# POLICIES TO ACHIEVE A SMOKE-FREE SOCIETY: A RESEARCH AGENDA FOR 2010-2015

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SUBSTANCE ABUSE POLICY RESEARCH PROGRAM (SAPRP) IS A NATIONAL PROGRAM OF THE ROBERT WOOD JOHNSON FOUNDATION

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### Introduction

Significant progress has been made toward achieving the goal of a smoke-free society over the past quarter century. Cigarette smoking prevalence has dropped markedly since 1984, and over half of the U.S. population now lives in communities covered by a comprehensive smoke-free law. Despite this success, the United States and the rest of the world still have a long way to go to realize the goal of a smoke-free society. Cigarette smoking remains the number one preventable cause of premature death in the U.S., and disparities are widening with the highest prevalence of tobacco use and tobacco-caused death and disease in populations with the least income and education.

The Substance Abuse Policy Research Program (SAPRP) has funded many of the landmark studies in tobacco control policy during the last 15 years. The program, as funded by the Robert Wood Johnson Foundation, is coming to a close. But the focus on tobacco control policies needs to continue. SAPRP has created a field of tobacco control researchers. This research agenda will guide their efforts, the efforts of new researchers entering the field, and those of the many federal and private funders who have a stake in reducing the harm caused by tobacco throughout the world, and especially in the United States.

### Key Tobacco Control Policy Issues for 2010 to 2015

The key policy areas fall into seven areas: (I) tax and price policies; (II) product regulation; (III) policies to limit product marketing; (IV) policies to assure effective public education campaigns; (V) policies to expand clean indoor air laws and restrictions; (VI) policies to increase demand for, access to, and use of proven cessation treatments; and (VII) accountability and performance policies. We already know a great deal about the effectiveness of these policy levers (IOM 2007; Leffall et al. August 2007). However, for many of the policy domains listed above, there is a lack of knowledge on how to optimize policy impacts, overcome barriers that impede policy implementation, and anticipate and thwart tobacco industry efforts to limit the effectiveness of policies to reduce tobacco consumption. Also, it is likely that some of the policy change approaches relied upon in the past may not work as well in the future as we move toward a smoke-free society.

It has been nearly 25 years since U.S. Surgeon General C. Everett Koop first announced his goal for a smoke-free society (Koop 1985). In establishing this goal, Dr. Koop noted that there was a strong scientific basis for it and enough public understanding and sympathy to achieve it. He was mostly correct in his judgment; much progress has been made toward this goal since it was first announced in 1984 (Koop May 20, 1984). Cigarette smoking prevalence has dropped markedly since 1984, and over half of the U.S. population now lives in communities covered by a comprehensive smoke-free law (Thorne et al. 2008). Importantly, the progress toward a smoke-free society has not been limited to the U.S. Nearly 20 countries have adopted smoke-free laws and aggressive restrictions on tobacco product marketing (Cummings and O'Connor 2008; WHO 2008). One nation, Bhutan, has actually banned cigarette smoking by its citizens (Cummings and O'Connor 2008). The global effort to reduce the burden of tobacco use has been stimulated by the Framework Convention on Tobacco Control (FCTC; adopted 2003) which is the first global health treaty negotiated under the auspices of the World Health Organization (IARC 2008; WHO 2003). As of early 2009 a majority of the world's nations had ratified the treaty, which obligates them to implement a series of policy measures intended to reduce tobacco use. The U.S. has signed the treaty, but the Senate has not ratified it.

Cigarette smoking remains the number one preventable cause of premature death in the U.S., responsible for over 400,000 deaths annually (Adhikari et al. 2008; SGR 2004). Disparities are widening with the highest prevalence of tobacco use and tobacco-caused death and disease in populations with the least income and education (IOM 2007; Schroeder 2007). The health care costs and productivity losses associated with smoking-caused disease and disability continue to be an enormous drain on the American economy and make our businesses less competitive in the global marketplace (Adhikari et al. 2008). Internationally, the tobacco problem is growing as the industry has shifted its enormous marketing efforts to expand cigarette sales (Euromonitor 2006; Ezzati and Lopez 2003; Hong and Walling November 13, 2008; Jha and Chaloupka 1999; Khoo and Adelman November 14, 2008; WHO 2008). Worldwide an estimated 5.4 million people die as a result of tobacco use each year, and this number is predicted to reach 8 million by the year 2030 if current tobacco consumption trends continue (Ezzati and Lopez 2003; Lopez et al. 1994; Murray and Lopez 1997; WHO 2008).

### I. Tax and Price Policies

The U.S. has one of the lowest tax rates on cigarettes in the world. Taxes represent approximately 35% of the price of a pack of cigarettes in the U.S. compared to 60% or more in many other countries (Chaloupka et al. 2000, 2002; Chaloupka and Nair 2008). Moreover, U.S. survey data show broad and consistent public support for tobacco tax increases (see www.tobaccofreekids.org/reports/prices/). If the U.S. ratifies the FCTC, states and the federal government will be obligated to increase their tax rate on cigarettes and other tobacco products. A 61-cent-perpack federal tax increase to help fund children's health insurance was passed by Congress and signed into law in the early days of the Obama administration, taking effect on April 1, 2009. At the same time, states are also considering tobacco tax increases as a way to address budget shortfalls in many areas, including but going well beyond health and health care, especially since tobacco taxes are currently lowest in states with lower median household incomes (Giovino et al. 2009). This could help to reduce current socio-demographic and geographic disparities in cigarette prices and in the public health benefit of higher tobacco costs. Maximum benefits will be achieved if sufficient excise tax funds can be earmarked for or invested in comprehensive evidence-based tobacco control programs and strategies (CTFK November 18, 2008).

#### What we know.

Tobacco prices have a significant impact on tobacco use behaviors. Studies have shown that increases in the price of cigarettes either by taxes or other means prevent teenagers and young adults from starting to smoke. They also induce many smokers to cut back or quit smoking and to make greater use of effective quit smoking treatments. These effects of price increases are greatest among smokers in low-income and blue-collar populations and pregnant smokers (Chaloupka et al. 2002; Farrelly et al. 2001; Hyland et al. 2006a; Tauras and Chaloupka 2001, 2004; Townsend et al. 1994). On average a 10% increase in cigarette prices reduces overall consumption by about 4% (Chaloupka et al. 2002). It also increases the probability of a quit attempt by 10% and the probability of successful quitting by 3.5% (Taurus and Chaloupka 2001). Raising the cigarette tax rate in the U.S. to the 60% average rate for other FCTC countries would require a further increase in state and federal taxes (F. Chaloupka 2008, pers. comm.). Despite strong evidence that tobacco taxes are broadly acceptable to the public and reduce the demand for tobacco, many states and the federal government have been reluctant to use tobacco taxes as a means to reduce consumption. Some states that have raised tobacco taxes have experienced problems with smuggling of tobacco from low-tax states. No state to date has increased tobacco taxes to compensate

taxpayers for the annual costs of addressing the tobacco problem. Only a handful of states earmark tobacco taxes to support tobacco control programs, even though evidence shows that these programs are highly cost-effective (CTFK November 18, 2008; IOM 2007).

#### What we need to know.

While the impact of higher taxes on tobacco consumption is well understood, what is not so well understood are the contextual factors that are likely to drive decisions that affect tax policies of governments. Factors such as the economic crisis (that began in 2008) facing the U.S., future trade policies, changing trends in tobacco use (fewer smokers overall and more smokers among the poor and less-educated), and the likely debate over payment for health insurance coverage will impact decisions about tobacco taxation. As taxes change, other factors in the sale and manufacture of tobacco products are also in play. Some Native American Reservations are not only selling low-tax and untaxed cigarettes but are also getting into the business of manufacturing and distributing tobacco products (Precious 2009). Contraband cigarettes are increasingly prevalent in some major cities, but the scope of and trends in contraband tobacco products are not fully understood. Little is known about how smuggling, Internet tobacco sales, and enforcement of anti-smuggling and tax-avoidance regulations impact tobacco consumption. Recent consolidation of the tobacco industry is also likely to affect cigarette pricing and needs to be better understood.

1	What is the potential for different levels of tax/price increases to have differing impacts on tobacco use? Does a single large increase have a greater impact than a series of smaller increases? Does the impact of price increases change as prices get higher? Is there a point of diminishing returns with respect to revenue increases from a tax increase?
2	How will the tobacco industry respond (through discounts and coupons) to future federal and state tobacco tax increases? How will price increases in cigarettes affect the purchase of other tobacco products, such as smokeless tobacco?
3	Should the federal government collect all tobacco taxes and then reimburse states based upon their willingness to spend resources on tobacco control?
4	How will the economic crisis (that began in 2008) in the U.S. impact decisions about tobacco taxes?
5	How will raising taxes affect quitting efforts by young and adult smokers, smokers from low-income and minority groups, and women?
6	What are the most valid and reliable measures to assess extent of smuggled/counterfeit tobacco products and impact of efforts to curb contraband tobacco products?

### II. Product Regulation Policies

Scientists, policymakers, and international public health organizations have been calling for regulation of tobacco products for decades (Burns et al. 2008; IOM 2007; Myers 2007; Stratton et al. 2001). Until 2009, there was no U.S. agency charged with the responsibility of regulating tobacco products sold in the U.S. (Cummings 2002), although legislation had been introduced giving the U.S. Food and Drug Administration (FDA) broad regulatory authority over tobacco products. That legislation was signed into law in June 2009. Meanwhile, the FCTC will require countries to implement regulations pertaining to the testing and labeling of tobacco products, although the specific provisions of these mandates are still under development (Burns et al. 2008; WHO 2003).

#### What we know.

A small number of countries and jurisdictions have adopted laws governing ingredient disclosure, limits on tar and nicotine yields, low ignition propensity (fire safety) standards, or bans on a narrow range of additives, such as candy flavorings. However, there is no uniformity across jurisdictions in the content of these laws, and no jurisdiction has enacted comprehensive regulations governing the design, contents, and emissions of tobacco products (Burns et al. 2008; IARC 2008; WHO 2008). Research studies show that wide variation globally in emissions of major carcinogens of combustion tobacco products such as benzo[a]pyrene (BaP) and the tobacco-specific N-nitrosamine 1-(methylnitrosoamino)-1-(3-pyridyl)-butanone (NNK), have encouraged some groups to call for establishing maximum allowable levels for selected harmful constituents (Burns et al. 2008). The World Health Organization (WHO) Study Group on Tobacco Product Regulation (TobReg) has recommended a strategy for regulation based on product performance measures with the goal of reducing toxicant levels in mainstream cigarette smoke measured under standardized conditions (Burns et al. 2008). It recommends establishing levels for selected toxicants per mg nicotine and prohibiting the sale or import of cigarette brands that have yields above these levels. Other groups have suggested regulating elements of product design that affect addictiveness or consumer appeal of products, such as by controlling additives, including menthol, that affect nicotine uptake or the appeal of the product to children. Finally, others have suggested establishing quotas for product sales so that manufacturers have an economic incentive to lower the prevalence of tobacco use in line with national objectives.

Regulations on tobacco packaging and labeling are important areas of tobacco control (Hammond 2008). Tobacco companies have made extensive use of cigarette packages to reassure consumers about the potential risks of their products (Wakefield et al. 2002). One feature of this strategy has been to use misleading brand descriptors—words and numbers incorporated in the name of a brand. Words such as "light" and "mild" are ostensibly used to denote flavor and taste; however, "light" and "mild" brands have also been promoted in advertisements as "healthier" products. Although "light," "mild," and "low tar" are the most notable examples of misleading brand descriptors, they are not the only ones. A wide variety of other descriptors have been used to reinforce the same false beliefs and perceptions, including "smooth," as well

as the words "silver" and "blue," which capitalize on the perceptions of these colors as being "lighter." Another common strategy involves incorporating numbers into the name of a brand, which correspond to the tar emission number generated under the misleading machine smoking method (e.g., "Marlboro One") (Hammond 2008).

In addition to serving as a marketing vehicle for the tobacco industry, cigarette packages also provide governments with a direct and cost-effective means of communicating with smokers (Borland and Hill 1997; Hammond 2008; Hammond et al. 2006, 2007; Thrasher et al. 2007a, 2007b). Tobacco packages are an excellent medium for conveying health information given their reach and frequency of exposure. Package health warnings are also unique among tobacco control initiatives in that they are delivered at the time of smoking and at the point of sale. Cigarette pack warnings in the U.S. have not changed since 1984.

#### What we need to know.

While there is wide consensus that tobacco products need to be better regulated, it remains unclear what specifically should be regulated and what the proper form of regulation should be. Significant questions exist about how different product designs and formulas affect addiction, toxicity, and appeal. For example, research needs to show how much nicotine different products deliver. The impact of changes in nicotine levels or how the chemical composition of nicotine and other components of tobacco products affect addiction also needs to be studied.

Recent studies have shown that tobacco products from Third World countries may be contaminated with metals such as lead and cadmium that get into tobacco plants through polluted air and soil (Stephens et al. 2005). The added health risk associated with such contamination is unknown. Additionally, tobacco growing in many parts of the world is having devastating effects on the environment (e.g., deforestation) and involves harsh and inhumane working conditions, including child labor (Muwanga-Bayego 1994; Otañez et al. 2006). Research is needed to better understand where and how tobacco is being produced and to identify ways to regulate its production so as to protect tobacco workers and consumers.

There is no disagreement that one benefit of product regulation would be the required disclosure to government scientists of basic information about the products and their emissions. That information, now in sole possession of the tobacco industry, is needed to permit scientific research about the role of different components of tobacco products. While there has been much discussion about establishing product performance standards to reduce known harmful emissions, there are few validated standards for comparing tobacco products based on health risks (Hatsukami et al. 2006; Stratton et al. 2001). There currently are no agreed upon standards for assessing emissions from oral tobacco products, even though variation in risks across different oral tobacco products is likely to be large. There also are no agreed upon standards for rating the addictiveness of different tobacco products, even though such a rating scheme would represent a logical basis for ranking different products (and nicotine replacement products) based on relative harm potential. One reason for the lack of standards has been the lack of precise, timely, detailed information about the chemical composition of tobacco products and the emissions from tobacco products. Several jurisdictions in the world have implemented ignition propensity standards to reduce the fire risk associated with cigarette smoking (Connolly et al. 2005; O'Connor et al. 2006). However, as yet there has been no formal evaluation to assess the extent to which these regulations have reduced cigarette-caused fires.

It seems obvious that combustion tobacco products pose a greater risk to public health than oral tobacco products. What should be done to regulate the marketing, labeling, and testing of quasi-tobacco products such as nicotine inhalers, e-cigarettes, nicotine water, and nicotine lollipops? What are the legal barriers associated with regulating tobacco products marketed outside the U.S. and sold over the Internet (Ribisl et al. 2007)? Should a regulatory scheme favor the promotion of less dangerous tobacco products? What might be the unintended consequences of such a policy? Who will determine what "less dangerous" means? Are smokers interested in switching to less harmful oral tobacco products? Recent evidence indicates that about one-third of nicotine replacement therapy (NRT) use currently is for purposes other than quitting smoking (Hammond et al. 2008). However, it is unclear if smokers would be willing to shift to NRT products long-term or instead use them only in circumstances where smoking is not permitted.

Studies show that most U.S. smokers recognize that smoking can cause lung cancer, but many people are not so well informed about other health consequences. Many smokers also are confused about the harms and benefits of filtered and low-tar cigarettes, oral tobacco (including smokeless tobacco products), and both proven and unproven cessation treatments and medications. Cigarette pack warnings in the U.S. have not changed since 1984 and some have suggested that they should be updated and enhanced to include pictures and information to assist smokers to quit. There is growing research showing that strong pack warnings, especially graphic warnings, influence smoking attitudes and intentions to smoke, but there is much more to learn about the role of pack warnings? What makes for an effective pack warning? How would the tobacco industry respond if pack warnings were removed? Would the federal government ever consider removing product warnings from tobacco products? Some tobacco products don't include warnings (e.g., large cigars, bidis, and hookah). Should they? If product warnings are required, what should they say? How often should they be changed to maximize effectiveness?

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Plain packaging has emerged as a regulatory option for addressing consumer misperceptions about the relative risks of different brands and making tobacco products less attractive for youth (Freeman et al. 2008; Goldberg et al. 1999; Hammond 2008; Khoo and Adelman November 14, 2008). However, it is unclear what impact plain packaging might have on tobacco use behaviors, what the legality of removing corporate logos and trademarks from tobacco products might be, and what the effects on company legal liabilities might be.

Most of the discussion on product regulation, as described above, is based upon the premise that we should retain, regulate, and redesign tobacco products to minimize population harm. However, what if the goal is simply eradicating tobacco use? What policy research questions do we need if the objective is to substantially diminish the power of the tobacco industry or facilitate the end of the tobacco industry?

### **Product Regulation Policies** Priority Research Questions 2010-2015

1	What effects will a proposed strategy for regulation based on product performance measures (e.g., levels of carcinogens and other toxicants of combustion products) have on consumer exposures to toxicants and ultimately health risks?
2	What is the best evidence on the role of packages as marketing tools, and what is the best evidence on the role of pack warnings? If product warnings are required, what should be their content?
3	What is the likely impact of "plain" packaging on consumer perceptions about product risk and product attractiveness?
4	What are the policy and legal research needs to refocus tobacco control with the objective of eliminating the tobacco industry or at least eliminating the sale of combustible tobacco products?
5	Is a buyout of the tobacco industry by state and/or federal governments a feasible alternative?

### III. Policies to Limit Product Marketing

The tobacco industry spends billions annually on tobacco marketing in the U.S. and regularly modifies and introduces new products and brand line extensions with no oversight (IOM 2007; Wakefield et al. 2002; Warner 1986). Increased U.S. expenditures on point-of-sale discounts and promotions are undermining the beneficial public health effects of tobacco tax increases. Current federal law bans broadcast advertising of cigarettes, although it also preempts localities from regulating tobacco marketing for health reasons (SGR 1989). The U.S. Federal Trade Commission (FTC) has the authority under the Federal Trade Commission Act to regulate the advertising of consumer products to prevent "unfair or deceptive acts or practices in commerce" but has done little to stem the marketing of tobacco products. In 1998, as part of the Master Settlement Agreement (MSA) with state Attorneys General, cigarette manufacturers agreed to discontinue billboard advertising and advertising in magazines with a high percentage of underage readers, and to limit their sponsorships of sporting and cultural events (Daynard 2003). Every state has a law prohibiting retailers from selling tobacco products to minors.

The number and variety of tobacco products introduced into the U.S. marketplace appears to have increased in the past few years. Sales of small cigars and smokeless tobacco increased markedly in the past five years (Euromonitor 2006). Both Philip Morris and Reynolds American Inc. have started marketing novel oral tobacco products. In addition, a wide array of novel nicotine delivery products, including electronic nicotine inhalers, have been made available for sale through the Internet and other sources. The FCTC mandates regulation of tobacco product marketing although the specific provision of these mandates is still under development.

#### What we know.

Marketing is one of the single most important factors driving and sustaining the tobacco epidemic. The impact of voluntary and government restrictions on tobacco advertising and promotion has been the subject of many research studies. In a recent review of the evidence on the effectiveness of advertising bans, Saffer (2001) concluded that cigarette consumption is reduced when a comprehensive advertising ban is implemented.

While few would contest the fact that the tobacco industry's conduct over the last 50 years has been unethical, immoral, and in some instances even illegal, some have argued that if we are to regulate the tobacco industry better, it may be more useful to understand its conduct primarily as rational, calculated, and profit-motivated business tactic (Borland 2003; Callard et al. 2005; Liberman 2003, 2006).

The argument goes that in order to achieve the fastest possible reduction in the harm tobacco causes, new regulatory models that involve fundamental institutional change must be adopted. It is assumed that the tobacco industry will continue to undermine tobacco control and, so it is argued, that governments must change the way they approach the tobacco problem if they are to succeed in reducing consumption. Again this begs the question whether the explicit/implicit goal should be limited to harm reduction versus eradication.

One proposal, advanced by Borland (Borland 2003), involves the establishment of a governmentrun purchasing agency and wholesale distributor of tobacco products. In this regulated marketing model, the government would control the marketingof tobacco products and thus would be compelled by health consequences and legal sanctions to provide truthful information about the relative risks of tobacco products. Tobacco manufacturers would still be permitted to operate as for-profit entities, but would be driven by market forces to develop and supply products least harmful to the public's health. Presumably, this would result in a phase-out of harmful combustion tobacco products in favor of new less harmful substitutes. The model has attracted at lot of discussion, but the tobacco industry is nationalized in many countries while to date no country has actually adopted this framework.

#### What we need to know.

With regard to marketing regulations, past U.S. experience and the experience of other countries that have attempted to enforce comprehensive advertising regulations suggests that we need to know how tobacco companies are likely to get around marketing restrictions. For example, in response to restrictions limiting advertising and promotions, cigarette manufacturers have increasingly emphasized the marketing of specialty tobacco products and brand line extensions using unique packaging designs (see www.tobaccoproducts.org). The tobacco industry also is exploiting new communications technologies, such as the Internet, to market its products. The actual impact of the MSA agreement on smoking behavior has not been formally evaluated, although it is clear that advertising spending has increased substantially since the MSA and is increasingly concentrated on price marketing and point-of-sale discounts and promotions (Wakefield et al. 2002). Given past failed efforts by the FTC to regulate false and deceptive marketing, we need to know which government agency should be charged with regulating tobacco product marketing. Monitoring tobacco industry activities in the changing media environment is a key research task for the future.

Should tobacco marketing be completely controlled by the government, as some have suggested (Borland 2003)? What would happen if the federal preemption on limiting tobacco advertising of tobacco products were rescinded? Would states and localities act to place limits on point-of-sale advertising? How would the tobacco companies respond? Some retail outlets, such as pharmacies and big box stores, are voluntarily discontinuing their sale of tobacco products. In addition, some

states and localities are looking to ban tobacco sales in certain types of venues, especially pharmacies. It is important to examine the legality of such policies and to evaluate what happens as the number and variety of venues that stop selling cigarettes increase. There is a need to develop surveillance systems to document the effects of these policies.

Callard and colleagues (Callard et al. 2005) have suggested that the profit motive in the tobacco business be eliminated by transforming the tobacco market from one supplied by for-profit corporations to one supplied by public interest institutions. They suggest that this could be financed through tobacco taxes to buy up the market stakeholders. As a not-for-profit entity, the newly formed company would have no incentive to impede public health efforts to reduce use of harmful tobacco products. How much would it cost to buy out the tobacco industry in the U.S.? Is this idea politically feasible? How might the tobacco industry respond? What might be the unintended domestic and global consequences of such a proposal? What government agency would be best suited to control tobacco marketing and product distribution?

### Policies to Limit Product Marketing Priority Research Questions 2010-2015

1	What are the effects of current marketing practices, especially ads for smokeless tobacco products and point- of-sale cigarette promotions and discounts, on the public health benefits of tobacco tax increases and smoke-free air laws?
2	What are the policy precedents and prospects for taxing tobacco marketing costs?
3	What would happen if the federal preemption on local regulation of tobacco products were rescinded?
4	How is the tobacco industry likely to respond to undermine efforts that further regulate their marketing?
5	What is the legality of banning tobacco sales in certain types of outlets such as pharmacies?

### IV. Policies to Assure Effective Counter-Marketing and Public Education Campaigns

Tobacco counter-marketing and mass media anti-smoking and cessation campaigns are recommendby the U.S. Centers for Disease Control and Prevention (CDC) as integral to comprehensive state and local tobacco control initiatives (CDC 2007a). They serve to amplify the effects of other components of effective comprehensive tobacco control initiatives, and have an important role to play in de-normalizing tobacco use and in building public demand and policymakers' support for the implementation of effective tobacco control policies and programs (Bala et al. 2008; Farrelly et al. 2003, 2008; Hyland et al. 2006b; IOM 2007; NCI 2008; Pierce et al. 1998). National and state funding for comprehensive tobacco control has never reached levels possible though Master Settlement Agreement funding or justified based on the strength of scientific evidence for their health impacts (CTFK November 18, 2008). The population impact of tobacco control policies on cessation (and tobacco use prevalence) has been incontrovertibly demonstrated in the U.S. (Warner 2006) and internationally (Schaap et al. 2008). Moreover, we are now in the sad position of documenting that reductions in resources for effective U.S. tobacco control have stalled or reversed what had been downward trends in tobacco use prevalence among youth and adults (CTFK November 18, 2008). For instance, between 2002 and 2005, states cut funding for tobacco prevention and cessation programs by 28% (approximately \$200 million) despite the fact that all states combined collected nearly \$25 billion per year in MSA and tobacco tax revenues during this period (CTFK November 18, 2008).

#### What we know.

Beginning with the successful 1967-70 application of the Fairness Doctrine to cigarette advertising in the broadcast media, media interventions for tobacco control have evolved to become a key component of tobacco control efforts (Bala et al. 2008; Cummings 2002; NCI 2008; Wakefield et al. 2008; Warner 1986, 1989). Evidence from controlled field experiments and population studies shows that mass media campaigns designed to discourage tobacco use can change youth attitudes about tobacco use, curb smoking initiation, and encourage adult cessation (NCI 2008). Numerous studies have shown consistently that advertising carrying strong negative messages about health consequences performs better in affecting target audience appraisals and indicators of message processing (such as recall of the advertisement, thinking more about it, discussing it) compared with other forms of advertising, such as humorous or emotionally neutral advertisements (NCI 2008). Some of these negative advertisements also

portray deception on the part of the tobacco industry. Advertisements for smoking cessation products and tobacco industry-sponsored smoking prevention advertising have been shown to elicit significantly poorer target audience appraisals than do advertisements based on negative health consequences (NCI 2008).

In 2001 the CDC Community Preventive Services Task Force based its strong recommendation for cessation media campaigns mainly on the effectiveness of extended high-intensity campaigns implemented in California, Massachusetts, and Oregon, campaigns which included excise tax increases, clean indoor air laws, and community-based anti-tobacco education (Hopkins et al. 2001). None of the studies reviewed evaluated the impact of campaigns alone. More recent studies have found that large tax-funded tobacco control programs with aggressive media campaigns have proven effective. They have deterred youth tobacco onset and have accelerated adult quit rates beyond the levels produced by excise tax increases and clean indoor policies alone, with the greatest impact on the least well-educated smokers (Bala et al. 2008; Farrelly et al. 2002, 2005, 2008; Hyland et al. 2006b; NCI 2008; Pierce et al. 1998; Wakefield et al. 2008). Antismoking advertising can influence youth smoking, but whether it does in the context of individual anti-smoking campaigns needs to be the subject of careful evaluation (Farrelly et al. 2002, 2005, 2008; Wakefield and Chaloupka 2000). On the cessation front, Hyland et al. (2006b) found that for every 5,000 units of exposure to anti-tobacco TV ads over a two-year period, adult quit rates increased by 10%. And a study of recent quitters in Massachusetts found that 91% reported that seeing a TV commercial about tobacco had contributed to their quitting smoking, a far higher percentage than mentioned treatment-assisted quitting (Biener et al. 2006). There is also strong evidence that treatment promotions, especially for telephone quit lines and free nicotine replacement benefits, generate high levels of treatment demand and use and cessation, both population-wide and in traditionally underserved and high-risk target groups (e.g., low-income and African-American smokers) when they are targeted (e.g., Boyd et al. 1998; Campbell et al. 2008; Cummings et al. 2006; McAfee 2007; Metzger et al. 2005).

#### What we need to know.

Relatively little is known about the extent to which mass media campaigns can magnify the reach and impact of the individual and combined components of comprehensive tobacco control programs (Bala et al. 2008; NCI 2008). More needs to be learned as well about the extent to which the tobacco industry's allegedly "anti-tobacco" or "tobacco education" efforts undermine the influence of public health anti-tobacco media efforts. It will also be critical to examine the effects of tobacco industry marketing of new PREPS, or "potential reduced exposure products," on prevention and on quitting motivation and attempts, treatment use, cessation, and long-term health outcomes (NCI 2008). More broadly, there is a need for research to better understand how to utilize the ever more complex communications environment. A growing range of communications channels and information delivery systems provides increasing opportunities for tobacco companies to target communications to consumers, sometimes with little oversight from policymakers, regulators, or those working in tobacco control. The fragmentation of audiences across this proliferation of channels also means that those working to stem tobacco use must consider a bewildering number and variety of communication channels to run campaigns and deliver anti-tobacco messages. Limited funds and resources are further strained, and efforts to monitor tobacco promotion become more complex.

Another challenge for tobacco control programs is to create ads that permit smokers to gain fresh insights into the risks posed by smoking and the benefits of quitting smoking (NCI 2008). Although effective with their target audiences, emotionally evocative advertising messages are less palatable to the persons or groups funding tobacco control than are emotionally neutral or "feel good" messages. A key task for persons who disseminate research is to ensure that those who fund tobacco control efforts understand why investment in particular kinds of campaigns is likely to yield the best outcomes (Brownson et al. 2006).

### Policies to Assure Effective Counter-Marketing and Public Education Campaigns Priority Research Questions 2010-2015

- 1 How can mass media counter-marketing campaigns be more cost-effective? How can new communications media such as the Internet and social networking technologies be used to reach different target audiences? What is the optimum intensity, timing, duration, and targeting of mass media campaigns to achieve reductions in smoking?
- 2 In what ways can the mass media campaigns best be harnessed to enhance the efficacy or other components of effective comprehensive tobacco control programs? What is the point at which increments of advertising exposure yield ever-smaller increments in attitude or behavior change, and does this vary depending upon the presence or absence of tobacco control policies such as tax increases or smoke-free policies?
- 3 How can mass media efforts be used to build support for effective tobacco control policies and programming?
- 4 What is the impact of corporate-image campaigns and tobacco company-sponsored smoking prevention campaigns on smoking-related attitudes and behaviors among adults in different socioeconomic subgroups?
- 5 Do industry marketing efforts of purportedly reduced harm tobacco products undermine progress in tobacco control?

### V. Policies to Expand Clean Indoor Air Laws and Restrictions

Since the 1970s the number and restrictiveness of laws and policies regulating smoking in worksite and public places in the U.S. have increased (Eriksen and Cerak 2008). As of January 2009, 23 states, the District of Columbia, Puerto Rico, and hundreds of municipalities had implemented 100% smoke-free provisions (in workplaces and/or restaurants and/or bars) representing 70.3% of the population (www.no-smoke.org). These laws are spreading globally as well, with Ireland, Scotland, Italy, France, New Zealand, and India recently adopting comprehensive smoke-free laws (Cummings and O'Connor 2008; Eriksen and Cerak 2008). Smoke-free laws and policies have sparked the spread of voluntary in-home smoking bans both in the U.S. and around the world, including a spate of local and state laws limiting smoking in cars, multi-family dwellings, and outdoor settings in the U.S. (Eriksen and Cerak 2008). The Joint Commission for Accreditation of Healthcare Organizations (JCAHO) issued a policy in 1992 prohibiting smoking in hospital facilities, and there are efforts underway to expand this prohibition to cover the full hospital campus and to apply similar prohibitions to drug and alcohol treatment facilities (Curry et al. 2008). Despite the wide scale adoption of smoke-free policies, there remains a marked and widening disparity in protection from indoor smoke pollution, with those from with lower socioeconomic groups and states experiencing the greatest continuing exposure to tobacco smoke at work and in the home (Borland et al. 2006a; Giovino et al. 2009).

#### What we know.

Smoke-free laws protect the public from exposure to toxins in tobacco smoke and lower the risk of a variety of acute and chronic diseases (SGR 2006). While the majority of the U.S. population live in a community that is covered by a comprehensive smoke-free law, there remain gaps in protection, especially in the Southern states with lower median household incomes, and among minority groups and the poor (Giovino et al. 2009). There is growing evidence that smoke-free rules are associated with more negative views about smoking and have a deterrent impact on teenagers taking up smoking (Siegel et al. 2005) and that comprehensive bans implemented with strong enforcement and media publicity lead to reduced adult smoking prevalence (Levy et al. 2004). There is evidence that smoking bans at work and home increase the chances that a smoker will successfully quit smoking or stay quit because they decrease the opportunities, social supports, and inducements to smoke (Borland et al. 2006b).

#### What we need to know.

We need to know how to expand clean indoor air laws to include all regions and sectors of society. In the U.S. there is an inverse relationship between a state's median income level and the strength of smoke-free legislation (Giovino et al. 2009). Also, as clean indoor air laws have become more common, efforts have turned to extending smoking restrictions to automobiles, apartments, hotels, and a variety of outdoor locations, such as outdoor dining areas, entranceways to buildings, worksite and college campuses, parks, and beaches (Blanke and Cork October 23, 2008). To what extent does the public actually support these expanded restrictions? What impact will such expanded smoking rules have on people's attitudes about smoking and the behavior of smokers? The unintended consequences of efforts to extend smoke-free rules to places like apartments and worksite campuses are not well understood. For example, efforts to ban smoking in public housing units might result in smokers going outside in areas that are unsafe. Elderly persons might become more socially isolated if smoking in common meeting areas is banned.

The recent introduction of smokeless tobacco products by cigarette companies appears to be a direct response to indoor smoking restrictions, especially those affecting the hospitality industry. Pharmaceutical companies are also looking to market nicotine medications in unit sizes and with instructions to permit use as a substitute for smoking, not merely as a quit smoking aid (Hammond et al. 2008). Over the next five years it will be important to study the effects of oral nicotine products (i.e., smokeless and NRT) and reduced emission cigarettes (see www. tobaccoproducts.org) on existing smoke-free laws. Will these "smokeless" products be allowed under current laws? Will current laws be modified to allow harm reduction products? Will greater access to and promotion of these smokeless products undermine efforts to reduce cigarette consumption and boost dual use of both smokeless and combusted tobacco products?

### Policies to Expand Clean Indoor Air Laws and Restrictions Priority Research Questions 2010-2015

- 1 What impact do smoking restrictions have on people's attitudes about tobacco, smoking, and the behavior of smokers? How do these impacts vary across socio-demographic groups?
- 2 How could we maximize the public health benefits of smoke-free air laws, for instance, by pairing their introduction with promotions of free cessation counseling and medication? By providing tools and media campaigns supporting the spread of voluntary in-home smoking bans?
- 3 What is the effect of and public support for expanding the restrictions on where smoking is and is not allowed, including restrictions on smoking in cars, multi-family dwellings, at parks and other outdoor other venues?
- 4

Does access to new nicotine products or nicotine replacement therapies (NRT), such as patches and gums, undermine efforts to reduce cigarette consumption by promoting dual use of both oral nicotine and combustible tobacco products?

### VI. Policies to Increase Demand for, Access to, and Use of Proven Cessation Treatments

For all the money invested in biomedical research to find cures for cancer in past decades, most of the progress achieved in reducing cancer mortality has been the result of deaths avoided through successful tobacco control, especially efforts to motivate and assist smokers to quit (Jemal et al. 2008; Thun and Jemal 2006). Four decades of research has helped to discover, evaluate, and apply a range of evidence-based and cost-effective behavioral and pharmacologic treatments to help smokers quit and achieve long-term abstinence (Fiore et al. 2008). And there is promising work underway to tailor these treatments to underserved and high-risk populations, including the growing proportion of tobacco users with substance use and psychiatric co-morbidities (Hall et al. 2006). Moreover, studies have shown that increasing the number of smokers who quit will have a much greater impact on reducing deaths and health care costs from smoking over the next 30 years than will preventing smoking initiation (Levy et al. 2000).

Yet, in the U.S., only 4 in 10 smokers make a quit attempt annually. The majority of those who try to quit fail to utilize an evidence-based treatment that could markedly increase their odds of quitting permanently, and they relapse back to smoking within six months (Cokkinides et al. 2005; Cummings and Mahoney 2008). Over two-thirds of quit attempts are made without any type of treatment assistance (West and Sohal 2006). While low-income and blue-collar smokers and those with limited formal education are no less likely to try to quit than their more advantaged counterparts, they are less likely to receive effective treatments from their health care providers and to make use of proven available products and services (e.g., face-to-face counseling, clinics, prescription and OTC medications, and quit lines) (Orleans 2007). Thus, both the reach and use of effective treatments are suboptimal. If effective treatments were (a) cheaper or free (via insurance coverage or otherwise), (b) better known by smokers to be available to them, and (c) not confused with ineffective treatment products, it is likely that more smokers would attempt to quit and remain smoke-free. Three policy areas are relevant to addressing these barriers: (1) expanding health care coverage and other system supports for treatment and adequately promoting treatment benefits and effective treatments; (2) making effective treatments more accessible and appealing, including providing adequate funding for them; and (3) modifying cessation product regulation and labeling.

#### What we know.

While many studies have documented steady increases in the delivery of proven brief "5-A" primary care interventions for tobacco use (Ask all patients about tobacco use, Advise all tobacco users to quit, Assess readiness to quit, Assist with motivational interviewing or counseling and medication, and Arrange follow-up), one recent survey reported that tobacco counseling occurred in less than 25% of doctor visits by tobacco users and that cessation medications were prescribed in fewer than 3% of occasions (Steinberg et al. 2006). The odds of getting a prescription for a stop smoking medication increase 15-fold if the patient requested it, but few do (Steinberg et al.

2006). Several reviews and studies have found the lowest rates of primary care intervention in populations with the highest smoking prevalence, including low-income and uninsured smokers, young smokers, and those with mental health and other substance abuse problems (Cokkinides et al. 2005; Orleans 2007). Expanding health care coverage and system supports is critical for reducing overall treatment use and treatment disparities (Orleans et al. 2006).

Full coverage of tobacco dependence treatments increases treatment delivery and use and sustained abstinence at relatively low cost compared with either a partial or no benefit (Kaper et al. 2007), and related research has documented modest per-member, per-month costs for full cessation coverage (Burns et al. 2004, 2007; Schauffler et al. 2001). These findings are not confined to the U.S. In Taiwan, recently expanded subsidies and provider reimbursement for physician smoking cessation counseling and medication led to significant increases in provider treatment and population quit rates (Chang et al. 2008).

While public and private insurance coverage for cessation counseling and pharmacotherapy have increased substantially over the past decade (in response to better surveillance, performance report cards, and advocacy), substantial gaps in coverage remain. For instance, only eight states have legislative or regulatory standards for insurance coverage for cessation products and services, and most states provide little or no coverage for state employees (ALA 2008). The adult Medicaid population smokes at a rate almost 60% higher than the general population (32.6% vs. 20.4%), yet only seven Medicaid state programs cover all FDA-approved medications plus individual and group counseling (with medication coverage greatly exceeding counseling coverage), and six states still provide no coverage (CDC 2007b). While almost 100% of health plans' bestselling HMO products provide coverage for at least one proven cessation treatment, they provide much less coverage for over-the-counter (5-9%) than prescription (36%) NRT, and limited coverage for face-to-face (41%) or group (16%) cessation counseling (Curry et al. 2008; Orleans et al. 2006). Moreover, many enrollees face barriers such as co-pays, treatment duration limits, and prior authorization requirements which discourage them from actually using available benefits (ALA 2008). The effects of such barriers on the delivery of demand for and use of cessation warrants further study (Schauffler et al. 2001).

A number of studies have shown that limited awareness of cessation treatment benefits makes them essentially "stealth benefits," hindering their use and potential impact (e.g., McMenamin et al. 2006). But little work has been done to identify effective and cost-effective promotional strategies (Bansal et al. 2004; Boyle et al. 2002; Burns et al. 2007), including research tied to making "the business case" for cessation coverage and promotion to health care purchasers, insurers, and policymakers (Curry et al. 2008; Orleans et al. 2006).

Other health care system supports for improved treatment delivery, use, and reach include the use of system-wide practice guidelines; reminder systems to prompt provider intervention with or without provider education; and provision of provider feedback based on electronic health record (EHR)-documented rates of provider intervention (Curry et al. 2008). There is growing evidence as well for the efficacy of clinic-level strategies that increase linkages between health care systems and community resources, including the proliferation of "Ask-Advise-Refer" strategies that refer patients directly to quit lines for the most time-consuming aspects of the brief 5-A primary care intervention (Bentz et al. 2007; Borland et al. 2008; McAfee 2007). In addition, there has been a recent resurgence in the availability of worksite-based cessation programs and incentives among employer sponsors and health plans. But many of these health care system interventions are confined to a minority of progressive practices, provider organizations, HMOs and health plans (Curry et al. 2008).

In addition to boosting delivery of proven interventions through public and private health care systems, several policy-related changes have made medications more widely available to Americans with and without health care coverage. Evidence for the efficacy, relative safety, and low abuse potential of nicotine gum, patches, and lozenges (vs. nicotine nasal spray and inhaler) led to the FDA's approval of these products for over-the-counter (OTC) sale (Cummings and Hyland 2005; Foulds et al. 2006). Unfortunately, the perceived high cost of these medications, the inability to buy them in daily doses which are competitive in price with cigarettes, and widespread misconceptions that these products are unsafe and addictive have kept many smokers from using them (Bansal et al. 2004).

In 2004, the U.S. Department of Health and Human Services authorized a national network of state quit lines providing free cessation counseling through a single number (1-800-QUIT NOW) supported primarily by state funds (Fiore et al. 2004; McAfee 2007). Mass media quit line promotions, including those targeted to high-risk and underserved populations, significantly boost quit line demand and use (Boyd et al. 1998; Metzger et al. 2005). And research conducted in other countries has shown that adding a quit line number to a tobacco product warning can increase quit line use (Willemsen et al. 2002). Quit lines have the potential to dispense OTC and prescription cessation medications to eligible adults, but the majority of U.S. quit lines do not do so, even though research has demonstrated that this enhances quit line use, reach, and efficacy (Campbell et al. 2008; Cummings et al. 2006). A cross-cutting policy barrier is the failure to earmark tobacco excise tax funds and MSA funds sufficient to implement CDC-recommended comprehensive tobacco control programs and policies, including cessation products and services and other tobacco control programs (ALA 2008; CTFK November 18, 2008). In 2007, Connecticut allocated only \$130,000 from its 2007 \$140 million MSA allocation for tobacco control programs and, as a result, suspended its quit line services midyear for lack of funds

(Cowan January 1, 2008). A related barrier to quit line access is the lack of laws and policies that would allow states to pool or share resources in meeting peak demands for quit line services, especially in anticipation of or response to new clean indoor air laws, tobacco tax increases, promotions, or media events (McAfee 2007).

Finally, current tobacco cessation product labeling and marketing regulations appear to curb the use of OTC medications. Current FDA labeling appears to confuse consumers and providers in ways that may deter both the prescription and use of approved NRT products. In the U.S., there are widespread misconceptions about the safety and efficacy of NRT, especially among smokers with the least education (Orleans 2007). For instance, Bansal et al. (2004) surveyed U.S. adult smokers and found that only 60% agreed that nicotine patches and gum improved smokers' chances of quitting and were less addictive than cigarettes. The survey also found that only about a third agreed that patches were less likely than cigarettes to cause a heart attack or disagreed that nicotine was a cause of cancer. The inability to market or sell daily supplies of approved NRT products is also likely suppressing their use. Finally, pharmacy shelves are stocked with competing products (e.g., herbal, nicotine-based) which lack both evidence of efficacy and FDA regulation and make unregulated claims that are disallowed by the FDA for the cessation products it approves.

#### What we need to know.

The greatest need is for research to examine the impact of varied approaches to the design and promotion of cessation benefits on treatment use and long-term quitting. Cost benefits also need to be studied, especially within the low-income populations where quitting efforts are highest and treatment use is most limited. In the context of unprecedented and rising health care costs, studies that can strengthen the "business case" for cessation coverage research also are needed to clarify the information needs, barriers to, and drivers of coverage expansion among key health care decision makers. There is also a need to explore the effects of smokers' advocacy and demand for these benefits on decision maker action. Consumer advocacy, largely absent in past coverage expansion efforts, is cited by employers as critically important to their coverage decisions (Bondi et al. 2006; Burns et al. 2004, 2007; Woolf et al. 2006).

More research is needed to evaluate mechanisms for getting health care providers to deliver cessation treatments more consistently. For example, are there ways that health care providers could be more effectively supported or incentivized to take firmer action to assure that their patients try to quit? What might these systems changes and mechanisms be? Will they work? What are their drawbacks? The role of other health care professionals such as pharmacists needs more attention also, especially given momentum to eliminate tobacco product sales in pharmacies. It is important to study whether this is a positive or negative change. It could be that only allowing pharmacies to sell tobacco products would be a better solution, if combined with strenuous efforts by pharmacies to switch smokers to cessation treatments.

More evidence is needed overall about the efficacy and cost-effectiveness of individual health care policy and systems changes, and on multi-component and multi-level health care systems and policy change approaches, such as those based on the Chronic Care Model. Finally, while the Healthcare Effectiveness Data and Information Set (HEDIS) and JCAHO tobacco cessation performance measures are credited with increasing treatment rates among smokers seen in outpatient and inpatient settings, little work has been done to examine the efficacy of pay-for-performance incentives based on these metrics (Bentz et al. 2007; Curry et al. 2008; Orleans et al. 2006).

Research is also needed to better understand how OTC cessation products are used, and specifically how and whether their use and efficacy in "real world" settings compares with that in the controlled settings in which they were originally tested. Doubts about their real-world efficacy have served to undermine advocacy for their broader use, promotion, and support as part of comprehensive state, national, and global tobacco control efforts. For example, studies of varying packaging, labeling, and marketing strategies would appear especially important for boosting consumer demand for and use of safe and efficacious cessation medications and for suppressing the use of unproven treatment aids sold and marketed outside of FDA jurisdiction. Low-cost analogue studies of the safety, appeal, efficacy, use, reach, and cost-effectiveness of making OTC NRT products available in daily doses rather than more expensive monthly and weekly supplies would be very helpful. Trial packs offering smokers a chance to sample alternative NRT product formats (gum, lozenges, and patch) might further boost NRT use and demand and generate evidence to inform possible revised FDA packaging regulations.

### Policies to Increase Demand for, Access to, and Use of Proven Cessation Treatments Priority Research Questions 2010-2015

- 1 What are the information needs, barriers to, and drivers of coverage expansion among key health care decision makers? What would help most to increase the use and impact of cessation treatment benefits?
- 2 Are there ways that health care providers could be better supported and incentivized to consistently screen, advise, and assist their patients to quit in both inpatient and outpatient settings? How can the effects of current quality of care performance measures be strengthened?
- 3 What are the best ways to build political support for the adequate funding of quit lines and comprehensive quit line services? What are the benefits and political drawbacks of earmarking tobacco tax increases to fund tobacco cessation and control programs? What are the barriers, drivers, and feasibility of various quit line financing models?
- 4 How can consumer product design and marketing principles be used to induce more smokers to make a quit attempt using an evidenced-based treatment method? How can we redesign proven treatments and promotions to be more appealing and accessible and to better address widespread consumer misconceptions? What are the hallmarks of cost-effective NRT giveaway programs?
- 5 What would be the effect of making OTC NRT products available in daily doses rather than more expensive monthly and weekly package sizes?

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### VII. Policies to Increase Accountability and Performance

Cost-effective treatments and policies are available to reduce smoking rates, yet no state in the nation will meet the national Healthy People objective of reducing cigarette smoking prevalence to less than 12% by 2010 (CDC 2007b; CTFK November 18, 2008; Farrelly et al. 2003; Fiore et al. 2004; IOM 2007). Why is this? One answer appears to be that there is too little accountability or incentive for reducing tobacco use. While many states and localities have implemented comprehensive strategies to reduce demand for tobacco—such as higher taxes, limits on public smoking, counter-marketing campaigns, and access to evidence-based cessation treatments—most have not (CDC 2006), with evidence of income-related disparities in exposure to evidence-based tobacco control policies (Giovino et al. 2009). Few states have devoted significant funds from their MSA settlement to support tobacco control efforts (CFTK 2007). Many health care plans do not provide coverage for evidence-based treatments (ALA 2008); doctors often fail to provide cessation treatments to their patients; and the tobacco industry continues to impede and undermine public health strategies to reduce smoking (IOM 2007; Orleans et al. 2006). This section explores policies to hold groups accountable for the tobacco problem and efforts to achieve a smoke-free society.

#### What we know.

Performance standards have been used successfully by the federal government to motivate states to take actions to promote tobacco control. In 1996, SAMHSA issued a regulation implementing the Synar amendment (DiFranza and Dussault 2005). The regulation requires all 50 states, the District of Columbia, and eight insular areas to (1) have in effect and enforce laws that prohibit the sale and distribution of tobacco products to people under 18 years of age; (2) conduct annual random, unannounced inspections, using a valid probability sample of outlets that are accessible to youth to estimate the percentage of retailers who do not comply with the laws; and (3) report the retailer violation rates to the Secretary of the Department of Health and Human Services, who could potentially withhold 40% of a state's Substance Abuse Prevention and Treatment (SAPT) block grant award if the retailer violation rates did not drop below certain levels. While the ultimate value of enforcing youth tobacco access laws on preventing youth smoking can be debated, there is strong evidence that the Synar amendment had a significant impact on getting state governments to enforce their youth tobacco access laws (GAO November 2001).

Performance measures also have been used successfully to motivate health care plans and, in turn, health care providers to alter their delivery of health services such as smoking cessation (Davis 1997). HEDIS, which added tobacco use indicators in 1996, has helped employers and the public track how well health plans are doing with regard to identifying, advising, and assisting outpatient smokers to quit (Orleans et al. 2006), and new JCAHO and Agency for Healthcare Research

and Quality (AHRQ) performance measures are boosting delivery of cessation treatments to hospitalized smokers (Curry et al. 2008). The impact of pay-forperformance incentives based on these metrics has not been adequately evaluated or demonstrated. While a "look back" provision to motivate and incentivize the tobacco industry to reduce tobacco sales was included in the federal legislation proposed in 1998, this legislation failed and was replaced by the Master Settlement Agreement (MSA) which did not even stipulate the use of MSA funds for tobacco control funding.

#### What we need to know.

What kinds of incentives can be used by the federal government to motivate states to devote resources to tobacco control and prevention? For several reasons it would make sense for states to allow the federal government to take over tax collections on tobacco products since this would simplify tax collections and reduce tax evasion. If this were done, the federal government could potentially condition the return of tobacco tax revenues to states based upon their spending a certain percentage of their tobacco tax revenues on tobacco control programming. With tobacco product contraband becoming a larger concern from many localities it would be worthwhile to ask how many states and localities would be interested in having the federal government take over tobacco tax collections. How might states respond to various conditions that would require spending on tobacco control programming?

How can performance standards like HEDIS and JCAHO tobacco treatment quality metrics be structured to motivate health care providers and health plans to do a better job addressing tobacco use by their patients? How could a proposed planned reduction in the number of smokers be implemented? Could the accreditation of state and local public health agencies be based in part on their funding and implementation of evidence-based tobacco control policies and programs?

How supportive is the public of an outright ban on certain types of tobacco products? If cigarettes were banned, as they were in Bhutan, would a black market of cigarettes appear as claimed? What was the effect of the cigarette ban in Bhutan? How would smokers respond to a ban on combustion tobacco products: would they stop smoking, switch to alternative forms of nicotine delivery, or find ways to obtain combustion tobacco illegally? How would a ban on combustion tobacco products be enforced? How would the tobacco industry respond and how did they respond in Bhutan?

### Policies to Increase Accountability and Performance Priority Research Questions 2010-2015

1	How can HEDIS quality measures and JCAHO and AHRQ performance standards be structured to motivate health providers and health care plans to do a better job addressing tobacco use by patients?
2	What kinds of incentives can be used by the federal government to motivate states to devote resources to tobacco control and prevention?
3	Can the tobacco industry be held accountable for reducing smoking rates to meet national objectives? How would a "cap and trade" system work whereby manufacturers are penalized for failure to meet national public health objectives for tobacco use prevalence? What would companies do to meet the quota? Should a quota system apply to all tobacco products or only to the most dangerous combustion tobacco products?
4	Is a ban on combustion tobacco products feasible? What might be the unintended consequences of such a policy?
5	How could geography-based information (county, zip code, legislative district) be used to publicize adherence to policies that protect the public from tobacco harms, and to stimulate public and policymaker advocacy for comprehensive evidence-based tobacco control?

### Conclusion

This research agenda is designed to raise numerous critical research questions that will need to be answered in moving toward a smoke-free society. New and innovative approaches to reduce the burden of tobacco and the growing disparities in its use and the effects of tobacco use need to be generated, and they need to be debated with the support of an evidence base. The authors hope that this research agenda will advance that process.

The Substance Abuse Policy Research Program (SAPRP) website has syntheses of current knowledge on many important tobaccorelated topics. These syntheses are available as "Knowledge Assets" at www.saprp.org.

SAPRP has also developed three other research agendas on alcohol prevention, drug prevention, and alcohol and drug treatment. Each agenda was written by a primary author or authors with input from a group of advisors. All four agendas, including the highlights, are available on the SAPRP website at http://www.saprp.org/research\_agenda.cfm.

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