

Implementation of a Tobacco free Campus

Prepared for Interim President Cauce, Interim Provost Baldasty and the Board of Environmental Health and Safety

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Executive Summary

For several years, the University of Washington (UW) has been evaluating whether or not to become a tobacco free campus. Provost Ana Marie Cauce asked the Board of Environmental Health and Safety (EH&S Board) in 2012 to:

1. Monitor the experiences at the University of California (UC) system, Universities in the Pac-12 Conference and other comparable U.S. university campuses to learn what contributes to a successful implementation of these bans of tobacco use;
2. Estimate, based on the experiences of other institutions, the costs of these initiatives;
3. Identify potential challenges and barriers should the University decide to change from the current policy of restricting smoking to designated areas, to a full campus(es)-wide ban on tobacco products;
4. Provide to executive leadership a draft recommendation for a tobacco free campus policy implementation.

Per Provost Cauce's direction, for a two-year period, Environmental Health & Safety Department (EH&S) staff conducted surveys and phone interviews of universities in the Pac-12 Conference, the University of California (UC) system, and other institutions, to gain a better understanding of possible approaches, the costs of various programs, and the potential barriers to implementation of a tobacco free campus policy. This report is a summary of the survey results and a brief review of the scientific literature on campus-based tobacco control programs. Information includes the health burden and economic impacts of smoking on young adult and workplace populations; effective policy elements; and the factors needed to successfully implement college/university bans. The varied challenges to these initiatives are provided, as well as the costs, barriers and longer term effectiveness of these programs. This report provides a brief synopsis of the exhaustive evidence of the adverse health effects of tobacco use, and a summary of the multitude of approaches and experiences that other universities have implemented in their tobacco bans. The goal of this report is to provide information for a data-driven decision regarding the adoption and implementation of a campus-wide tobacco free policy.

The Board of EH&S, after consideration of the surveys and this report, recommends to the UW Provost and President that they direct the formulation of a tobacco free policy over the next calendar year. This policy would be developed by a committee that has representation from all major university entities, including faculty senate, graduate and undergraduate student bodies, professional and classified staff and administrative units. These units would include human resources, facilities services, environmental health, student and occupational health clinics, student life (including athletics), public safety (UWPD) and representatives from research, academic, and teaching units on all three campuses, among others. This committee would develop a plan for full implementation by the beginning of the fall quarter 2017. The Board acknowledges that resources will be needed to achieve full implementation of this policy and asks the Provost and/or President to provide the necessary resources for policy implementation. More detailed estimates of the costs of implementation will be

provided by the Board upon direction of executive leadership. The full Board recommendation, including a preliminary cost estimate, is provided at the end of this report.

Definition of the Problem

Current University No-Smoking Policy

The Revised Code of Washington (RCW) 70.160 (effective February 2007) prohibits smoking in most public places and workplaces and requires that smoking occur at a minimum reasonable distance of 25 feet from entrances, exits, windows and air intakes to ensure that smoke does not enter into buildings. The United States (U.S.) Congress has not attempted to enact any nationwide federal smoking ban; therefore, smoking bans in the U.S. are entirely a product of state and local public health laws and statutes.

In 2007, the Board of Regents of the University of Washington enacted WAC 478-136-035, and the University became a smoke-free university in order to minimize exposure to secondhand smoke. Currently, the UW is a smoke-free campus with the exception of designated smoking areas (DSAs) that are designed to minimize involuntary smoke exposure on campus and reduce smoking litter. Smoking-related regulations at other universities in the State of Washington are summarized in Appendix A.

The University's Environmental Health and Safety Department (EH&S) is the administrative unit responsible for administering the no-smoking WAC and for monitoring second hand smoke exposure. The University of Washington Police Department (UWPD) has the authority to issue citations for violating the WAC. The UWPD does not track numbers of specific violations, but uses education first, with the issuance of a monetary citation if an individual refuses to comply.

In 2011, the University of Washington Medical Center and Harborview Medical Center both became completely tobacco free campuses. Since 2011, the number of designated smoking area sites at the Seattle campus has been gradually reduced through the strategic maneuvering, consolidation and elimination of sites to reduce exposure to secondhand smoke. The Smoking Coordinator in EH&S is a professional industrial hygienist who uses input from students, staff and faculty regarding smoking exposures combined with technical evaluations of ambient air patterns and building ventilation intake systems to make these measured decisions to move or close a DSA. By 2014 the number of DSAs was reduced to 28 (from an initial number of 75 DSAs on the Seattle campus), with 10 DSAs at the UW Bothell campus and 4 at UW Tacoma.

University Policy Amended to Include Electronic Devices

The increased use of electronic devices or e-cigarettes is of concern because of the possible secondhand smoke exposure. These devices are being marketed as methods to aid in tobacco cessation. Yet, the American Heart Association, noting that nearly 7% of teens and young adults use e-cigarettes and have moved to cigarette smoking and smokeless tobacco use, has called upon the Food and Drug Administration (FDA) to regulate them (Szabo 2014).

E-cigarettes are battery operated inhalers that consist of a rechargeable battery, a cartridge called a cartomizer and an LED that lights up at the end when inhaled. “Vaping” is the act of inhaling water vapor through this device; the heating of the fluid generates the vapor. The devices do not deliver tobacco but they do deliver nicotine.

The health effects of these devices are still under study. The FDA issued a Consumer Health Update in July 2009 warning consumers about the unknown toxicity of electronic devices that deliver nicotine in a vapor, and of the concern that the use of these products could increase the nicotine addiction among young people (U.S Food and Drug Administration 2012).

Studies have found that passive lung exposure to tobacco products occurs while one is near a person using an e-cigarette (Ballbè et al. 2014). Specifically, emissions from e-cigarettes were minimal as compared to conventional cigarettes, but exposures to nicotine occurred in quantities that were similar to conventional cigarettes (Ballbè et al. 2014). A recent white paper published by the American Industrial Hygiene Association (2014) concluded that research of e-cigarettes have not warranted the conclusion that e-cigarettes are “safe” and that they should be considered as a source of volatile organic compounds and other particulates in the indoor air environment. These devices could add to second hand smoke exposure in the workplace and also may serve as a potential ignition source in workplaces where explosive atmospheres are present (American Industrial Hygiene Association 2014).

The King County Board of Health (KCBOH) in Seattle and King County regulates smoking via KCBOH Code Chapter 19. The Code was recently revised to place additional restrictions on the use of tobacco products, electronic smoking devices, and unapproved nicotine delivery products in a public setting, to further protect those who visit, live, and work in King County.

Due to this change in King County regulations and amid growing concerns about the adverse impacts of the use of electronic cigarettes, several administrative units at the Seattle Campus (including the Husky Union Building and the UW Libraries) requested a policy to address e-cigarettes on the UW campus. After receiving support from the Board of EH&S for the concept, EH&S initiated rule-making changes with the UW Rules Coordinator in the spring 2014 to address the use of e-cigarettes on the Seattle campus. In September 2014, the Washington Administration Code (WAC) 478-136-035 was revised to include e-cigarettes in the no-smoking rule at the UW. This includes WAC 478-136-035 that applies to all three campuses. (“Chapter 478–136, WAC 478–136–035: No Smoking Policy for University Facilities.” 2015). This change was also made to WAC 478-137-050, which applies specifically to the UW Bothell/Cascadia Community College jointly held facilities.

Background: Health Impacts of Smoking and Tobacco Use

The U.S. Public Health Service (2014) has recently released *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. This culminating report concludes that smoking has caused the death of over 20 million Americans and continues to

be the leading preventable cause of premature death in the U.S. While current smoking rates are less than half of what they were 50 years ago, 42 million American adults and about 3 million middle and high school students continue to smoke. Despite the declines in smoking prevalence, currently about 20.6% of all adults continue to smoke (Office of the Surgeon General 2014).

If the UW adult population smoking prevalence is similar to this national average, and is applied to the UW non-medical employee population of 38,876, then it can be surmised that there are about 8,000 UW employees who are smokers. Across the U.S., the annual smoking-attributable mortality in the U.S. has remained about 18%—almost one-fifth of all deaths are attributed to smoking-related disease (Office of the Surgeon General 2014). This is almost 500,000 deaths nationally. If smoking prevalence in Washington state is similar to the national average and if smoking-attributable mortality in this state is similar to the national figures, then, applying Washington state mortality data, there are 9,135 deaths annually in this state that can be attributed to smoking (“Death Tables by Topic: Washington State Dept. of Health” 2015).

Since the Surgeon General’s first tobacco report in 1964, scientific evidence links smoking to diseases of nearly all organs of the body. One out of three cancers is caused by smoking and the 2014 report of the Surgeon General has reached its conclusion that smoking causes diabetes mellitus, rheumatoid arthritis and immune system weakness, an increased risk for tuberculosis, and several abnormalities in pregnancy and the newborn, among other conditions. In total, more than 16 million Americans suffer from these diseases caused by smoking. Additionally, alterations in cigarette design appear to be related to smokers today having a higher risk of developing lung cancer than smokers 50 years ago; that risk has increased ten-fold for female smokers and doubled for male smokers (Office of the Surgeon General 2014).

Young Adult Health Impacts from Smoking

The adverse health impacts of smoking on youth and young adults are well documented (World Health Organization 2009; Centers for Disease Control and Prevention 2014; Office of the Surgeon General 2014). The Surgeon General’s report summarizes: early cardiovascular damage can be seen in most young smokers, and those who are most sensitive die very young. Adverse respiratory effects also occur, as smoking reduces lung function and retards lung growth. Teens who smoke today are noted to be short of breath; as they advance into adulthood they may become adults with lungs that never grow to capacity, which can result in an enhanced risk of chronic obstructive pulmonary disease. Youth are also sensitive to nicotine and may become nicotine-dependent more easily than adults, which may then lead to a lifetime of smoking, with adverse health effects from years of exposure to the carcinogens and other harmful products in tobacco smoke. Also noted, the younger the smoker is when they quit, the less impact on their health in general (Office of the Surgeon General 2014).

Smokeless Tobacco and Young Adults

The World Health Organization has concluded that the use of smokeless tobacco; a) can lead to nicotine addiction, b) is associated with diseases of the mouth and causes cancer of the mouth and esophagus and c) may increase the risk for death from heart disease and stroke (World Health Organization 2007) As stated previously in this report, the adverse health effects of electronic cigarettes are not fully understood at this time but as nicotine is delivered, addiction is a real possibility with the use of both e-cigarettes and smokeless forms of tobacco.

There is great concern that teenagers and young adults will move from smoking cigarettes to the use of smokeless tobacco. (Choi et al. 2012). While the use of smokeless tobacco among all U.S. males decreased from 1986–2000, it has been on the rise since then, with some of the highest rates (10%) seen in young adult males aged 18–25 years (Office of the Surgeon General 2014). The Center for Disease Control (CDC) has stated that “smokeless tobacco is not a safe alternative to smoking” (Szabo 2014), but there still exists a belief among teenagers and young adults that smoking tobacco is the only harmful form of tobacco (Choi et al. 2012).

As the tobacco industry has been prohibited from advertising to youth (those under the age of 18), the tobacco industry is engaging in intensive tobacco marketing strategies recruiting young adults (those over 18, the age that most students enter college) (Wechsler et al. 2001). The industry is developing tobacco products that appeal to young adults, such as cigarette-sized cigars and e-cigarettes with candy and fruit flavoring. The newest smokeless tobacco products do not require users to spit, and others, like “snus,” dissolve like mints and thus can be used without detection where smoking is banned. Recent studies demonstrate that such products are increasingly being used by college-age students (Choi et al. 2012); although smokeless, they still deliver nicotine and cause dependency, and most young adults who use them also smoke cigarettes (US Surgeon General. 2014). Choi and colleagues found that some young adults perceived these products as less harmful and it is believed that they could be “gateways” to cigarette smoking. Over half of the participants in these focus groups admitted they would try these products if offered by a friend (Choi et al. 2012).

Young Adult Attitudes about Smoking

College is a crucial stage for young adults aged 18–25 years who are experimenting with lifestyle choices and are influenced by various social trends. Their choice to smoke can develop into a long-term smoking habit. Young adults are more sensitive to the addictive effects of nicotine; about 3 out of 4 teen smokers smoke into adulthood, even if they intended to quit after a few years. Surveys have demonstrated that almost no one starts smoking after age 25 and that nearly 9 out of 10 smokers started smoking by age 18 and 99% started by age 26. Progression from occasional to daily smoking almost always occurs by age 26. It is clear that the college years are a critical time to educate young adults about the adverse effects of smoking and provide a supportive smoke-free environment with access to cessation assistance (Office of the Surgeon General 2014).

The prevalence of smoking among young adults who are in college has been noted with varying estimates. Recent large surveys of college students (aged 18-24) have indicated that this population is engaged in smoking at alarming rates. In a 1997 nation-wide survey of four-year college students, 22.3% reported smoking (Wechsler et al. 1998) while in a later study in 1999, 32.9% of students this age reported current smoking (Rigotti et al. 2003). A 2009 survey by CDC found that 22% of U.S. adults 18-24 years of age were current smokers (Centers for Disease Control and Prevention 2010b). The Surgeon General's report (2014) notes that 32% of young adults report to be smokers. A CDC surveillance activity in 2005 noted that 6.8 million smokers were in this age group (Centers for Disease Control and Prevention 2010b). A crude estimate using the 2009 prevalence rate applied to the total number of students at the UW (including undergraduate, graduate and professional students) of 54,670, indicates that an estimated 12,000 students could be considered to be smokers. This estimate must be used with caution as it includes older students who may have stopped smoking, and the 2009 national reference estimate does not include students who are using other forms of tobacco, nor does it include the higher prevalence of smokers among international students, who are enrolling at higher numbers at the UW.

Economic Costs of Smoking and Tobacco Use

The costs of smoking and tobacco use continue to have economic impacts in the U.S. Annual smoking-attributable economic costs in the U.S., estimated for the 2009–2012 period were between \$289 and \$332.5 billion. Direct medical costs amount to at least \$130 billion annually and productivity losses of more than \$150 billion a year. Tobacco cessation continues to be one of the most cost-effective measures to reduce healthcare costs and increase productivity in the workplace (American Cancer Society 2009; Office of the Surgeon General 2014). A study completed by Penn State University and the American Lung Association ("Smoking Cessation: The Economic Benefits - American Lung Association" 2010) found that for each dollar a state spends on smoking cessation, there is a \$1.26 savings in health care costs, time loss and productivity loss, providing a 26% return on investment.

College and University Smoking and Tobacco Bans: Policy Development to Implementation

Despite the overall increased awareness of the risk factors and adverse impacts of smoking and secondhand smoke, smoking remains a prevalent behavior among young adults (Rigotti et al. 2003). Smoking behavior on college and university campuses is puzzling, given the high levels of knowledge and access to campus health services. In 2008, one study noted that opposition to smoke-free policies on college campuses remains relatively high, even among non-smokers and others have thought this to be true partially because of concern of the opposition that students would have to a smoke-free or tobacco free college environment (Harbison and Whitman 2008; Berg et al. 2011).

Smoke-free and tobacco free policies are distinctly different; a smoke-free policy limits or bans tobacco products that produce smoke and primarily seeks to reduce secondhand smoke for non-smokers. This is the current policy at the UW and the intent of the 2007 state

law; to curb second hand smoke exposure. Tobacco free policies ban all uses of tobacco. With the advent of e-cigarettes, hookahs and other forms of smokeless tobacco (snus, spit tobacco), banning all of these products creates an even more comprehensive, effective policy (Office of the Surgeon General 2014). Policies that are not tobacco free may lead to unintended movements of tobacco use from smoking to non-smoking forms (Choi et al. 2012).

While there are many challenges to the implementation of smoke-free and tobacco free bans, colleges and universities have made significant advances in reducing smoking on their campuses. Various public and private organizations are monitoring the status of smoking and tobacco bans on campuses, including the Center for Disease Control and Prevention (CDC) and the American College Health Association (ACHA) (American College Health Association 2009). ACHA has recommended comprehensive tobacco free policies that include prohibition of cigarette/tobacco use, barring sales of tobacco, banning relationships with tobacco companies and promoting the campus' ban policy (ACHA, 2009). The American Non-smokers Rights Foundation reported that as of October 1, 2014, among the 7,000 college campuses acknowledged by the United States Department of Education, there are at least 1,514 smoke-free campuses (21.6%) and of these 1,014 (60%) are tobacco free (Americans for Nonsmokers' Rights 2015).

The major reasons for banning tobacco or tobacco smoking on university and college campuses have been concluded to be the following:

1. The overwhelming evidence that tobacco use leads to the risk of multiple adverse health effects and an enormous economic burden to society (Office of the Surgeon General 2014) including healthcare costs and time loss costs due to illness.
2. The U.S. is undergoing a cultural shift away from smoking tobacco and the majority of the U.S. population does not smoke.
3. Local or state regulations banning tobacco exist, which may or may not apply to colleges and universities. Therefore campus policies need to be developed to meet local community norms.
4. Young adults (ages 18–24) are considered to be one of the most susceptible groups to nicotine addiction, and activities that reduce or ban the exposure of youth to tobacco-use habits are believed to be one of the most effective mechanisms to slow and halt the long term adverse effects of tobacco use in this country (Office of the Surgeon General 2014).

Campus policies, such as those at the UW, that allow smoking in designated smoking areas may create confusion within the campus community as to whether smoking is allowed or whether individuals choose to ignore a no-smoking policy in banned areas. This makes the policies more difficult to implement and can potentially allow secondhand smoke exposure. A study in North Carolina (Lee, Ranney, and Goldstein 2013) evaluated the presence of cigarette butts on campuses with varying levels of bans and demonstrated that cigarette butts could be an indicator of compliance with a policy. This research group found that 0.6

cigarette butts per day were deposited outside each building entrance on campuses with 100% tobacco free policies, compared with 1.7 butts per day at entrances on campuses with partial tobacco free policies and 2.6 butts per day on campuses with no policy. Complete tobacco free policies resulted in greater awareness and more compliance as seen by fewer cigarette butts on a college campus (Lee, Ranney, and Goldstein 2013). As an important benefit to banning tobacco use, one university estimated that an annual savings of \$30,000 could be achieved, from no longer having cigarette litter, as cigarette butts are considered to be the most commonly littered item in the U.S. (Department of Natural Sciences 2009).

Implementation Approaches

A review of a wide array of approaches to university campuses' implementation of bans found that a series of steps are requisite to successful implementation of a campus smoke-free or tobacco free ban. Based on information from The City University of New York (CUNY 2011), the University of Michigan (Michigan) (University of Michigan 2011), the University of California, Los Angeles (UCLA) ("BreatheWell | UCLA Live Well" 2013) and the University of California, Berkeley (Berkeley) ("U.C. Berkeley Living Well - Making Wellness a Priority" 2015) a successful implementation involves the following factors:

1. Formulation of an implementation working group, led by a tobacco control or wellness unit that is comprised of representatives from faculty, graduate and undergraduate student bodies, professional staff, employee unions and senior executives, and individuals from the administrative units that would be needed to support implementation. These would include representatives from student life (e.g., dining, residential halls, and athletics), facilities services, human resources, environmental health, student health and occupational health clinics, public safety, libraries and other essential support areas. If there are multiple campuses, the CUNY plan advised that each campus create their own implementation committee.
2. Creation and execution of a campus-specific communication plan so that all sectors of a university are aware of the changes, including using large athletic event venues and public use areas for communications. Messaging should be consistent and disseminated broadly.
3. Removal of smoking-related cues (smoking urns, smoking lounges or huts).
4. Education and training to support key employee, faculty and student groups who would be involved in engaging their peers in policy compliance. The University of Michigan provided a great deal of training to ensure that faculty, staff and students would have the tools to support the critical conversations needed to create a tobacco free campus. Reminder cards were given to non-compliant individuals and positive reinforcement cards were provided when smokers were found to be complying with no smoking or seeking cessation support.
5. Availability of tobacco cessation services for the university community. Some of the prime deterrents to decreasing the prevalence of smoking were found to be the lack of access to cessation services and programs. While most employee insurance companies cover nicotine replacement therapies (NRT), many of the student coverage plans do not, or have a limited coverage for longer-term NRT needs.

Stakeholder Support Needed for Policy Implementation

It is essential to review and understand the steps, needs and possible barriers to developing a campus wide tobacco free ban at a university. Understanding the experiences from other universities and workplaces and reviewing and adapting the various references, guides and toolkits that are available from national agencies and advocacy organizations is requisite to developing and implementing a successful ban.

The components of a successful smoke or tobacco free initiative at the University are evaluated more closely below and address broad stakeholder support, including entities such as the faculty senate, undergraduate and graduate student bodies, executive leadership, and professional and union employees.

Executive Support

A study to further understand the attitudes and executive support of tobacco free policies on college campuses, evaluated data from a mailed questionnaire to 405 college and university presidents (Glassman, Reindl, and Whewell 2011). The questionnaire asked respondents to evaluate the moderate or major barriers to implementing campus wide tobacco free policies. Responses from these university executive leaders included:

- Lack of faculty support (25%)
- Lack of student body support (35%)
- Lack of a point person to champion the cause (37%)
- Lack of enforcement issues (65%)

The respondents were from schools with varying stages of tobacco free policies, from “maintenance” schools, (those with over one year of a tobacco free policy (48%)), to “contemplation” schools, (those with a smoke-free policy (24%) who were discussing tobacco free plans), to campuses with lesser stages of readiness and action for a tobacco free campus (27%). Of the 405 presidents who responded (51% response rate), 84% indicated that they believed that college campuses should have tobacco free policies and 80% indicated that support from the president was necessary to establish such a policy (Glassman, Reindl, and Whewell 2011).

When asked about the factors that are most likely to promote the adoption of a tobacco free policy on their campus, respondents reported: a) the development of policy draft for review (80%); b) the existence of a committee dedicated to the creation of a policy (79%) and c) an established enforcement plan (73%) (Glassman, Reindl, and Whewell 2011).

Union Support

Collaboration with unions is a key factor to obtaining cooperation and overall acceptance of these policies. This approach allows an opportunity to gain union support and avoid adverse contract and trust issues while developing and implementing smoke-free and tobacco free policies. Improving worker’s health is a joint concern and responsibility of unions and employers, yet the perception of unfair labor practices has been a barrier in some policy

discussions (Americans for Nonsmokers' Rights 2015). Universities in the UC system and Pac-12 surveyed in 2012 and 2014 by the UW EH&S Department noted discussions with union leaders were key. The inclusion of union representatives on committees allowed issues to be addressed in the policy formulation and usually resulted in positive acceptance by the unions and their membership, of the policies.

The American Nonsmokers' Rights Foundation has noted the dual responsibility of unions and public health advocates to protect worker health and has developed a document that seeks to address the misperceptions between public health professionals and unions. These guidelines have been found to be successful in workplace smoking and tobacco bans, including viable approaches and resources for working with union leaders and their members (Americans for Nonsmokers' Rights 2015).

Faculty Support

The literature is notably silent regarding faculty support for smoke-free and tobacco free bans. From the experience witnessed by the EH&S staff at the UW, faculty are smokers as well as non-smokers and a similar number of complaints have originated from faculty who do not approve of DSAs and are concerned about secondhand smoke, as there are complaints about the lack of areas where smoking can occur on the Seattle campus.

Student Leadership and Student Body Support

Student leadership and support for implementing a 100% smoke- and tobacco free policy spans the student community. The Tobacco Action Group (TAG), a registered student organization on the UW Seattle campus, with participating members from UW Tacoma, and comprised of undergraduate and graduate students, faculty and staff, continues to amass evidence in support of a truly smoke-free campus. The Student Health Consortium (SHC), part of ASUW, is collaborating on efforts with other student entities to pass Student Senate resolutions echoing support. The ASUW Asian Student Commission is partnering with SHC to put together an educational event around tobacco harms during winter quarter 2015. Additionally, the Foundation for International Understanding through Students (FIUTS), the campus organization that serves the university's global community, actively promotes and provides outreach platforms for the current campus cessation program, Tobacco Talk.

A statement from a UW graduate student leader explains the concern that many students have about continuing the current policy: "A large majority of U.S. colleges and universities have become 100% smoke or tobacco free and UW is lagging behind. This should be THE top priority for the health of our students. Reducing both secondhand smoke exposure and tobacco use/smoking should be considered equally important. Only a 100% smoke-free campus will protect vulnerable young people from becoming addicted, getting sick and dying prematurely from tobacco. A truly smoke-free campus will save many more lives than continuing to maintain designated smoking areas. The evidence for this is very clear from the 2012 and 2014 Surgeon General's reports."

While a more comprehensive review of the various attitudes of UW students regarding the adoption of a tobacco free campus policy has not yet been conducted, it is clear that active student groups at the University are substantially concerned about the adverse impacts of tobacco use on student health.

A broad spectrum of methods are available to measure students' perceptions about campus smoke-free and tobacco free policies, including focus groups, field observations, one-one one interviews and other surveys. Studies have focused on the behavioral and demographic correlates of smoke-free policy opposition. For example, Caucasian students have been seen to have the greatest opposition to smoke and tobacco free policies, but African American and Hispanic Students demonstrate support for such policies (Loukas, Garcia, and Gottlieb 2006; Thompson, Oomen-Early, and Lalwani 2012).

Student opinions about smoke-free policies were sought in one study of over 10,000 students at 119 representative schools in the U.S. Over 75% of students favored smoke-free policies for all college buildings, residences and dining areas, while 71% supported prohibiting tobacco advertising and sponsorship of campus social events. All of these policies were supported more by non-smokers than smokers, yet a majority of smokers favored banning smoking in college buildings and dorms (Rigotti et al. 2003). It is unclear if a complete tobacco ban would be perceived in this same favorable manner.

A recent analysis by Niemeier and colleagues (Niemeier, Chapp, and Henley 2014) concluded that students are divided on the issue of smoking policies. Some students question the fairness of banning tobacco use and question the ethics of such policies (Loukas, Garcia, and Gottlieb 2006) while others believe that smoke-free policies will deny smokers their rights and limit their personal freedom of choice (Cho and DeVaney 2010). Still others question whether or not enforcement can actually be achieved and whether or not student enrollment will be impacted (Berg et al. 2011). Niemeier and his colleagues (Niemeier, Chapp, and Henley 2014) were surprised to find that health considerations were largely absent from the policy rationales among student smokers and non-smokers and that a recognition of the health benefits from tobacco bans would be essential to acceptance.

Effectiveness of Tobacco Bans

Workplace Smoking and Tobacco Bans Effectiveness

The literature has abundant scientific evidence that policy interventions are effective in promoting health outcomes. Research has shown that smokers are more likely to quit when their employers have at least a smoke-free policy in the workplace (American Cancer Society 2009). Using data from two national surveys of the early 1990s, the National Bureau of Economic Research evaluated whether policies banning smoking in the workplace reduced smoking prevalence and smoking intensity among workers (Farrelly, Evans, and Sfekas 1999). Their estimates from these surveys of about 18,000 individuals found that these bans reduced the smoking prevalence by 5 percentage points and average daily cigarette consumption by workers by 10% (on average about 2.3 cigarettes per day for a smoker). A

similar international review conducted a meta-analysis of 26 studies that had evaluated the impact of smoke-free policies on smoking and found similar results: totally smoke-free workplaces are associated with reductions in smoking of 3.8% (95% Confidence Interval (CI) 2.8%-4.7%) with a reduction in average daily cigarette consumption by workers of 3.1 cigarettes (CI 2.4-3.8) (Fichtenberg and Glantz 2002).

The International Agency for Research on Cancer (IARC) of the World Health Organization (WHO,2009) published a compendium evaluating smoke-free policies on smoking prevalence and they concluded: a) workplace smoking restrictions reduce cigarette consumption among continuing smokers; b) recent evidence suggests that smoke-free workplaces reduce prevalence and increase quitting; c) there is an association between the strength and scope of laws restricting smoking in public and workplaces and reduced youth tobacco use; d) when smoking restrictions are part of a comprehensive tobacco control program, significant declines in smoking behavior are observed.

Multiple private and public sources of information are available for use in policy development and implementation of a tobacco free workplace. The American Cancer Society (American Cancer Society 2009), has a model policy for the workplace, a toolkit and guidelines. The CDC has developed the “Healthier Worksite Initiative” that has toolkits and guidance for union and management discussions (Centers for Disease Control and Prevention 2010a) and the CDC’s National Institute for Occupational Safety and Health has recently provided a guidance document “*Promoting Health and Preventing Disease and Injury through Workplace Tobacco Policies*” available at <http://www.cdc.gov/niosh/docket/review/docket274/pdfs/0274-DRAFTTobaccoCIB-8-6-14.pdf>. Similarly, advocacy organizations such as the American Nonsmokers Rights Foundation, the Global Smoke-free Partnership and the Partnership for Prevention have materials available for adoption for workplace settings (“No-Smoke.org” 2015; “Global Smokefree Partnership | World Heart Federation” 2015).

University and College Campuses’ Smoking and Tobacco Bans Effectiveness

Before 2001, a national survey reported that only 27% of U.S. college campuses had a limited smoke-free policy in place that prohibited tobacco use in all campus buildings, including residence halls and dormitories (Wechsler, Lee, and Rigotti 2001). In 2009, national organizations, including the American Lung Association and the American College Health Association (ACHA 2009) developed policies and advocacy statements supporting tobacco free environments for college campuses. Initially, the impact of these tobacco control policies was unclear and there was no evidence that the use of tobacco products on these campuses was being curtailed. Some literature suggested that college administrators did not perceive tobacco use to be a significant health issue on campus when compared to other behavioral issues like drug and alcohol use (Wechsler, Lee, and Rigotti 2001).

The literature regarding the positive health outcomes of smoke-free college and university campus smoking and tobacco bans is accumulating and the overall impact of campus

smoking or tobacco bans on long-term smoking habits of young adults continues to be evaluated. A study on an Oklahoma campus examined the effectiveness of an institutional tobacco ban on a campus over a four-year period, between 2007 and 2010, among 4,947 undergraduate students. The findings were that the percentage of more frequent smokers and less frequent smokers decreased across assessment points. A significant change in attitudes and secondhand smoke exposure was also observed (Lechner et al. 2012).

The IARC report noted that few studies have been done to evaluate the impact of smoke-free school campuses: “few appropriate studies have assessed whether a smoke-free school campus for everyone, including adults and visitors, reduces smoking among students (World Health Organization 2009). The National Institute of Occupational Health and Safety has just concluded in its’ sentinel 2015 report, *Promoting Health and Preventing Disease and Injury through Workplace Tobacco Policies* (National Institute for Occupational Safety and Health 2015) that employers should take the following actions related to employee tobacco use: 1) establish and maintain entirely tobacco free workplaces, allowing no use of any tobacco product across the entire workplace campus; b) provide information to all employees about tobacco-related health risks and benefits of quitting; c) provide information about employer provided and public programs for tobacco cessation; d) offer and promote comprehensive tobacco cessation support, including dependents where feasible (National Institute for Occupational Safety and Health 2015)

A review of 14 published studies that evaluated the successes of interventions to reduce tobacco use on college and university campuses found that a campus-wide ban of tobacco can affect young adult smoking behavior in a positive way. Results indicated that institutional interventions via campus tobacco bans positively influence student behavior, specifically by reducing tobacco use, as seen by a decreased prevalence of cigarette smoking and use of smokeless and other tobacco products. A noted reduction of tobacco use among college students was seen and there was a noted increasing acceptance of smoking policies. One of the challenges that was seen by implementing these policies were from the lack of cessation programs to support students. Additionally, the review found that there was a lack of attention to cultural differences and approaches to address ethnic diversity (Murphy-Hoefer et al. 2005).

Another evaluation of student smoking behaviors, compared two campuses and the smoking behaviors found before and after implementation of a smoke-free policy on one of the campuses. The study found that students who were exposed to the smoke-free campus policy demonstrated significant favorable changes in smoking behavior, perceptions of peer tobacco use and smoking norms, as compared to students on the campus where smoking was allowed and no policy was implemented (Seo et al. 2011). Whether these positive outcomes could be seen when a campus is adopting a completely tobacco free campus policy vs. a smoke-free policy adoption must be considered.

While there is little data on long term cessation effects from bans on college campuses, some researchers have found that teenagers respond to smoke-free environments by

decreasing their smoking habits (Farkas et al. 2000). In this study, teenagers who worked in completely smoke-free work sites were 68% (95% confidence interval 51% to 90%) less likely to ever smoke than those who were working in workplaces where smoking was less restricted. Additionally Farkas and colleagues found that teenagers who were living in smoke-free homes were 74% (CI: 62% to 88%) as likely to ever smoke as compared to those who lived in homes with no smoking restrictions.

A study conducted at Purdue University found that a smoke-free campus policy was credited with a significant decrease in overall smoking prevalence among students and staff (Cho and DeVaney 2010). At Indiana University, the outcomes of a smoke-free policy demonstrated favorable changes in smoking behaviors, perceptions of tobacco use, smoking norms, and attitudes toward tobacco regulations (Berg et al. 2011). Furthermore smoke-free policy implementation led to increased qualities of life, cleaner campus environments, increased student learning and educational attainment and safe campus environments, all of which were related to higher student enrollment.

A recently released survey of 1,309 college students at eight non-randomly selected public four-year institutions across California (Fallin, Roditis, and Glantz 2014) concluded that campus tobacco policies are working in California with less secondhand smoke exposure reports from students and students reporting that they were less likely to smoke on campus when smoking and tobacco restrictions were in place.

Halperin and Rigotti (Halperin and Rigotti 2003) evaluated U.S. public universities compliance with the ACHA recommended tobacco-control policies and concluded that adhering to these policies is likely to be an effective deterrent to tobacco use among college and university students. Plaspohl and colleagues (2012) later studied the extent to which U.S. university campuses that were identified by the ALA-O and the ACHA, adhered to these guidelines and recommendations. It was found that while all of the schools had written policies in place, those with the most current policies were the most compliant. Some of the areas where schools had lesser compliance with these policies were in providing tobacco-cessation services and resources to all parties on campus, and in their practices for outdoor venues, particularly parking lots/garages, public sidewalks and sporting events. A third weakness was the lack of tobacco cessation support services included student health plans.

A National Institutes of Health (NIH) review of young adult cessation programs concludes that multiple factors affect the success of young adults in quitting smoking, including too few young adults try to quit, too few get assistance in quitting and too many relapse. Providing an environment where smoking abstinence is key, but the more educational outreach and social support provided, the more effective the outcome (Husten 2007)

EH&S Survey of UC System, Pac-12, and Other Universities

UW EH&S staff were directed to monitor the status, policies and experiences of campuses of the University of California (UC) system and the Pac-12 Conference from 2012–2014 that

were instituting partial of full tobacco bans. Questions were emailed to the designated units or individuals responsible for implementing smoke-free policies at these universities. Follow-up phone calls were made at varying points in time to complete the surveys and solicit more information. The following is a summary of what was learned from this survey.

University of California (UC) System Schools

In 2012 the UC system announced their intention to move to smoke-free campuses on a system-wide basis by 2014. Schools were allowed to develop their own policies to address this requirement. All of the schools technically met the deadline, with a few meeting the deadline several months early. The survey questions were emailed to all schools in the UC system and the survey questions can be found in Appendix B.

Most schools reported an increase in sidewalk litter and smoking in public places on and off campus. These include wooded areas, parking lots, garages and vehicles. Smoking in landscaped or wooded areas is a fire hazard concern for some campuses during dry weather. Reaching out to the local communities was necessary for public relations and to help reduce smoking and litter in “hot spots” off campus. Vandalism, particularly of no-smoking signs, was reported by some universities.

The UC system two-year implementation was planned with an intentional emphasis on educational efforts rather than fines or other consequential forms of enforcement. After the initial period, each campus took a different path of enforcement, varying from verbal reminders to fines to academic probation. Security and police officers varied in their ability and inclination to confront, control and fine smokers.

The UC system universities reported (qualitatively) reductions in overall smoking on campuses. The responses for the survey were limited as the experiences were so mixed and experienced variation as the implementations continued over time. Utilization of smoking cessation services increased in some cases, remained the same, or decreased in another. UCLA reported no change, but said they had overall historically low utilization. UC Riverside and UC Berkeley both reported an increase in utilization after the ban. USC stated they had a decrease in utilization of cessation services with the ban. Union members were generally offered or already had smoking cessation benefits available. Most were supportive of the tobacco ban, and some assisted in drafting contract language. Most universities surveyed reported little or no effect on break periods provided for classified staff. A summary of the findings is in Appendix B.

Pac-12 Schools with Tobacco free Policies

The University of Oregon was the first of the Pac-12 to move to a completely tobacco- and smoke-free campus as part of its Healthy Campus Initiative. For enforcement, the university relied on issuing warnings from Department of Public Safety officers to those found violating the new school policy. Beginning in 2013, however, an issued fine of \$30 became the new enforcement policy. They are now removing all of the previously used designated smoking sites.

Beginning August 1, 2013, Arizona State University (ASU) became a tobacco free university. ASU has also eliminated all designated smoking areas because they believe that smoking areas are inconsistent with promoting a smoke-free environment. However, because enforcement is voluntary and there are no fines, students continue to smoke openly. ASU spent about \$40,000 on signage in its efforts to educate students about the new policy.

The Vancouver and Spokane campuses of Washington State University (WSU) are currently tobacco free; however, the WSU Pullman campus continues to allow smoking in some areas. WSU Pullman held a referendum in September 2014, and students voted overwhelmingly to go tobacco free. The campus formed a task force to develop implementation policies and procedures to present to the Board of Regents ("Tobacco Free Advisory Group to Hold Public Forum Jan. 22 - WSU News Washington State University" 2015), and it is anticipated that a tobacco free policy will be implemented in the near future.

University of Arizona indicated that it hopes to maintain a healthy environment by prohibiting the use of products that contain tobacco or nicotine, including cigarettes, cigars, pipes, hookahs, water pipes and all forms of smokeless tobacco. Their system relies on peer pressure and the campus community cooperatively holding members accountable.

Other Schools with Full or Partial Smoke-Free Policies

At the University of Utah, smoking has been banned in all indoor buildings and all outdoor areas that constitute property of the university. There is no form of enforcement and the policy relies on the cooperation of all students, staff and visitors.

Like the UW, University of Colorado Boulder became smoke-free, by using DSAs to cut down on widespread secondhand smoke and litter. Student violators are subject to referral to the Student Conduct Office, employees are reported to their supervisors and visitors can be required to leave the campus if they violate the policy.

Stanford University does not allow the smoking of tobacco products in enclosed buildings and facilities or during indoor or outdoor events on the campus. Unless it is a "smoking prohibited area," smoking is generally permitted in outdoor areas but it must be at least 30 feet away from buildings.

Challenges to Implementation: Policy Compliance and Costs

Policy Compliance

The survey of the UC system and Pac-12 universities conducted by the UW EH&S Department asked questions about implementation barriers. One question asked about compliance with the no-smoking and no-tobacco bans and enforcement methods. While some campuses reported that, overall, a cultural shift was being seen and peer pressure from students and staff seemed to be working to curb tobacco use (Oregon State, Berkeley) other college representatives stated that smoking on nearby streets was increasing (University of Arizona). The UC System President limited the use of fines within the context of a primarily educational enforcement program. Fines were being developed to ensure

compliance at University of Oregon. UCLA reported an educational approach, with a focus on signage and handing out specialized business cards in “hot spots.” ASU Human Resources has instituted compliance with the tobacco policy as a performance measure for employees, whereas the Dean may act in the case of student misbehavior. WSU Spokane issues “notices of infraction” similar to traffic tickets, while WSU Vancouver may issue a Trespass Admonition for repeated non-compliance.

At other universities, one strategy found to be effective at gaining compliance with bans was the distribution of positive reinforcement cards to compliant smokers who smoked beyond the smoking zones and reminder cards to noncompliant smokers (Harris et al. 2009). CUNY, Berkeley and UCLA also used this approach. At CUNY, the vision of enforcement of their revised tobacco policy was to utilize highly visible signage across campus and temporary signage at events. More active enforcement methods included the distribution of reminder cards to violators, positive intervention and peer enforcement and providing protocols and training for campus community members to respectfully ask others to comply or report noncompliance (CUNY, 2010).

The scientific literature is limited and ambiguous in research findings regarding the effectiveness of compliance strategies for smoking and tobacco bans on university and college campuses. A recent article in the Journal of American College Health (Fennell 2012) questioned whether college and universities should become tobacco free if enforcement is not implemented. The author of this article appealed to college administrators to hold violators of tobacco free campus policies to the same standard as those who violate other campus policies.

A recent review of campus smoking and tobacco bans on 16 California campuses concluded that policies should include explicitly enforceable rules statements so that individuals would be fully aware of the policies (Fallin, Roditis, and Glantz 2014). One study (Russette et al. 2014) found that 70% of all non-compliant smokers on a U.S. state-supported campus with a tobacco free policy did not know that they were not in compliance with the campus policy.

Costs of Implementation

Detailed information about the costs of implementing a smoke-free or tobacco free campus is sparse in the literature. A survey of the Pac-12 conference universities provided some idea of costs (Appendix B). Total overall costs varied from \$10,000 at Oregon State University (OSU) for signage alone, to \$162,000 for one year at UC Davis to \$210,000 at Berkeley with in-kind FTE providing redirected time (A Google Poll of Smoking Implementation at UC and Pac-12 Schools 2014).

Of the schools that have published information about their tobacco free programs, the University of Michigan implemented the most costly program with a reported three year budget of \$240,805 for their effort which began in 2009 (University of Michigan 2011).

Some of the major costs of implementation that were noted by the University of California at Davis (UC Davis) and Michigan include: a) facility services costs; b) project management

costs; c) communication and outreach materials cost, and d) fiscal support of nicotine replacement therapies. Below is an itemized review of the types of activities that need to be considered and budgeted for an implementation plan.

Facilities services tasks include removal of existing smoking urns, continual butt and litter removal, and continuous graffiti removal on signage. The UC Davis budget request assumed that some facility staff costs would be shouldered by “in-kind” contributions from various administrative units, but that an additional \$38,400 would be needed during a one-year period for clean up after ash urns were removed. The Michigan budget for their three-year plan included \$167,500 to support the costs of facilities’ efforts. As stated previously, some schools believed that there would be a decrease in litter clean-up costs after the bans due to the lack of presence of cigarette butts (Department of Natural Sciences 2009).

Project management costs include the provision of an individual to support a campus-wide committee and subcommittees to: a) write a draft policy; b) ensure that a timeline for committee work is kept; c) hold administrative meetings with campus partners to evaluate barriers and progress; d) work with communications expertise to develop and disseminate outreach materials and signage and e) evaluate implementation at various stages and write reports for leadership. Within the Pac-12 schools and the UC System, most universities reassigned an individual in EH&S and/or Occupational Health to work at a 0.5 FTE or more level. Michigan hired a 0.5 FTE program coordinator to work for one year for a cost of \$51,925 (including materials costs). Only UC Davis hired a full-time coordinator for a two-year roll-out. Some clearly stated that they believed that the lack of a dedicated individual to keep the activity going was a barrier to full implementation (A Google Poll of Smoking Implementation at UC and Pac-12 Schools 2014). Budget requests for UC Davis and University of Michigan are in Appendix D.

Communication and outreach materials were included in almost all implementation budgets, with costs ranging from \$10,000 in one-time monies at OSU, to \$21,700 at Michigan to \$100,000 per year at Berkeley, and \$92,000 for one year at UC Davis. Typical expenditures, where they were documented, were approximately \$50,000 per year for communications and outreach efforts to inform the campus communities of these changes (A Google Poll of Smoking Implementation at UC and Pac-12 Schools 2014).

Nicotine replacement therapies (NRTs) were supported at most of the institutions surveyed, and some had grants to support this activity in the student health centers. Most health insurance covers the cost of NRTs to a certain point in the therapy. One-time supplemental funds for NRTs and peer counseling ranged from \$32,000 at UC Davis to \$51,925 at Michigan to over \$90,000 at Berkeley. Some universities hired a smoking cessation specialist on a part-time basis, with some having overarching duties for implementation. Additional dollars (\$35,000) for peer counseling training were provided by College Youth Advocacy Network at UCLA.

Current Evaluation and UW Support of Tobacco free Policy

The Tobacco Action Group (TAG) is a registered student organization on the UW campus. The TAG initiated and conducted a survey in 2014 assessing experiences of secondhand smoke exposure and attitudes toward campus designated smoking areas (DSAs) among UW students, faculty and staff (Atwater and Hussain 2014). The survey asked participants (482) to identify any designated smoking areas (DSAs) they encountered that were problematic for them. These DSAs were described as unavoidable—on people's daily routes to and from school, work, and home. In addition, comments received included reports of exacerbation of preexisting allergies or illness, such as asthma, due to passive exposure to smoke at DSAs. In that same year, leaders from the TAG worked with EH&S to evaluate and either close or move several DSAs that were found to be causing second hand smoke exposure.

The UW Seattle Tobacco Studies Program and UW Tacoma collaborated on a video project to support the U.S. Department of Health and Human Services Region X Fresh Air Campaign for colleges and universities in the Northwest, featuring UW students, staff, and faculty from both campuses (UW Tobacco Studies Program and UW Tacoma 2014).

Currently, free resources are available to UW students and employees who want to stop or make changes in their tobacco use. Tobacco Talk, a program based at the Hall Health Center, offers coaching support and quit plan development, as well as access to free Nicotine Replacement Therapy (NRT) and other approved cessation medications. Initially created in 2012 through a gift from the Snoqualmie Indian Tribe, the program recently expanded its operating hours by increasing staffing from .5 FTE to .75 FTE using additional funds approved by the ASUW Services and Activities Fee (SAF) Committee. This increase was based on an evaluation of the program's first two years of operation that has shown that the program is effective and has been well-received by participants.

National Support for Colleges and Universities to Go Tobacco free

The American College Health Association (ACHA)'s November 2009 Position Statement on Tobacco based on available science, stated that "ACHA has adopted a NO TOBACCO USE policy and encourages colleges and universities to be diligent in their efforts to achieve a 100% indoor and outdoor campus-wide tobacco free environment." Under the American Recovery and Reinvestment Act (ARRA), the CDC created an initiative called Communities Putting Prevention to Work (CPPW), designed to decrease the leading causes of preventable disease in America: tobacco use and obesity. A portion of the grant can be used to establish smoke-free hospitals and universities. Region X Public Health Service's Tobacco Free College Campus Initiative assists and collaborates with other state, local and non-governmental agencies. They report at least 66 colleges and universities are 100% smoke or tobacco free throughout the region (<http://tobaccofreecampus.org/RegionX>).

The Fresh Air Campus Challenge is a region-wide effort to bring together college campuses and local, state and federal tobacco control programs to begin the process of going smoke- or tobacco free by the end of 2014. UW EH&S has met with the regional coordinator, who provided some information for this report. California has produced a toolkit for tobacco product waste reduction to help businesses and communities address the problem of controlling tobacco waste, even in no-smoking areas (<http://tobaccofreecampus.org/Fresh-Air-Campus>).

Estimated Cost of the Implementation of a Tobacco free Ban Policy at the UW

Based on the experiences of the UC System, Pac-12 schools and other peer institutions, below is an example of a draft budget recommendation (Table 1). This budget is based on a 2+ year activity that would include policy development from September 2016 through September 2017 with initiation of the policy by the fall quarter of 2017. The policy implementation would require at least a full calendar year, with an evaluation of the implementation success by the fall of 2018. It must be noted that these are unsolicited estimates only and do not include any compliance costs nor “in-kind” contributions.

Table 1. (Draft costs estimated without agreement or verification of campus units)

Resource need	Estimated time	Annual cost	Total cost
Project Manager (.5 FTE) – Human Resources or Whole U Wellness	Sept 2016 – Dec 2018 28 months	\$40,000	\$ 80,000 – 94,000
Facilities Services – Initiation of removal of DSA smoking stations	March – Sept 2017 6 months	\$20,000 (one time)	\$20,000
Facilities Services (.5FTE) – Litter removal/additional signage	June 2017 – Dec 2018 18 – 20 months	\$35,000	\$52,500 – 60,000
Communications/media	June 2017 – Dec 2018	\$25,000 – 40,000 (first year \$40,000)	\$50,000 –70,000
Cessation supplies	Sept 2017 – Sept 2019	\$30,000	\$30,000 – 50,000
Total Sept 2017 Dec 2018 28 months		First year \$165,000 Other years \$129,000 – \$147,000	\$232,000 – \$294,000

Conclusion and Recommendations

The reasons to avoid tobacco use and tobacco exposure are well documented and well known across institutions of higher education as well as among the public. In 2014, The U.S. Surgeon General concluded that there is sufficient evidence that mass media campaigns and comprehensive community programs prevent initiation of tobacco use and reduce the

prevalence of tobacco use among youth and adults. In terms of timing and reaching a “critical mass” to eliminate smoking and tobacco use on campus, most of the schools in the Pac-12 and the UC system have recently moved to smoke or tobacco free campus policies or are considering doing so. Their programs are in the early stages, and continued learning about their successes and challenges will be beneficial.

Summarily, the literature demonstrates that any policy change at college and university settings require the campus community’s engagement and input of all perspectives, broad dissemination of the final change in the policy and executive support for the policy change. The success of the initiation of the no-smoking rule at the UW in 2007 was the result of an engaged and supportive leadership, an involved and vocal faculty and student body, and participation by all administration units who were requisite to the successful implementation of that policy. The implementation of a tobacco free policy will be similarly dependent upon an engaged and supportive community that is fully aware of the intention of senior leadership to meet the policy requirements. Whether enforcement occurs only via education and social pressures, or whether citations or academic fines are instituted, holding non-complaint individuals accountable for the violation of the policy will be key to this initiative’s success. Without this leadership support and the provision of sufficient resources for a successful communications plan, removal of smoking litter and funds for administrative units who will be responsible for maintaining these policies, these efforts could fail.

Based on the findings of the surveys of the UC system and the Pac 12 Conference as well as a brief review of the relevant literature on smoke-free and tobacco free campus policies, and the recent Surgeon General’s report on smoking, the Board of EH&S makes the following recommendations to the Provost and President:

1. Within the next calendar year and via an engaged committee of university stakeholders, direct the formulation of a tobacco free policy to become effective in the fall quarter of 2017.
2. Assign the committee, led by a tobacco control or wellness unit, to develop a well thought out two-year implementation plan and budget that will coordinate with all represented parties to provide the communications, tobacco cessation therapies, resources to administrative units and compliance strategies to ensure the plan is successful.
3. Fund the implementation plan with university resources.
4. Evaluate the implementation of the plan during 2018, after one full year of implementation, to determine if the policy is successful and what further efforts are needed.

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Appendix A

WAC Smoking Rules at Four-Year Washington State Higher Education Institutions

Comprised by Rebecca Deardorff, Rule Coordinator – University of Washington

Institution/Date of Last Revision	Text of Rule(s)
University of Washington (all campuses) 7/18/10	<p>WAC 478-136-035</p> <p>No smoking policy for university facilities.</p> <p>(1) The University of Washington is committed to maintaining a safe and healthful work and educational environment for all faculty, staff, students, and visitors. Accordingly, the University of Washington establishes the following no smoking policy, consistent with chapter 70.160 RCW (I-901), to protect individuals from exposure to second-hand smoke in their university-associated environments and to protect life and property against fire hazards.</p> <p>(a) Except as provided in subsection (1) (b) and (c) of this section, smoking of all kinds is prohibited in all university facilities, including, but not limited to, vehicles, inside all buildings owned, occupied, or managed by the university and/or used by the university's faculty, staff, students, or visitors, and at any outside areas or locations, including, but not limited to, bus shelters, benches, and walkways.</p> <p>(b) Smoking, while not permitted in on-campus residence halls, may be permitted in a limited portion of designated university student housing in accordance with smoking regulations established for those facilities by the vice-president and vice-provost for student life, the appropriate chancellor, or their designees.</p> <p>(c) Smoking may be permitted in specific designated outdoor locations approved by the director of environmental health and safety as smoking areas in accordance with chapter 70.160 RCW and published on the environmental health and safety web site. Signage also identifies the designated locations.</p> <p>(2) Violations of the university no smoking policy are subject to enforcement by the University of Washington police department or other jurisdictional law enforcement agencies with regulatory responsibility. In addition, any student, staff, or faculty member who violates the university no smoking policy may be subject to disciplinary action.</p> <p>[Statutory Authority: RCW 28B.20.130. WSR 10-13-098, § 478-136-035, filed 6/17/10, effective 7/18/10. Statutory Authority: RCW 28B.20.130 and chapter 70.160 RCW. WSR 07-03-136, § 478-136-035, filed 1/23/07, effective 2/23/07.]</p>
University of Washington, Bothell (regarding use of facilities held jointly by UWB/CCC) 8/1/06	<p>WAC 478-137-050</p> <p>Limitations on use.</p> <p>(1) ...</p> <p>(9) The institutions are committed to maintaining a safe and healthful work and educational environment for all faculty, staff, students, and visitors. In accordance with the Washington Clean Indoor Air Act (chapter 70.160 RCW), the Use of University of Washington facilities (chapter 478-136 WAC) and Cascadia Community College facility use (chapter 132Z-140</p>

	<p>WAC), the following smoking policy is intended to protect nonsmokers from exposure to smoke in their campus-associated environments and to protect life and property against fire hazards:</p> <p>(a) Smoking is prohibited inside all university or college vehicles, inside buildings and parking structures owned or occupied by the university or college and/or used by university or college faculty, staff or students and at any outside areas or locations that may directly or indirectly affect the air supply of buildings or carry smoke into buildings.</p> <p>(b) The institutions may designate specific outdoor locations as smoking areas. Signage will be placed to indicate the designated locations.</p> <p>(c) Any student, staff, or faculty member who violates the smoking policy may be subject to disciplinary action. In addition, violations of the smoking policy may be subject to appropriate enforcement.</p> <p>....</p> <p>[Statutory Authority: RCW 28B.20.130. WSR 06-13-022, § 478-137-050, filed 6/13/06, effective 8/1/06.]</p>
<p>Central Washington University 11/3/94</p>	<p>WAC 106-140-130 Prohibition of smoking. Smoking is prohibited in university buildings except campus living facilities and designated areas. [Statutory Authority: RCW 28B.10.528 and 28B.35.120 (12). WSR 94-20-075 (Order CWU AO 76), § 106-140-130, filed 10/3/94, effective 11/3/94; Order 4, § 106-140-130, filed 6/16/72, effective 7/20/72.]</p>
<p>Eastern Washington University 4/26/12</p>	<p>WAC 172-122-310 Use of tobacco, electronic cigarettes, and related products. Eastern Washington University is committed to providing a safe and healthy environment for its employees, students and visitors. In light of the associated health risks, the use of tobacco, electronic cigarettes, and related products in or on university owned or leased property is restricted as described herein.</p> <p>(1) The use of tobacco, electronic cigarettes, and related products is prohibited:</p> <p>(a) Within any building or vehicle owned or leased by EWU, to include residence halls and university apartments; and</p> <p>(b) Within twenty-five feet of entrances, exits, windows that open, and ventilation intakes of any building owned, leased, or operated by EWU.</p> <p>(2) For the purposes of this section, "tobacco, electronic cigarettes, and related products" includes any cigarette, cigar, pipe, bidi, clove cigarette, e-cigarette/cigar/pipe, waterpipe (hookah) and smokeless or spit tobacco, dissolvable tobacco, snuff or snus.</p> <p>(3) Distribution or sale of tobacco, electronic cigarettes, or related products in or on EWU owned or leased property is prohibited. Advertising or sponsorship of tobacco, electronic cigarettes or related products is prohibited on EWU property or at University-affiliated events, including the use of brand or corporate names, trademarks, logos, symbols or mottos. EWU will neither solicit nor accept any grant or gift from a manufacturer, distributor or retailer whose principal business is tobacco, electronic cigarettes, or related products.</p> <p>(4) Any person intentionally violating this section may be subject to a civil fine of up to one hundred dollars. Local law enforcement agencies may enforce this section by issuing a notice of infraction, assessed in the same manner as traffic infractions, as described under chapter 70.160 RCW.</p>

	<p>Any student, staff or faculty member who violates this section may also be subject to disciplinary action by the university. [Statutory Authority: RCW 28B.35.120 (12). WSR 12-08-019, § 172-122-310, filed 3/26/12, effective 4/26/12.]</p>
<p>Evergreen State College 6/14/11</p>	<p>No WAC rule in place; the following policy does apply: Smoking Introduction The purpose of this policy is to provide a safe, healthy and productive environment for the campus community. It has been medically documented that tobacco smoke can affect the health of smokers and non-smokers, interferes with productivity and results in long term maintenance costs of facilities, including equipment. Policy Smoking is prohibited on campus and in vehicles owned by the college. The only exceptions are areas with signage set aside for smoking, designated smoking rooms in housing, areas outside of the central core and outside of housing. For areas outside of the central core and housing, smoking is not permitted within 25 feet of a building opening, windows that open or ventilation intakes. Procedure Designated smoking areas will be established and maintained in exterior covered areas of the college. These areas will be equipped with benches, wastebaskets and smoking receptacles. These areas will be located away from the traffic patterns and away from building entrances so that they do not create congestion or allow smoke to enter the buildings. Signs will be posted to clearly identify designated smoking areas. Buildings and vehicles will be clearly marked to indicate that smoking is not permitted. The college will provide appropriate assistance to employees who request help to stop smoking. This shall include making them aware of smoking cessation programs and where necessary providing funding to assist in the financing of smoking cessation classes. The college President may temporarily prohibit smoking on campus in periods of extreme fire hazard and drought. Every member of the Evergreen community is expected to be sensitive to this policy and abide by it. It is expected that this policy will be peer enforced and that the campus community will tactfully and gracefully remind people to smoke in designated areas only. Definitions "Smoking" as used in this policy, refers to the inhaling, exhaling, burning or carrying of any lighted smoking equipment including cigarettes, electronic cigarettes, cigars or pipes. "Central core" is the area encompassing Lab I, Lab Annex, Lab II, Longhouse, Seminar I, Library, CAB, CRC, CUP, Child Care Center, Communication, Seminar II, Bus Loop, Red Square and sidewalks/walkways between these buildings, inclusive.</p>
<p>Washington State University 12/25/08</p>	<p>WAC 504-35-030 Limitations on use. The following limitations apply to all uses of any university facilities: (1) ... (15) Smoking is not allowed in or on university facilities, except in accordance with chapter 70.160 RCW.</p>

	<p>.... [Statutory Authority: RCW 28B.30.150. WSR 08-24-026, § 504-35-030, filed 11/24/08, effective 12/25/08.]</p>
<p>Western Washington University 1/8/95</p>	<p>WAC 516-52-001 Smoking on campus. (1) Purpose. Western Washington University is dedicated to providing a healthful and productive work environment for all employees, students, and the public visiting or conducting activities in university facilities. This policy is intended to provide a smoke-free environment for employees, students, and the public who do not wish to be affected by those who smoke. (2) Policy. Smoking shall not be permitted inside any Western Washington University administrative or academic buildings and in identified external areas that may affect those people inside the administrative and academic buildings. Smoking will be allowed in identified outdoor smoking areas on campus. [Statutory Authority: RCW 28B.35.120 (12). WSR 95-01-006, § 516-52-001, filed 12/8/94, effective 1/8/95; WSR 93-01-080, § 516-52-001, filed 12/14/92, effective 1/14/93. Statutory Authority: RCW 28B.35.120 (11). WSR 86-03-020 (Order 12-5-85), § 516-52-001, filed 1/8/86; Order 72-10, § 516-52-001, filed 11/17/72.]</p>

Appendix B

2013 Smoking Implementation Survey Questions

Methodology

An EHS intern designed a Google poll to answer these questions. It was distributed to 35 schools and 13 completed the survey.

Implementation

- Is tobacco use on your campus declining, increasing, or steady?
- How many hours per week were spent working on the project?
- How many people were involved with this project?
 - How many were students?
 - How many were from academic?
 - How many from EH&S
 - How many from Facilities?

Status & Timeline

- When did initial work on the project begin?(month, day ,year)
- Did the project meet its original deadline?
 - If not, when was the new deadline?
- What was the smoking status prior to policy? (20-25ft, smoke-free workplace, no policy, medical centers...)

Barriers

- Did dorm/resident agreement contracts affect process?
 - Did this interfere with deadline?
- Were there any issues with the labor union on campus?
 - Did new contracts need to be drafted?
 - If so what were the additional regulations?
- Were there any complaints made by neighboring residents?
- How did you handle students who were opposed to new policy?

Enforcement Activities

- Did you rely on any security divisions? (campus or city police)
- Did you need to rely on an increase of enforcement patrol?
 - If so, how many?
- Were new penalties created to support the implementation?
 - If so, how much was the penalty?

Cost

- Did final cost exceed what was projected?
 - If so by how much?
 - What were the additional costs that weren't accounted for?

- Provide an estimate of how much the program cost to implement.
- Are cessation programs available to students?
 - If yes, what is included in your program?
- Reliance on Endorsements from outside organizations?
 - If so, how much?
- Did you receive any grants to implement policy?

Educational Approach

- Were any seminars or lectures provided to discuss the project?
 - If so, how often?
- Reliance on any social media? (Facebook, Twitter...)
- Websites? If so please provide URL.
- Online polls?
- RSO's?
- Involvement with non-campus organizations?

Metric/Evaluation

- Do you consider progress successful?
 - What factors do you consider success of the program?
- Anything you could have done different in the process to increase success?
 - Lessons Learned?
- Was there any other source of metric used to assess the result of the policy?
 - If so what were they?
- How has the amount of litter on campus changed since implementation?
- Negative impact?
- Did this add extra cost to the budget?
 - If so by how much?

2014 Follow-up Questions on Smoking Implementation:

- What was the original deadline for implementation?
- Roughly how many months did it take to complete implementation after the current tobacco policy was passed?
- What types of communication methods were used before and during the implementation of the policies? (e.g. partnering with groups)
- Did the implementation affect Student Housing Agreements and or Employee Union Contracts?
- What method of enforcement are you using (e.g. fines, extra patrols)?
- Have you been able to quantify the costs of implementation? (Hours FTE, \$)
- What were your biggest barriers to implementation? (resistance)
- Was the policy successfully implemented on its original deadline?
- Is there anything else you would like to add that could be helpful to UW as it considers becoming a smoke- and tobacco free campus?
- What was the original deadline for implementation?

Appendix C

Summary of Universities' Tobacco Policies

Pac-12 Survey - Smoking/Tobacco free		
Institution	Campuses Tobacco free	Campuses Smoke-Free
University of Oregon	All	All
Arizona State University	All	All
Washington State University	0.5	0.5
University of Colorado Boulder	1	3
University of Arizona	1	1
Stanford University	1	1
University of California at Berkeley	All	All
University of California at Los Angeles	All	All
University of Utah	Y	Y
University of Southern California	N	Designated Areas
Oregon State University	N	Y
University of Washington	N	All

Pac-12 Survey - Smoking/Tobacco free				
University	Smoke-free	Tobacco free (meaning also smoke-free)	Exceptions	Enforcement Method
University of Washington	Yes (DSAs)	No		None
University of Oregon		Yes		An issued fine of 30 dollars became the new enforcement policy
Arizona State University		Yes		Community intervention
Washington State University	Partially smoke-free	Partially tobacco free	Not all campuses are tobacco free	Disciplinary action for employees, student conduct action for students and a trespass admonition for visitors to
UC-Boulder	Yes	No		Visitors asked to leave, students sent to student conduct and employees subject to "appropriate action"
University of Arizona		Yes	Tobacco allowed for controlled research	None
Stanford		Yes	Unless it is a "smoking prohibited area," smoking is generally permitted in outdoor areas but it must be at least 30 feet away from buildings. To accommodate smoking outdoors, Vice Presidents, Vice Provosts and Deans may make DSAs available to students and faculty.	Enforcement is referred to as "appropriate action"
University of Utah		Yes		None
Oregon State University	Yes		Other tobacco products that do not require smoking are allowed.	None (as of now)

Pac-12 Survey - Smoking/Tobacco free				
University	Smoke-free	Tobacco free (meaning also smoke-free)	Exceptions	Enforcement Method
UCLA		Yes	<p>Tobacco Use may be permitted in connection with research if it adheres to EH&S health and safety guidelines or in connection with research approved by the UCLA Institutional Review Board or Animal Research Committee.</p> <p>Tobacco Use may be permitted for ceremonial use at the UCLA campus and other UCLA Owned or Leased Property with prior approval of the sponsoring department, the UCLA Events Office and the Fire Marshal's Office.</p>	None
USC	Yes	No	Some outdoor areas that do not have signs marking smoking-prohibited may allow smoking	None
Berkeley		Yes		None

Appendix D

Implementation Cost Information

University	Cost of Implementation (Partial or Total)
University of Washington	Undetermined
University of Oregon	There will be up-front costs for signage, re-writing university documents to communicate the new policy, and a temporary position (if approved) to help the campus move to smoke-free. A document is being prepared to answer this question more thoroughly.
Arizona State University	The entire cost of implementing the program totaled roughly \$80,000
Washington State University	
UC-Boulder	
University of Arizona	Signage: Includes temporary and permanent for all locations: \$55,000 Design: Includes graphic design and layout for branding and signage: \$27,000
Stanford University	
University of Utah	
Oregon State University	\$10,000 for signage
UCLA	\$50,000 for signs, posters; removal of old signs ~ \$10,000 \$35,000 for College Youth Advocacy Network peer counseling training No FTE
USC	Annual budget: \$12,000
Berkeley	One time allocation of funds: half of funds used 16 months into the process (12 months pre-ban, 4 months post) Initial budget: \$210,000 in 2013 \$100,000 spent in 2013 with half going into media buys Signs and banners cost \$18,000 The rest on promotional materials and NRT supplies FTEs (0.5 EHS, 0.5 University Health Services) Smoking cessation specialist (part time): \$10,000
UC Davis	Initial budget, half FTE (lasted for two years, now ended) Nicotine replacement therapy (students, faculty and staff): 32,000 Additional costs to grounds division for clean up after ash urns are removed: \$38,400 Communications (including long term signage): \$92,000 Included \$68,000 for first year communications and signage \$15,000 contingency for year two
Michigan	Total Requested \$240,805 Communications \$21,380 Project Management \$51,925 Facilities (three years of support) \$167,500