension; Or individually (tailored version)

• Available in Spanish and English
Scope of ASPIRE

• 27 animated videos
  – 33 minutes of content
• 46 live action videos
  – 66 minutes of content
• 20 web games/interactive features
  – HTML5 interactive and/or gamified content

THE LENGTH OF A FEATURE FILM
Impact of A Smoking Prevention Interactive Experience (ASPIRE), an interactive, multimedia smoking prevention and cessation curriculum for culturally diverse high-school students

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Abstract

Few studies have examined the long-term efficacy of computer-based smoking prevention and cessation programs. We analyzed the long-term impact of A Smoking Prevention Interactive Experience (ASPIRE), a theoretically sound computer-based smoking prevention and cessation curriculum for high school students. Sixteen predominantly minority, inner-city high schools were randomly assigned to receive the ASPIRE curriculum or standard care (receipt of the National Cancer Institute’s Clearing the Air self-help booklet). A total of 1160 students, 1098 of whom were nonsmokers and 62 smokers at baseline, were included. At 18-month follow-up, among baseline nonsmokers, smoking initiation rates were significantly lower in the ASPIRE condition (1.9% vs. 5.8%, p<0.05). Students receiving ASPIRE also demonstrated significantly higher decisional balance against smoking and decreased temptations to smoke. Differences between groups in self-efficacy and resistance skills were not significant. There was a nonsignificant trend toward improved smoking cessation with ASPIRE, but low recruitment of smokers precluded conclusions with respect to cessation. ASPIRE demonstrated the potential for an interactive multimedia program to promote smoking prevention. Further studies are required to determine ASPIRE’s effects on cessation.
Smoking Initiation by Risk Level

Mean percent smokers at 18 months

Significant risk by condition effect (F=15.9, p<.001)

Prokhorov et al., 2010
Evolution of ASPIRE:

2000:
- Research began
- NCI funded project to develop and test curriculum

2002:
- Original version on CD-ROM
- Prototype program tested amid 1,600 teens in 16 high schools

2004:
- Internet version
- Bulk of content retained, navigation streamlined, access simplified

2007:
- Updated version with new modules
- New modules added, interface updated to better meet users' needs

2008:
- Formal curriculum version
- Pre- and post-test capabilities added by request of teachers

2011:
- Launched January 2011

2013:
- Adopted by NCI RTIPs database; affirmed in Cochrane Review

2014:
- Additional languages
- HTML Launch;
  Vietnamese, Romanian, Hungarian and other languages

http://www3.mdanderson.org/streams/FullVideoPlayer.cfm?mediaID=AA733F2C-1912-4D5A-BA92-58E2CC5B3FBD

MD Anderson
ASPIRE
A Smoking Prevention Interactive Experience
ASPIRE Recognized as Effective

School-based programmes for preventing smoking (Review)

Thomas RE, McLellan J, Perera R
Evidence-Based Program

A Smoking Prevention Interactive Experience (ASPIRE)

On This Page
- The Need
- The Program
- Time Required
- Intended Audience
- Suitable Settings
- Required Resources
- About the Study
- Key Findings
- Publications

Highlights

Program Title: A Smoking Prevention Interactive Experience (ASPIRE)
Purpose: Designed to prevent tobacco use among high school students. (2008)

Program Focus:
- Awareness building, Behavior Modification and Tobacco Use Prevention

Population Focus:
- School Children
- Topic: Tobacco Control
- Age: Adolescents (11-18 years)
- Gender: Female, Male
- Race/Ethnicity: Black, not of Hispanic or Latino origin, Hispanic or Latino, White, not of Hispanic or Latino origin
- Setting: Rural, School-based, Suburban, Urban/Inner City
- Origination: United States

Funded by: NCI (Grant number(s): R01CA81934-01A2)

RTIPs Scores

This program has been rated by external peer reviewers. Learn more about RTIPs program review ratings.

RE-AIM Scores

This program has been evaluated on criteria from the RE-AIM framework, which helps translate research into action.
ASPIRE Content

- Short-term health effects
- Long-term health effects
- Nicotine addiction
- Environmental impact
- Impact on personal/family budget
- Social consequences
- Traditional tobacco products
- New and emerging tobacco products
- Big Tobacco manipulation of young smokers
- Resistance skills building
- Chemicals in tobacco
- Advocacy skills
Welcome to ASPIRE!

Whether you are a smoker looking to quit, a non-smoker seeking information about smoking and its effects or anywhere in between, this self-paced learning experience offers interactive activities, videos, support strategies and fun animations to help you reach your goal. You’ll learn how to make the best choices for you — and how to stay on the path of good health.

Ready to get started?

Click the appropriate banner below to begin now!

This Web site is based on the school curriculum called ASPIRE (A Smoking Prevention Interactive Experience). The ASPIRE curriculum was jointly developed by MD Anderson Cancer Center and The University of Texas Health Science Center at Houston and was funded by a grant from the National Cancer Institute. Funding for this Web site was provided to the George & Barbara Bush Foundation.
ASPIRE in Texas

Nearly 28,000 low-SES students reached across Texas
ASPIRE US Reach

Enrolled States: AK, AL, AR, AZ, CA, CO, CT, FL, GA, IL, IA, KY, LA, MD, MA, MI, MS, MT, NV, NC, OK, OR, PA, RI, SD, TX, WA, WI

Prospect States: DC, KS, NY, OH, WY
Year to Date Accomplishments
• More than 60,000 website visits from at least 66 countries
  – Sites: More than 500; schools, clinics, and community organizations

• Student feedback (August, 2014):
  – 91% learned new facts about tobacco
  – 82% said ASPIRE influenced them not to use tobacco
  – 90% said they better understand the tobacco effects
  – 75% would recommend ASPIRE to friends/family
## Reaching Disadvantaged Youth

| School districts       | • Aldine ISD – 85.2%  
|                       | • Houston ISD – 80.4%  
|                       | • Alief ISD – 78.5%   |
| Clinics (FQHC)         | • City of Houston Safety Net Dental Clinics  
|                       | • El Centro de Corazon  
|                       | • Ibn Sina             |
| After School Programs  | • Salvation Army Boys and Girls Clubs  
|                       | • YMCAs                |
| Homeless Shelters      | • Star of Hope         |
| Juvenile Justice       | • Harris County        
|                       | • Tejano Center for Community Concerns |
Tobacco Free Teens app

- Branched from ASPIRE
- Funded by the Tobacco Outreach Education Program
- Launched in June 2013
- First externally facing official developed at MD Anderson
- Free of charge.
- Translated into Spanish
Tobacco Free Teens App

- **Program**: free app created to help adolescents learn how to be tobacco-free via smart phone technology

- **Benefit to Youth**: ability to learn how to be tobacco free from own handheld device

- **Reach**: national/international as available on Apple iTunes

- **Results**: Over 10,000 downloads as of May 2016; first externally facing official app out of MD Anderson
Tobacco Free Teens app
Tobacco Free Teens app

Don’t try to quit right before a big game...

Here are some typical examples of smoking temptations.

And for others it’s really difficult!

Drinking a cup of coffee
Tobacco Free Teens app

1. Like Smoking And I Don't Want To Quit
   - See It For Yourself
   - The Big Smoke Screen
   - Smoking Is Big Business
   - Busted! 7 Smoking Myths

2. Did you know tobacco smoke contains more than 7000 chemical compounds?

3. Hydroquinone is used in FILM developer.

4. ... and many die from tobacco related diseases.
Tobacco Free Teens app

Stopping smoking for 1-2 days is not quitting.

Water your PLANTS.

Misses = 1

One trick we use is to target young people!
Tobacco Free Teens app

<table>
<thead>
<tr>
<th>1 Pack/Week</th>
<th>$6.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Packs/week</td>
<td>$7.00</td>
</tr>
<tr>
<td>3 Packs/week</td>
<td>$7.50</td>
</tr>
<tr>
<td>4 Packs/week</td>
<td>$8.00</td>
</tr>
</tbody>
</table>

Your savings if you quit smoking...

- $15.00 per week
- $60.00 per month
- $780.00 every year
- $7800.00 every 10 years

We need to recruit fresh new smokers because many of them quit...
Physicians Should be on the Forefront of Tobacco Control

...physicians’ smoking habits appear to vary from region to region.

It is important that smoking in the medical profession declines in future years, so that physicians can remain on the forefront of anti-smoking programs and lead the way as public health exemplars in the 21st century.

Smith & Leggat, 2007
Physicians’ Training Works

Project TEAM in 16 urban and rural Texas communities funded by NCI

There was an increase in assisting patients to quit (6% to 36%; \( P = .002 \)) by physicians (baseline vs. 12 months) in the intervention group, but not in the control group.
CME Training Program

• Program: Tobacco training course available online or on DVD
• Target Audience: healthcare providers and cessation counselors
• Dissemination Outlets: physicians' offices and clinics
Health Care Provider Training

- Disseminated over 25,205 CME materials to Texas medical communities
- Gave 207 live tobacco cessation/prevention presentations in 25 different Texas cities with:
  - 9,337 physicians and PAs trained
  - 394 medical residents/preceptors trained
  - 92 pharmacists trained
- Offered live/DVD/web-based CME training: 2,039.5 CME hours earned by physicians & medical residents
- Enrolled 264 health care providers in the Tobacco Cessation Series courses with no CME credits
QuitMedKit app

- Branched from our evidence-based training for physicians in smoking cessation counseling (Project TEAM)
- Funded by the Tobacco Outreach Education Program
- Free of charge.
- Over 800 downloads as of May 16, 2016
- Being translated into Spanish
QuitMedKit app

The app follows the 2008 Clinical Practice Guidelines:
• 5 A’s model
• Counseling tips
• Quit-smoking medications

Additional features:
• Motivational pictures
• Pictures of medications
QuitMedKit app

Tips for More Effective Treatment

Consistently identify and document tobacco use status and treat every tobacco user.

Remember that even a brief tobacco treatment can be effective.

The combination of counseling AND medication is more effective for smoking cessation than either one alone.

Multiple counseling sessions (in addition to medication) increase the patient's chances of quitting.
QuitMedKit app

**Counseling**
- Practical Counseling
- Motivational Interviewing Tips

**Medications**
- Bupropion SR 150
- Nicotine Gum (2mg or 4mg)
- Nicotine Inhaler
- Nicotine Lozenge (2mg or 4mg)
- Nicotine Nasal Spray
- Nicotine Patch

**Nicotine Patch**

**Cautions/Warnings**
Do not use if you have severe eczema or psoriasis

**Side Effects**

**Bupropion SR 150**

**Cautions/Warnings**
Not for use if you:
- Currently use monoamine oxidase (MAO) inhibitor.
- Use bupropion in any other form...