Understanding Smokers and Cessation
Gary A. Giovino, PhD, MS

Understanding Smokers and Cessation

Patterns of Smoking

In 2004 (according to 2004 National Health Interview Survey (NHIS) data [11/11/05 *MMWR*]):

- 20.9% of US adults (≥ 18 years old) were current cigarette smokers (down from 24.7% in 1997). (Note: Current smokers have ever smoked 100 lifetime cigarettes and currently smoke every day or on some days.)
- 44.5 million US adults (civilian, non-institutionalized) were current smokers
- 81.3% of current smokers smoked every day; 18.7% of current smokers smoked on some days. Among current smokers, the overall percentage of some-day smokers was stable at approximately 18%-19% during 1993-2004.
- 12.1% of current daily smokers smoked ≥ 25 cigarettes per day (cpd) (down from 19.1%) in 2004
- Mean cpd among daily smokers was 16.8 cpd (18.1 cpd for men and 15.3 cpd for women) – down from a mean of 19.6 cpd in 1993 (21.3 cpd for men and 17.8 cpd for women).
- Men (23.4%) were more likely to smoke than women (18.5%).
- Native Americans (33.4%) were most likely to smoke; Asian Americans (11.3%) and Hispanics (15.0%) were least likely to smoke.
- Persons with a GED diploma (39.6%) and 9-11 years of education (34.0%) were most likely to smoke. Those with a graduate degree (8.0%) and only and undergraduate degree (11.7%) were least likely to smoke.
- Persons living in poverty (29.0%) were more like to smoke than those living at or above the poverty line (20.6%) or those with unknown poverty status (19.0%).

Use of Other Tobacco Products

In 2003:

- Cigars were used during the previous 30 days by 10.7% of current cigarette smokers, 4.2% of former smokers, and 3.3% of never smokers (National Survey on Drug Use and Health [NSDUH])
- Snuff was used by 3.9% of current cigarette smokers, 2.2% of former smokers, and 2.0% of never smokers (2003 NSDUH).
- Chewing tobacco was used by 1.8% of current cigarette smokers, 1.2% of former smokers, and 1.0% of never smokers (2003 NSDUH).
- Tobacco in a pipe was smoked by 1.4% of current cigarette smokers, 0.7% of former smokers, and 0.4% of never smokers (2003 NSDUH).

Patterns of Quitting:

- 40.5% of current every day smokers (14.6 million people) stopped smoking for at

- least one day during the preceding 12 months because they were trying to quit (2004 NHIS)
- 50.6% of persons who had ever smoked at least 100 lifetime cigarettes no longer smoked cigarettes (up from 48.0% in 1997) (2004 NHIS).
- Among current smokers ≥ 25 years old in 2004/2005, approximately 21% planned to quit smoking during the subsequent 30 days; 37% planned to quit smoking during the next six months, but not during the next 30 days; 30% planned to quit smoking eventually, but not for at least six months; 6% said they would never quit, but felt that they should, and 6% said they would never quit and that they were happy to keep smoking (preliminary unweighted data from the 2004/2005 Assessing Hard Core Smoking Survey [AHCSS], a telephone survey of 1,000 US smokers ≥ 25 years old).

Receipt of Advice to Quit from a Health Care Provider:

- As of 2004, approximately 65% of smokers ≥ 25 years old were advised to quit during the previous 12 months by a health care provider, 10% were advised but more than 12 months previously, and 25% reported having never been advised to quit by a health care provider (2004/2005 AHCSS).
- From 1992/1993 to 2001/2002, the percentage of US smokers ≥ 18 years old who visited a physician during the previous 12 months and reported receiving advice to quit from a physician increased from 50.1% to 61.4% (Tobacco Use Supplement to the Current Population Survey [TUS-CPS])
- In 2001/2002, receipt of advice to quit from a physician was reported by 54.1% of 18-29 year old smokers and 63.7% of smokers ≥ 30 years old (TUS-CPS).
- Receipt of advice to quit from a physician was reported most frequently by adult smokers in Hawaii (74%) and least often by smokers in Texas (53.3%)(TUS-CPS).
- From 1992/1993 to 2001/2002, the percentage of US smokers ≥ 18 years old who visited a dentist during the previous 12 months and reported receiving advice to quit from a dentist increased from 20.7% to 32.7% (TUS-CPS).
- In 2001/2002, receipt of advice to quit from a dentist was reported by 33.6% of 18-29 year old smokers and 32.4% of smokers ≥ 30 years old (TUS-CPS).
- Receipt of advice to quit from a dentist was reported most frequently by adult smokers in the District of Columbia (43%) and least often by smokers in North Dakota (22%) (TUS-CPS).

Methods Used to Quit

The following percentages refer to the use of various cessation strategies/methods during the last quit attempt of current smokers ≥ 25 years old. The questions were asked only of persons who attempted to quit during the previous 12 months (preliminary unweighted data from 2004/2005 AHCSS):

- 8% attended a stop smoking clinic or class
- 4% called a telephone Quit Line
- 12% used self-help materials, like books or videos
- 6% got information from the Internet
- 31% used nicotine-replacement therapy

- 12% used Zyban
- 3% used a herbal product, like Smoke Away
- 5% used hypnosis
- 2% used acupuncture
- 48% tried to stop by gradually cutting back on the number of cigarettes smoked each day
- 5% switched to chewing tobacco, snuff, cigars, or pipes
- 16% switched to a lighter strength of cigarettes in order to try to quit
- 76% gave up cigarettes all at once – "cold turkey"

Attitudes About Cessation Treatments

Among current smokers ≥ 25 years old in 2004/2005 (preliminary unweighted data from AHCSS):

- 50% believe that stop-smoking medications make it easier to quit
- 72% believe that stop-smoking medications are too expensive
- 36% believe that stop smoking medications might harm their health
- 49% don't know enough about how to use stop-smoking medications properly

Motivators

In 2004/2005, current smokers ≥ 25 years old who were not planning to quit during the next six months were asked if various incentives or potential motivators would get them to think seriously about stopping smoking in the next six months. The percentages of smokers responding "YES" to each item follow (preliminary unweighted data from 2004/2005 AHCSS):

- 52% to a chance to win $1,000 for stopping smoking
- 47% to an offer of free nicotine patches or gum
- 20% to access to a telephone support line to help them stop smoking
- 16% to TV ads that show graphic pictures about the dangers of smoking
- 18% to health warnings on cigarette packs that show graphic pictures

Weighted Percentages from the International Tobacco Control Four-Country Survey (2002 Baseline Survey of US Smokers >= 18 years old):

In 2002, during the previous 6 months:

- 27% of smokers made a quit attempt
- Of those making a quit attempt, 52% used a quitting medication
- Of those using medication (multiple medications for some people):
  - 56% used the patch
  - 24% used Zyban
  - 21% used gum
  - 14% used Wellbutrin
  - 6% used the inhaler
  - How medication was obtained (multiple medications for some people):
    - 51% got it OTC
    - 46% used a prescription
    - 7% from a friend
  - How medication was paid for (multiple medications for some people):

        - 63% full price
        - 22% free
        - 19% discount
    - Reasons for using medication:
        - 83% to stop smoking
        - 5% for when smoking was not possible
        - 5% to reduce amount smoked
        - 7% for some other reason
- Knowledge/attitudes about smoking cessation medications (asked of all smokers who made a quit attempt during previous 6 months):
    - 63% believed medications made quitting easier
    - 49% believed could quit without medications
    - 79% believed that medications are too expensive
    - 42% didn't know how to use medications
    - 20% believe that medications were too hard to get
    - 35% believed that medications might harm their health
- Sources of Information (asked of all smokers):
    - 4% from a Quit Line
    - 4% from the Internet
    - 8% from local stop smoking services (e.g., clinics or specialists)

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Understanding Smokers and Cessation

Elizabeth Barbeau, ScD, MPH

Understanding Smokers and Cessation
(with emphasis on socially disadvantaged populations)

Smoking prevalence and quit attempts follow an inverse social gradient; those with lower educational attainment and incomes are more likely to smoke and less likely to attempt to quit than their more advantaged counterparts. This pattern is observed among the three major racial-ethnic groups and for women and men in the US. Using 2000 NHIS data, we will explore whether there is a social gradient in use of cessation aids during quit attempts, and how this pattern may vary for racial-ethnic groups and both genders.

Current Evidence-Based Cessation Treatments: Efficacy and Critical Ingredients

Saul Shiffman, PhD

Current Evidence-Based Cessation Treatments: Efficacy and Critical Ingredients

Quitting by current smokers can reduce the toll of death and disease wreaked by smoking. However, unaided quitting has a very low success rate, with 97% or more of quit efforts ending in failure. Accordingly, treatments to help smokers quit can play an important role in public health. The impact of cessation treatments on population smoking depends on their efficacy as well as their reach or utilization. Currently available treatments have modest but significant efficacy, but even more modest rates of utilization.

This paper discusses currently-available behavioral and pharmacological treatments for smoking cessation. Behavioral and pharmacological treatment each address different challenges in smoking cessation, and are thus potentially complementary. Evidence from meta-analyses indicates that the combination of behavioral and pharmacological treatment is additive: each is effective on its own, and its efficacy is not dependent on the other, but the combination additively yields the highest success rates.

Behavioral treatment has demonstrated efficacy in helping smokers quit. Contemporary behavioral treatment is dominated by multi-component approaches that are atheoretical and combine a variety of techniques. No distinct approach dominates. Important common components include education about smoking and quitting, orientation to the quit process, social support, planning and problem-solving, relapse prevention, and specific tactical tips and techniques for minimizing and resisting urges to smoke. Most of these techniques have an evidence base, and multi-component treatments are typically effective, although particular combinations and permutations are seldom evaluated. Non-specific effects, such as development of a relationship with a counselor, may also have an impact. More intensive and extensive treatments produce greater success rates, but intensive treatment is rarely utilized. There has been almost no innovation in the content of behavioral treatment for two decades.

In contrast to the lack of innovation in behavioral treatment content, there has been considerable innovation in form, i.e., methods and channels of delivery. In particular, telephone counseling lines and internet or web-based interventions have emerged as important delivery channels, even as face-to-face group programs have faded. Initial research suggests that these new modalities can deliver effective treatment, and enhance the reach of behavioral treatment.

As treatment providers have emphasized dissemination, programs have often been modified for special populations based on characteristics such as gender, ethnicity, and age. Although culturally sensitive adaptations can make treatment more attractive to particular groups, there is no indication that fundamentally different approaches are needed. However, there is evidence that tailoring programs to individual needs enhances the efficacy of treatment, and enables the delivery of effective programs by minimally-trained counselors or by computer.

Current pharmacological treatments fall into two classes: nicotine replacement therapy (NRT) and bupropion. These treatments have been proven safe and effective in multiple studies. NRT is available in several forms, some sold over-the-counter and some only by prescription. Despite variations in form, all current pharmacological treatments appear to be roughly equivalent in efficacy. NRT is thought to work by reducing craving and withdrawal; however, this mechanism has not been conclusively demonstrated. The mechanism of action for bupropion is unknown. Combinations of effective medications have demonstrated incremental efficacy but are not approved by FDA and are seldom used. Poor compliance and persistence with treatment significantly limit the real-world efficacy of pharmacotherapy. Only one new therapeutic agent (bupropion) has been introduced in the last decade, though new agents are in development. The biggest innovation in dissemination has been the OTC availability of NRT, which substantially increased utilization.

Today's smokers have a variety of effective treatment options available to them, and utilization of treatment has increased. Yet, the uptake of treatment by smokers has still been relatively modest, likely due to a combination of factors. While cost (both dollar costs and inconvenience) is often cited as a barrier, experience and research suggests that it is not the sole or major barrier. Smoking cessation is viewed as a task requiring willpower, not help or techniques. Fundamentally, smokers do not understand how either pharmacological or behavioral treatment could help with quitting, or why either should be necessary. Smokers also believe that NRT is unsafe, with many believing it is as harmful as cigarettes. Current pharmacological products are also medicinal and lacking in consumer appeal and social cache. Finally, current cessation products have not provided smokers with options in their approach to treatment: all are based on abrupt complete cessation followed by brief treatment. As a result, most attempts to quit smoking proceed (and fail) without the benefit of currently-available treatments. Innovations in how treatment is positioned, formulated, packaged, delivered, and promoted to make it more appealing to smokers have the potential to increase quitting and benefit public health.

Current Evidence-Based Cessation Treatments: Efficacy and Critical Ingredients

Frank Vocci, PhD

New Pharmacotherapies for Assisting Smokers in Their Cessation Efforts

Several new pharmacotherapies are being developed for smoking cessation indications. Each of these therapies may be approved in the next few years. Each has a different mechanism of action. They are:

- Varenicline, a partial agonist at α4β2 nicotine receptors;
- Rimonabant, an inverse agonist at the cannabinoid CB1 receptor
- Nicotine Vaccine- produces circulating antibodies to nicotine

There are no published studies of the efficacy of varenicline in smokers attempting to quit although the Pfizer website reports almost 50 % of smokers given varenicline quit smoking. Preclinical data suggest that it has nicotine-like effects but also blocks the effect of nicotine on the evolution of dopamine. This suggests a dual role for this putative medication. It could substitute for nicotine, thereby allaying withdrawal and craving. Also, it could have antagonist effects should an individual lapse and smoke a cigarette.

Rimonabant has been evaluated in the STRATUS- US study for smoking cessation. Quit rates essentially doubled in the 20 mg dose group. Weight gain in the 20 mg dose group was 0.4 kg versus 3.6 kg in the placebo group. A follow on trial of the same patients who were re-randomized to either their dose or placebo showed that only the 20 mg dose group attenuated weight gain in abstainers (3.5 versus 1.5 kg weight gain in one year). Rimonabant also has effects on cardiovascular risk factors. The combination of smoking cessation, reduced weight gain, and improved blood lipid profiles suggests that cardiovascular risk factors may be substantially reduced.

There are three companies producing nicotine vaccine products: Cytos (Nicotine Qbeta), NABI (NicVAX), and Xenova (TA-NIC). It's not clear yet where the biggest market for these products will be. Theoretically, they could be used to aid quitting, prevent relapse, and prevent smoking. The prevention indication would require efficacy data in smokers before proceeding to a non-smoking population. All three products are in human testing. The NicVAX product reported a 33 % quit rate versus 9 % for placebo in a study of the immunogenicity of the product. Preclinical studies of the reduce brain concentrations of nicotine, reduced dopamine efflux following a nicotine dose, and prevented reinstatement of nicotine self-administration in rats trained to administer nicotine. The last observation suggests that a successful vaccine would block a priming effect of nicotine; this would likely prevent relapse to smoking.

Overview of Treatment Delivery Systems

Linda A. Bailey, JD, MHS

Role of the National Network of Quitlines in Cessation Treatment Delivery.

ABSTRACT: Quitlines are an important part of a comprehensive tobacco cessation treatment delivery system. In the US, the national network of quitlines consists primarily of state-managed services funded by departments of health and MSA trusts. Four states (District of Columbia, Maryland, Nebraska and South Carolina) continue to rely on national organizations for services; all four are expected to launch state-managed services by early 2006. I will not be discussing other MCO and corporate quitlines.

All quitlines provide counseling and materials to callers. However, services vary from state to state and may include:

- Proactive and reactive cessation counseling
- Recorded messages and e-mail messages
- Web-based information and web-based interactive counseling
- Mailed information or self-help resources
- Group cessation programs
- Provision of quit smoking medication at low or no cost
- Referral to other services (quit smoking group programs, professional services)
- Training programs for community members and clinicians, outreach services in the community, and outreach to clinicians and health care systems.

Quitlines reach all racial/ethnic populations at about the same rate as that of the state population. Fewer men and younger adults call than would be expected based on state demographics.

In the National Action Plan for Tobacco Cessation (see "subcommittee" reference below), experts estimated that optimal quitlines (ie, barrier-free, well-promoted providers of counseling and medication) have the potential to reach 16 percent of all smokers every year and to yield long term quit rates of 20 percent. Given the current reach of U.S. quitlines is under 2 percent of smokers every year, we have many opportunities for progress through innovations related to promotion and service delivery. From the perspective of the North American Quitline Consortium, the two critical factors in achieving optimal quitlines are (1) securing adequate funding for both promotion and service delivery; and (2) improving our understanding and adoption of evidence-based practices.

These two factors and opportunities for innovation (with reference to product, population, price, promotion and policy) will be discussed:

SUGGESTED RESOURCES: www.NAQuitline.org : This website includes a profile of all quitlines in the US and Canada and relevant information about quitline research & evaluation, operations & services, and policy & communications. NAQC members gain access to password-protected materials on this website as well.

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Overview of Treatment Delivery Systems

Amanda L. Graham, PhD

Online Interventions for Smoking Cessation

The Internet holds great promise for reaching smokers with evidence-based treatment interventions. More than 9 million smokers search for cessation information on the Internet each year. Delivery of core cessation treatment components (i.e., intra-treatment support and expert counseling, extra-treatment social support, behavioral skills/problem solving training, and advice about pharmacotherapy) is particularly well suited to delivery via the Internet. Individually tailored feedback can be produced immediately, treatment resources can be used 24/7 at the user's convenience, and social support from peers and experts can be provided through various channels (e.g., forums, chat rooms). The perceived anonymity of online chat rooms, bulletin boards, and email contacts with experts may provide a more comfortable forum for smokers to discuss personal struggles with behavior change. In addition, engaging graphics and interactive features can be used to increase the likelihood of sustained use. The capacity of online interventions is virtually unlimited; the added costs associated with thousands of additional users are relatively low once relatively fixed development costs are absorbed.

Sophisticated tracking mechanisms of Internet cessation programs can be used to understand who uses such programs, which features are most/least used, and how use of these program elements relates to cessation. In addition, the population impact of an Internet cessation program can be calculated because each of the relevant denominators of reach (i.e., the number recruited, the number who respond, the number eligible, and the number who participate in a cessation program) can be tracked.

These same tracking mechanisms make online advertising a highly cost effective marketing approach to recruit smokers to online cessation programs. Online ads can be monitored real-time and those that under-perform can be switched out easily. In addition, online advertising can be highly targeted by placing ads on sites known to attract certain demographic groups, and by targeting users based on search patterns. Finally, online advertising provides immediate access to treatment services (treatment is one click away) compared to other forms of advertising which require a smoker to remember a call to action and contact information.

Despite these opportunities, the field of online cessation is still in its infancy with many unique challenges to be addressed. Although hundreds of smoking-related Web sites exist, the vast majority do not provide treatment. Of those that do provide treatment, the majority (> 80%) do not address one or more of the key components of tobacco treatment recommended in national guidelines. As a result, smokers seeking quality tobacco dependence treatment on the Internet may have difficulty distinguishing among the numerous Web sites available.

In addition, little is known about the feasibility, reach, or efficacy of delivering cessation interventions via the Internet. Several randomized trials have demonstrated short-term efficacy of Internet interventions, and other large-scale, randomized trials of existing cessation Web sites

are currently underway. However, evaluating Internet cessation programs poses unique methodological challenges that may require methods other than randomized controlled trials. To leverage the full potential of the Internet in reducing smoking prevalence, the following opportunities need to be realized:

1) **Promote evidence-based Web sites to smokers *and* recent quitters:** Promotional efforts should seek to drive smokers to evidence-based Internet sites with demonstrated effectiveness as evidence from research trials currently underway becomes available. Promotion should target current smokers seeking assistance in quitting smoking, as well as recent quitters looking for assistance in maintaining abstinence. Online advertising should be prioritized given that it reaches an enormous target audience (smokers seeking cessation information on the Internet) and is highly cost effective.

2) **Develop 2nd generation integrated treatment systems:** There are exciting opportunities to develop second-generation systems that integrate multiple treatment modalities (i.e., telephone, Web-based, face-to-face counseling, medication support, physician brief counseling). While such systems would include Web-based programs as one treatment option, they move beyond the Internet simply as a delivery channel to leverage the electronic infrastructure of the Internet to seamlessly integrate the full range of cessation treatment options. User-centered design approaches that involve the consumer throughout the development process are crucial to the success of these systems. Consumers involved in development should be diverse with regard to age, health literacy, income, race, disability status, and geographic location (e.g., rural) to name a few.

3) **Integrate Internet cessation programs into systems of care:** Internet-based approaches to cessation need to be thoughtfully integrated with efforts from third party payers, for-profit ventures, employers, clinicians, health care and public health practitioners. There is strong evidence of successful partnerships between Internet program providers and states, health plans, and worksites. Each of these systems of care provides opportunities to reach and incentivize smokers who may not otherwise consider quitting.

Overview of Treatment Delivery Systems

Susan Swartz, MD, MPH

Healthcare

Since over 70% of smokers are seen by a medical provider each year, there is significant opportunity for health professionals to foster use of tobacco treatments. As adults increasingly seek care by alternative and complementary medicine professionals, the network of health professionals interacting with smokers rises further.

There is a considerable amount of information currently known about how providers address tobacco use in primary care settings. Data from the 1990's identified missed opportunities to ask about smoking and advise quitting. More recent evidence suggests that many providers recommend quitting. However, assisting smokers with quitting appears to serves as the precipice where provider skills drop considerably. Further, there is variability in provider behavior not only between medical practices, but within offices. Patient outcomes can be improved with provider training and education. Of note, this is not unlike provider behavior observations for other chronic conditions such as asthma, depression, or heart failure.

The PRODUCT elements in healthcare settings are the health professionals themselves, and how they color what their smoking patients believe and do regarding tobacco treatment. The professional-patient interaction is shaped not only by the health professional's knowledge and skills regarding tobacco use and treatment, but also by their beliefs and values about smoking patients. These factors enter into provider perception about what role they should play in helping smokers quit, and ultimately affect what the smoker (1) is offered, (2) perceives may be useful, and (3) feels compelled to do.

Most smoker POPULATIONS see health professionals. As smokers age and develop tobacco-related problems, they have a greater frequency of visits. Younger male smokers are the population with the fewest interactions with providers (not unique to smoking).

Health care is delivered in the context/PLACE of an acute care visit or hospitalization. Outpatient care tends to be reactive, determined by the whim of the patient; patient decisions to seek healthcare are, by no means, treatment seeking aimed to quit smoking. Therefore, opportunities to work more effectively with smokers must be created – forced – by the professionals and health systems. Additional challenges include competing demands of other problems, limited time for encounters, and a coding/reimbursement structure that precludes talk therapy (but rewards diagnosis and treatment) in the setting of medical visits.

Smokers *perceive* a PRICE when seeing a medical provider. Qualitative studies show that smokers anticipate they will be "nagged" by their doctor about their smoking. This perpetuates the belief that smoking is a choice, and that a smoker could quit "if they only wanted it enough". Ultimately this cultivates a condition whereby a patient does not voluntarily ask for help, or may not truthfully disclose their tobacco use. Since outpatient visits are intermittent – and the majority of smokers trying to quit each year are unsuccessful – the perspective of a provider is

one of a continuously smoking patient. Providers also believe that addressing smoking will create tension, be unsatisfying, and drive patients away. This may be amplified in the prenatal setting.

Before a health professional can PROMOTE smoker demand for tobacco treatments, they must be convinced that these treatments are (1) available, (2) credible, (2) effective, and (3) can be accessed by patients. Tobacco treatment medications, behavioral counseling, and social support are poorly understood by providers. Other resources, such as quit lines or group programs, may be unknown or if known, not deemed credible. Health professionals may believe wrongly that nicotine therapy causes cancer and heart disease. Particularly disturbing are anecdotal reports of provider beliefs that achieving 20% or 30% quit outcomes are "not very good". Finally, promoting quitting among smokers being treated by mental health providers can be perceived as harmful – in that abstinence has been reported to "worsen psychiatric conditions".

Important POLICIES that can play a role in increasing use of tobacco treatments include insurance coverage of counseling and pharmacotherapy, and integration of tobacco-related measures in quality improvement efforts. State supported tobacco control programs that include treatment components – quit lines, free nicotine therapy, education and outreach to health professionals – will also affect promotion and use of tobacco treatment services.

Despite the above challenges, there is tremendous opportunity for health professionals and healthcare systems to increase consumer demand for treatment. Some approaches may include:

- Better define the role of health professionals
- Raise credibility and value of treatments
- Identify benefits to professionals for assisting smokers
- Ride the chronic disease and quality improvement "wave"
- Develop health communications *outside* the office visit
- Provide feedback loops from tobacco services to practices
- Develop national platform(s) for tobacco treatment education across professions
- Fit into current clinical paradigms of Dx/Rx – don't make new ones
- Reimburse for talk therapy – individual and group

Overview of Treatment Delivery Systems

Victor J. Strecher, PhD, MPH

Pharmaceutical "Wrap-Around" Programs

It is widely thought that effective smoking cessation programming requires attention to both physiological and behavioral processes. However, behavioral programming added to physiological treatments for smoking cessation have yielded mixed results. Moreover, behavioral programming can be expensive or unattractive to smokers, limiting its potential for population-based dissemination.

For over a decade pharmaceutical companies marketing products for smoking cessation have included behavioral programming using computer technology to tailor smoking cessation messages to specific needs and interests of the user. In two randomized trials, print-based computer-tailored smoking cessation materials were found to improve efficacy over untailored print materials among both nicotine patch and gum users (Shiffman et al., 2000; Shiffman et al., 2001). While effective, however, the cost of print-based tailored materials resulted in a questionable return on investment to the pharmaceutical company.

Web-based programs have the potential for delivering tailored behavioral programming to large numbers of smokers at a far lower cost than tailored print modalities (Bock et al. 2004). While potential reach of the Internet for smoking cessation assistance appears to be high, the efficacy of most online programming is questionable. Many programs have placed their untailored print materials online; other sites reportedly "tailor" to the individual smoker but offer very little meaningful variation in content based on known predictors of cessation.

Two recent studies have demonstrated positive effects of Web-based tailored smoking cessation programs when combined with nicotine replacement therapy (Etter, 2005; Strecher et al., 2005). Both of these pharmaceutical-sponsored interventions utilized the interactive capabilities of the Web in an initial assessment, algorithmic processing, and feedback tailored to the specific needs and interests of the smoker.

While these two web-based trials find promise in pharmaceutical "wrap-around" programming, they beg follow-up questions, including: (a) for whom are these programs working? and (b) by what mechanism do these programs work? This presentation examines these questions using results of a recent trial of the web-based Committed Quitters Program (GlaxoSmithKline). Findings may be relevant not only to web-based programs, but to other (e.g., telephonic) modalities.

Conflict of interest declaration: Dr. Strecher is a shareholder in HealthMedia, Inc., which developed the of the interventions presented in this study, and has undertaken consultancy and research for, and travel funds from, manufacturers of smoking cessation products.

Overview Of Treatment Delivery Systems

Myra Muramoto, MD, MPH

COMMUNITY

"Community systems" of delivery can be viewed from two perspectives: a macro-level of whole community interventions and a more micro-level of program delivery. From either viewpoint, there is huge variety in the cessation services offered.

Community Level Interventions / Delivery Systems

Community-level interventions have incorporated psychosocial, pharmacologic and combined services. The types of cessation activities/services included: group and individual counseling, quit contests, quitlines, self-help materials, community educational sessions, services through the healthcare system and healthcare providers. Populations targeted and reached were as varied as the communities. Promotional community-wide strategies were equally as varied and included mass media, community screenings, billboards, posters, bulk mailings, public lectures, brief intervention training and contests.

A recent Cochrane review of 32 studies of community interventions for reducing adult smoking (Secker-Walker, 2005) found that the estimated net decline in smoking prevalence ranged from -1.0% to 3.0% for men and women combined (10 studies). For women, the decline ranged from -0.2% to + 3.5% per year (n=11), and for men the decline ranged from -0.4% to +1.6% per year (n=12). Only a small number of studies reported cigarette consumption and/or quit rates. The two most rigorous studies showed limited evidence of an effect on prevalence. The US COMMIT study showed no difference in prevalence decline between intervention and control communities, and there was no significant difference in the quit rates of heavier smokers (target intervention group). The Australian CART study showed a significantly greater quit rate for men but not women.

Community-based Cessation Programs/ Delivery Systems

Community-based cessation programs also vary tremendously. Services offered include psychosocial, pharmacological and combined treatments, and are offered in both group and individual formats. Populations targeted and reached also vary by program. In some states (e.g. Arizona, Minnesota, Washington) community cessation programs are culturally adapted and targeted for ethnic/racial minority populations. There is little information about how well these cessation programs reach their target populations. In a study of communication variables used in population-based recruitment strategies by cessation programs (McDonald, 1999), the median recruitment rate was 2% of the target population of smokers.

Published outcome data on community-based cessation programs (other than research studies and quitlines) is rare. Of the 13 states whose have tobacco control programs that have been in operation for more than five years or are funded at 75% or more of the CDC minimum recommended level, 8 include community-based cessation activities/services other than a quitline. The cessation activities/services offered vary tremendously from state to state and include: cessation services offered by tobacco control programs, services offered through partnerships with other community-based organizations, and training of relatively autonomous cessation service providers or interveners. Only one state (Arizona) reported quit rates for

cessation programs (other than quitline) on their website or in program reports. See Table 1-Cessation Activities of Selected State Programs.

WORKSITES

Worksites as venue or system for delivery of tobacco dependence treatment are as varied as the community programs described above. A recent Cochrane systematic review of workplace interventions for smoking cessation (Moher, 2005) categorized worksite interventions into two groups: a) interventions aimed at the individual to promote smoking cessation, and; b) interventions aimed at the workplace as a whole.

Workplace interventions targeting individuals were further divided into: a) group therapy (10 studies); b) individual counseling (7 studies); c) self-help materials (9 studies); and; d) nicotine replacement (5 studies). The quit rates obtained from each of these four types of intervention in work places were consistent with results found in other settings. Group programs, individual counseling and nicotine replacement therapy increased cessation rates in comparison to no treatment or minimal intervention controls. Self-help materials were less effective.

Studies of workplace interventions aimed at the workforce as a whole were divided into the following four categories: a) tobacco bans (14 studies); b) social support (2 studies); c) environmental support (4 studies), and; d) comprehensive, e.g. multi-component (8 studies). Results from whole workforce interventions found that tobacco bans decreased cigarette consumption during the working day but their effect on total consumption was less certain. Adding social and environmental support to these programs did not appear to increase quit rates. There was also a lack of evidence that comprehensive programs reduced the prevalence of smoking. Competitions and incentives increased quit attempts, although there was less evidence that they increased rates of actual quitting.

Worksite delivery systems theoretically should be better able to reach a younger male working population, who are less likely to come into contact with the healthcare system or volunteer for cessation programs. Worksite delivery systems also have the added advantage of convenient access for workers, which would reduce one of the barriers to treatment, but may add a barrier of perceived lack of privacy. There is typically no financial cost to the workers. Promotional strategies vary, but include contests, presentations, and employer incentives.

OPPORTUNITIES FOR INNOVATION

There seems to be a "culture of quitting" that presumes the following norms: Tobacco users can and should first try to "quit on their own," and tobacco users will only "quit when they are ready." Can community / worksite interventions help change the cultural norms for quitting?

There is a large population of "concerned others" who are encouraging tobacco users to quit. These individuals potentially represent an untapped resource for increasing consumer demand for cessation services, and may represent novel ways of reaching underserved populations. Data on "proxy callers", i.e. those concerned others who are motivated enough to call a quitline on the tobacco user's behalf, provides some insight into the potential size of the concerned other population. Proxy callers probably represent only the "tip of the iceberg" with respect to the actual population of concerned others interested in helping tobacco users quit.

The California quitline reports that "proxy callers" comprise about 7% of all callers. There are interesting racial/ethnic differences among proxy callers. Among all callers, 4.5% of White callers are proxies, 2.8% of Blacks, and 8.1% of Hispanics. Asian proxies comprised 9.3% of calls to English language lines, but 36% of calls to Asian language lines. (Powerpoint presentation, Encarnacion, 2004; personal communication, Shu Hong Zhu, 2005) How can the population of concerned others be educated and activated to help tobacco users seek assistance with quitting and effectively support quit efforts?

The current state of community and worksite delivery systems leads to several questions:

- How can community level, community-based and worksite systems become better integrated with other systems of delivery?
- If underserved populations can be reached, and enticed to seek assistance with quitting, how can we ensure that there will be cessation services that are accessible, acceptable and affordable?
- Who can be/should be providing these services?

Overview of Treatment Delivery Systems

David B. Abrams, PhD

Comprehensive Smoking Cessation For All Smokers: Systems Integration To Save Lives And Money

Decades of research, several practice guidelines and meta-analyses provide strong evidence that there are a range of evidence-based cessation interventions available to significantly increase the annual rate of cessation at the population level and prevent millions of current smokers from premature death and disease burden. An integrated approach to policy and implementation at individual and multiple systems levels, that fully optimizes and capitalizes on these proven components, is needed that will:

(1) **Proactively reach more smokers** to create strong consumer demand for cessation. Using social marketing and other behavioral principles and incentives, different smoker needs must be targeted. Smokers have misperceptions and gaps in their health literacy about tobacco product safety and about the value, safety and efficacy of using proven cessation methods. Bio-behavioral, cognitive expectations and emotional and socio-demographic characteristics at individual and aggregate (group/population) levels are critical elements for tailoring strategies to ensure smokers: (1.a) become motivated to make more quit attempts; and (1.b) use evidence-based programs when quitting. Innovations and incentives must be found to target smokers who are hard to reach, hard to motivate, hard to treat and hard to follow over time (i.e. smokers with disparities/at disproportionate risk: lower SES groups and minorities, those with co-morbid psychiatric/substance abuse disorders, and adolescent/young adult smokers).

(2) **Make the full range of proven cessation treatments accessible and freely available in a coordinated, aligned delivery system of care management:** It is essential to: (2.a) establish and enforce policies for universal financial coverage of evidence-based cessation treatments; and (2.b) ensure service capacity is flexible, accessible and meets the diverse demand for using the appropriate type, intensity and mode of treatment (i.e. include screening, triage (e.g. stepped-care) to enable smokers to receive appropriate treatment, ranging from minimal/brief intensity interventions (e.g. over the counter nicotine replacement (OTC-NRT), self help, Internet, proactive telephone/brief primary care/managed care/community-based interventions) to maximum intensity interventions (e.g. outpatient and inpatient clinics with specialists trained to treat severe nicotine addiction/co-morbid psychiatric/substance abuse disorders). Stepped-care must also be available to all smokers, those lower in SES and the uninsured.

(3) **Establish a national policy for fully aligned "systems" integration of all effective components that enhance cessation at every level:** Systems integration is arguably the single most critical missing ingredient needed to maximize the as yet unrealized potential to significantly increase population cessation. Systems integration includes: (3.a) putting what is known into practice and policy and overcoming the barriers to implementation at every level of structure, national, state and local; (3.b.) achieving continuity of care delivery via the alignment of the multiple levels of organizational infrastructure within which health care and public health services are delivered; and (3.c) use of quality indicators, needed to ensure both individual and

systems fidelity in the adoption and implementation of better practices for optimal population-wide impact (impact=reach x efficacy x implementation fidelity). Key indicators for improving the fidelity of care over time include: surveillance; program, process and outcomes tracking; and use of "report cards" to enhance consumer choice and system accountability.

Since smoking is a serious addiction for many smokers and a chronic, refractory, relapsing condition, intervention requires proactive ongoing care management - the same type of "chronic disease care management" adopted for chronic conditions like diabetes and hypertension. An integrated and aligned system of care management with appropriate financial incentives must become part of the fabric of health care, public health and policy at local, state and national levels. An adequately financed system of care must be sustained over decades to alter smoking cessation rates and cumulatively accelerate the trajectory of smoking prevalence reduction in the entire population within our lifetime

Saving many millions of lives and billions of dollars requires nothing short of strong political will: to put into national policy what is known about effective cessation, and to make the financial investment required to support an integrated "system" of cessation care management for all smokers.

What Quitters Want

Gary Giovino, PhD, MS

The National youth Smoking Cessation Survey

OVERVIEW

The National Youth Smoking Cessation Survey (NYSCS) is a two-year longitudinal telephone study of adolescent and young adult cigarette smokers aged 16-24. Funded by RWJF, CDC, and NCI, this national study will help to fill a critical gap in knowledge by: providing insight into adolescent and young adult quitting behavior; tracking changes in quitting behavior over time; and clarifying preferences for different types of assisted quitting interventions. NYSCS has four main waves: baseline, 6-month follow-up, 12-month follow-up, and 24-month follow-up. Westat, Inc. interviewed 2,582 respondents for the baseline survey, which was conducted from July 2003 – November 2003. The overall response rate for all age-eligible smoking youth was 71.8%. For the 6-month follow-up, 75% of the baseline sample was eligible for interview. The 6-month follow-up response rate was 63.1% (n=1,218). For the 12-month follow-up, 100% of the baseline sample was eligible for interview. The 12-month follow-up response rate was 66.0% (n=1,696). The twenty-four month follow-up will be completed in early December, 2005.

WHAT YOUNG QUITTERS WANT

Attitudes Toward Quitting

- Young smokers exhibit an optimism bias toward quitting.
  - At baseline, 76% had tried to quit at least once in their lifetime.
  - Overall, on a scale from 0 to 10, where '0' is 'not at all confident', and '10' is 'extremely confident', 57% of young smokers at baseline are considerably or extremely confident (score of 7-10) they can quit smoking right now if they decide to.
  - Almost all young smokers (90%) think they will quit before smoking gives them a serious health problem.
  - While over two-thirds (63%) expressed readiness to quit within six months at baseline and 60% had tried to quit by the 12-month interview, only 13% were currently abstinent for 30 days or longer at the time of the 12-month interview. Another 4% had been currently abstinent 7 days or longer at the time of the interview.

- Almost one-half are still smoking because they do not want to quit (47%) or they enjoy smoking too much (53%). More than a majority of young smokers also stated that addiction---"routine too hard to break" (63%) and stress (54%) contributed to their continued smoking behavior.

Benefits in Quitting

- When asked about their concerns about smoking, health effects and smoking effects on others were the main concerns. Almost one-half (49%) were very concerned about their breathing or energy level, 45% were very concerned that smoking might shorten their life, 43% were very concerned about how their smoking affected other people, and 41% were very concerned that they were setting a bad example. Only one-third (33%) expressed great concern about money or smell on their hair or clothes (30%). Twenty percent were very concerned that they might gain weight if they quit. Only 13% were very concerned that smoking controlled their life.

Perceived Helpfulness of Methods

- When asked about specific types of methods that they would find to be of help, a majority of smokers stated the following: money/prizes for quitting (81%); nicotine replacement products (59%), and support groups at school (51%) or in the community (50%). Telephone support from a counselor was seen by only two-fifths (41%) as helping at least a little.
- When the 24-month interview data becomes available in March, 2006, we will have data on their attitudes toward the costs of nicotine replacement products, and their interest in specific types of methods.

Method Awareness, Availability, and Utilization

- Many young smokers who have tried to quit in the past are unaware of specific types of assisted treatment methods, with the exception of nicotine replacement products. While 82% of young smokers who had tried to quit knew about NRT, only 64% knew about talking with a doctor, nurse or dentist, 52% knew about talking with a counselor, and 50% were aware of a special program or class. Less than a majority of young smokers who had tried to quit were aware of support groups (49%), bupropion (44%), telephone help or quit line (43%), or an internet quit site (20%).
- Many young smokers did not consider assisted treatments methods available to them. For example, only 36% of young smokers who had tried to quit who lived in a state with a state-run quitline in 2003 stated that this quitline was available to them.
- Most young smokers have little experience with various assisted methods but considerable experience with unassisted methods, such as cutting down on the amount of cigarettes smoked (88%), switching to light or ultra-light cigarettes (36%), or switching to another form of tobacco such as snuff or chewing tobacco (10%). However, 20% of young smokers who had tried to quit had talked with a health professional, the most frequently cited assisted method. Nicotine gum and patch had been used by 17% and 16% of young smokers who had tried to quit. Only 2% had ever called a quit line and 1% had used an Internet quit site.
- Many smokers had misconceptions about nicotine replacement products. Almost two-thirds (63%) thought NRT was just as addictive as cigarettes, 61% thought NRT helps you quit by making you feel nauseous or sick when you smoke and use NRT simultaneously, and 38% thought NRT was just as harmful as cigarettes.

What Quitters Want
Elizabeth Barbeau, ScD, MPH

What Quitters Want
(with emphasis on blue collar workers)

According to national survey data, blue-collar workers are more likely to smoke than other workers, but are just as likely to attempt to quit smoking in any given year. But what are they looking for when attempting to quit? As part of two larger studies testing the efficacy of a smoking cessation intervention among unionized workers in the building and construction trades, we conducted 19 focus groups to understand how these workers view smoking and quit attempts. This presentation will present qualitative findings from the focus groups.

Tobacco Industry Marketing, PREPs and Unproven Methods

Danny McGoldrick, MA

Danny McGoldrick, Vice-President for Research at the Campaign for Tobacco-Free Kids will present on the tobacco industry's continued aggressive marketing of their products and how this impacts efforts to encourage smokers to quit and help them do so. His presentation will address recent data on industry marketing expenditures and trends in promotions, as well as the companies' ongoing opposition to policies and programs known to help smokers quit and their introduction of so-called "reduced harm" products, which may also discourage smokers from quitting.

Marketing of Cessation Products and Services
Karen Gutierrez

Global Dialogue for Effective Stop Smoking Campaigns

This presentation will provide an overview of the Global Dialogue for Effective Stop Smoking Campaigns project and will share insights from the recent global conference held in Toronto November 2-4. The attached concept paper provides detailed information about the project's goal, target audiences, project partners, key initiatives and also rationale for the project.

For several months prior to the conference, cessation campaign data and materials were compiled by the Global Dialogue project team from countries, cities, provinces and organizations around the world. Initially 250 people were contacted to ask if they would be willing to share data with the project team. Of these, over 80 people completed questionnaires on one or more of seven key campaign topics identified by the project team:

- overall strategy
- creative/advertising
- media planning and placement
- collateral support
- cessation services and their promotion
- securing and sustaining funding
- research & evaluation

All of those who completed questionnaires were invited to the conference, and over 70 people attended from 13 countries on 6 continents.

Although the data were not consistent enough to develop consensus or "best practices," some key insights emerged from each of the campaign topic sessions.

Overall Strategy

- Efforts must be comprehensive
    - Campaigns with multiple messages (cessation, secondhand smoke, industry deceptive practices, etc.)
    - Policies: Smoke-free workplaces, pack warnings, and tobacco taxation
    - Grass-roots activism

  Elements work together to change community norms
- Collaboration and partnership leverage resources
- Helping "bring up" developing countries benefits all

.

Creative/Advertising

- Emphasize certainties versus risks

- Use real quitters & authentic voices
- Ideal cessation messaging includes some combination of 'sticks' and 'carrots'
- Include secondhand smoke messages
- Think global, act local (take advantage of available resources)

Collateral Support

- Valuable, cost-effective tool—can support campaigns or stand alone to lead change
- Agile, rapid tool
- Can create allies via activism
- Facts tell; stories sell

Media Planning

- 'Once is not enough'
- Build reach on a monthly basis
- Live where smokers live
- Match media placements with messages
- Buy media for decision-makers too!

Cessation Services

- Success at motivating smokers to quit; less success at turning that into action
- Goal should be reduced prevalence, not calls to quitline
- Need chronic support, not one-shot assistance
- Unique approaches developing:
    - Fax referral system
    - Nicorette approach to cutting down
    - Tailored services for specific populations.

Securing and Maintaining Funding

- Be loud, be local
    - Promote, promote, promote!
    - Seek and nurture partnerships
    - It's everyone's job
- Link up with heart, lung, cancer and position tobacco control as 'disease prevention'
- Tobacco taxes key to fund programs *and* reduce prevalence
- Allocate resources based on highest leverage interventions to reach goal

Marketing of Cessation Products and Services

Pablo Izquierdo, MA

Can We Stop Smoking In The Latino Community?
Issue Marketing Among Hispanics: A Battle between Mind and Heart

My father was a heavy smoker until he had a heart attack that made him stop cold turkey. My sister was a two-pack a day smoker until one day she realized she could no longer swim a lap at the pool without whizzing. I had uncles who died of emphysema and others who just quit before irreversible damage was done. What do all of them have in common? To quit smoking is a highly personal and deeply emotional decision. Some people can handle it, others can't. But for all of them, the decision was not necessarily rational but an internal fight between heart and mind. This is true of the Hispanic community at large, where a deeply-seated cultural belief in fatalism and divine intervention permeates everyday life. So how can marketers influence that decision?

Marketing research tells us that Hispanics are better influenced by emotional arguments than factual ones. We could describe how "behavioral and pharmacotherapy interventions could double the nation's annual quit rate" or how quitting can "prolong lives and avert millions in health care costs" until we are blue in the face. But in the end, it comes down to uncovering what quitting means for each person and what emotional aspects can be tapped. As a marketing expert with over 15 years of experience, I always develop campaigns that build emotional persuasion into the message. Sometimes I can do that by showcasing other people's cases, sometimes by indirectly creating a "mood" and "feeling" that recreates the desired outcome, sometimes by guilt… Unfortunately there is no "magic bullet" and messages have to be developed with a specific target audience in mind.

Throughout this presentation we will examine case studies about some hard issues that are very tough to influence and how my team was able to "crack" them by a thorough understanding of the target audience with the help of ethnographic research and the creation of messages that were deeply emotional and broad enough to affect entire populations. These case studies will provide insight into unique research methodologies and PSA crafting and placement.

Creating Demand Through Policy Change

Matt Barry, MPA

The Big Picture: An Overview of Major Events Shaping National, State, Public and Private Cessation Policy

This presentation will give an overview of major events (policy, programmatic, media) that are shaping, or have the potential to shape, the delivery of, access to, and affordability of evidence-based tobacco control and cessation policies and services.

What Policy/Program Interventions Are Recommended?

According to CDC's Task Force on Community Preventive Services, interventions should include restrictions on exposure to secondhand smoke, increases in the unit cost of tobacco, mass media campaigns, provider reminder systems (with or without patient education), reducing out-of-pocket expenses, and telephone counseling/support.

What is Actually Happening?

Medicare - On March 22, 2005 the Centers for Medicare and Medicaid Services issued a final decision memo to cover tobacco cessation counseling services under Medicare Part B. Counseling services are now available to all beneficiaries with a disease or an adverse health effect linked to tobacco use or who are taking a therapeutic agent that is affected by tobacco use. This decision is highly symbolic and represents a watershed event that may encourage other public and private insurers to follow suit.

Medicaid - Smoking cessation benefits, such as counseling and drug therapy, are *optional* benefits under Medicaid (except for kids covered under EPSDT). Smoking cessation drugs are specifically classified as those drugs that may be excluded from coverage under Medicaid. Medicaid is now the largest budget item in most state budgets and, as a result, is a frequent target for budget cuts. However, recent experiences in several states (KY, AK, IA) have demonstrated that cessation services can be "sold" as cost effective, preventive services that are a sensible policy in terms of fiscal and health impact, despite the broader budgetary/fiscal climate.

Other Federal Programs – A brief overview of tobacco cessation activity in other federal programs, including the Federal Employees Health Benefits Plan (voluntary program), the Federal Bureau of Prisons (smokefree policy), and the Veterans Administration (ongoing cessation services/enhancements).

State Insurance Mandates – New Mexico was the first state to mandate comprehensive tobacco cessation benefits by all health care insurers (except Medicaid) – effective 3/1/04. The benefit included diagnostic services, pharmacotherapy and counseling. In Maryland, a bill was passed this year requiring certain insurers to provide coverage for prescription-only cessation drugs.

Department of Justice Trial – The trial phase concluded in early June 2005. In light of major and unexplained changes to DOJ's own cessation remedy, several public health groups sought to intervene in the case. The Court granted the motion to intervene in July 2005. The case brings with it an opportunity and the potential for significant funding for cessation services for all smokers in the U.S. Conversely, there exists substantial risk for a bad settlement. If no settlement takes place, a ruling on liability is expected by late 2005, early 2006.

New Drugs - Varenicline (Pfizer) and Rimonabant (Sanofi-Adventis) are two new drugs that FDA is expected to approve in the next 6 to 18 months. Both are in late stage clinical trials and publicly available data thus far suggests that quit rates are at least as high as currently available NRTs. The buzz around these drugs is "block buster" that could result in extensive, high profile media. Regardless of your views on pharmacotherapy/NRT, this will provide a unique opportunity to discuss cessation issues with a variety of audiences and we must be prepared to take advantage of this opportunity when it happens.

National Quitline Network - 1-800-QUITNOW has been in effect since November 2004 (approx. 156,000 callers in the first year through October 2005). There has been very little money for promotion or actual services (although the month-long promotion from ABC News is likely to have a considerable impact on call volume). The network has the potential to serve as the portal for a much more ambitious and comprehensive quitline network. Funding at the federal level has been nominal and, as a result, the potential impact limited.

Tax and Smokefree Activity - 54 state tax increases since January 2002 (6 in 2005). 25% of the U.S. population is now covered by comprehensive smokefree laws.

Increased Private Sector Interest in Tobacco - There is an increasing recognition of the negative financial impact of tobacco on the corporate bottom line. Companies are tired of wasting scarce resources on spiraling health care costs and desperately want to do something about it. Response to the tobacco "problem" has been mixed (but the potential to engage the private sector on a variety of tobacco control issues is now very real).

"X" Factors: Peter Jennings/Quit to Live - The recent death of ABC Nightly News Anchor Peter Jennings has generated a significant amount of coverage in the media about smoking, lung cancer and the importance of quitting. This is a "teachable moment" for many people and organizations – consumers, the media, policy makers, health care professionals, health plans/insurers/organizations. We always need to be prepared for, and "take advantage" of, in a positive and respectful manner, the good that can come out of one individual's personal tragedy. In response to the death of Peter Jennings, ABC News launched a month-long series (November 2005) of stories on ABC World News Tonight and on Good Morning America about the harms associated with tobacco use, about how to quit using tobacco, and about lung cancer. The resources include on-air stories, a dedicated website, partnerships with major public health organizations, and publicizing of cessation resources, including the national quitline number 1-800-QUIT NOW.

"X" Factors: Hurricane Katrina - In a recent webcast to investors, U.S. Smokeless Tobacco Company cited Hurricane Katrina and its impact on higher gasoline prices for a substantial,

negative impact on sales, particularly in the Gulf Coast region. According to UST, nearly 2/3 of its sales occur at retail convenience stores and nearly 4 out of every 5 of those stores sell gasoline. UST's customers are trying to save money on gasoline (like the rest of us) and are making fewer stops at these stores thereby resulting in fewer sales.

Balancing Supply and Demand
Frank J. Chaloupka

Cessation Products and Services: Demand and Supply

The demand for and supply of tobacco products have been the subject of extensive economic research that has produced many policy relevant findings. On the demand side, these include numerous studies that have demonstrated that higher cigarette taxes and prices, strong restrictions on smoking, and funding for comprehensive tobacco control programs reduce cigarette smoking, prevent youth smoking initiation, and promote smoking cessation. Fewer studies have focused on the supply side, with those that have providing evidence on the impact of cigarette tax increases on cigarette prices, the potential for price discrimination in response to tobacco control policies, the role of advertising and promotion in affecting market structure, and more. Findings from these studies will be briefly discussed.

In contrast, relatively few economic studies have examined the demand for or supply of cessation services and products. These studies will be the focus of the presentation. Two of these studies have focused on the impact of the availability, pricing, and/or sales of cessation products (supply) on the demand for cigarettes. The first of these studies (Hu, et al., 2000) used quarterly time-series data on cigarette and nicotine replacement product (NRP) sales for the US from 1976 through 1998 to estimate the impact of NRP availability on the demand for cigarettes, concluding that increased availability and use of NRP would lead to small but significant reductions in cigarette demand. Using more recent data quarterly data for 50 US markets over the period from 1994 through 2002, Chaloupka and Tauras (2004) conclude that allowing over-the-counter sales of NRP significantly reduced the demand for cigarettes. In addition, they find that NPR and cigarettes are economic substitutes for one another, in that lower NRP prices would significantly reduce the demand for cigarettes (cross-price elasticity of 0.38).

Similarly, three recent studies use market-level sales and other data to estimate the demand for NRP. The first of these (Tauras and Chaloupka, 2003) focuses on the impact of NRP and cigarette prices on the demand for NRP using quarterly, market-level data for the three years following the availability of over-the-counter NRP. Both prices are found to have a significant impact on NRP sales, with sales for a given product highly responsive to changes in the price of that product, while higher cigarette prices increase NRP demand. Both findings are confirmed in more recent studies that extend the period analyzed and include measures of televised advertising for NRP (Tauras, Chaloupka and Emery, 2005; Tauras and Chaloupka, 2005). In addition, most of the cessation products examined are found to be economic substitutes for one another, with the exception of nicotine gum which appears to be a complement for nicotine patches. Finally, increased exposure to televised NRP advertising is generally found to increase NRP demand.

Similar findings emerge from other studies of the demand for cessation products. Using data on smokers surveyed for the COMMIT project, Hyland and his colleagues (2005a, 2005b), for example, find that over-the-counter availability of NRP increased NRP use rates by about 60 percent, while greater exposure to state-supported televised anti-smoking advertising increased NRP use, albeit not significantly. Similarly, randomized controlled trials have shown that more

comprehensive insurance coverage for cessation products (which reduces price) has a positive and significant impact on NRP (e.g. Curry, et al., 1998).

In a series of studies on New York, Cummings and his colleagues (Cummings, et al., 2005, 2006; Bauer et al., 2005; and Miller et al., 2005) examined the impact of the large-scale, well publicized distribution of free nicotine patches to smokers calling the New York State Smokers' Quitline after the adoption of stronger state and local tobacco control policies (higher taxes and smoke-free workplace legislation). They found that this combination of events significantly increased the volume of Quitline calls, that callers who received vouchers for free NRP were more likely to have used a cessation product, that NRP recipients were more likely to quit smoking than those not receiving NRP, and that those receiving follow up counseling calls were more likely to quit than those who did not.

A few important conclusions are apparent from these studies:

- Increased availability of cessation products and services will lead to increases in their use and to reductions in cigarette smoking
- Reductions in the price for cessation products/services will increase the use of these products/services and lead to reductions in cigarette smoking
- Stronger tobacco control policies and comprehensive tobacco control programs will increase the demand for cessation products and services

These findings, coupled with economic theory and experiences from other markets, suggest several potential approaches to increasing the demand for cessation products and services that will be discussed briefly.

Balancing Supply and Demand

John M. Pinney

Factors Affecting the Availability and Use of Products and Services
Borrowing from the Competition?

Over the period from 1978 to the present, adult smoking prevalence has declined from – to 20.9 percent in 2004. During this period, significant progress has been made in all areas of tobacco control. Nonetheless, the decline in prevalence has slowed and at current rates, it will not reach the 2010 national objective of $\leq 12\%$. Significant changes have also occurred in the tobacco industry, most notably as a result of changes in smoking related policies and the effects of the Master Settlement Agreement, which imposed restrictions on advertising and marketing. Against this background of change, tobacco dependence treatment products and services have also evolved. This presentation focuses on the contrast between the "business models" employed by the tobacco control field and the tobacco industry. An effort is made to highlight areas where a more concentrated focus on tobacco manufacturers as the competition may suggest practical changes in the tobacco control business model that will increase utilization of products and services and lead to greater rates of cessation.